Staff Report to the Planning Commission

Application Number: 05-0797

Applicant: Powers Land Planning, Attn: Ron Powers
Owner: Henry Nguyen & Hanh Vo Thi; Robert Davidson
APN: 025-131-14, 15, 16

Agenda Date: November 8,2006
Agenda Item #: 9
Time: After 9:00 a.m.

Project Description: Proposal to combine Assessor's Parcel Numbers 025-131-14 and 025-131-16, to demolish an existing 960 square foot flower shop, to construct a mixed-use structure consisting of an 2,049 square foot retail shop on the first floor, one 1,822 square foot residential unit on the second floor and residential parking at the basement level, to grade about 5,000 cubic yards of overexcavation and recompaction and 250 cubic yards of fill, to rezone the properties (parcels 025-131-14, 025-131-15 & 025-131-16) from the C-4 zone district to the C-2 zone district, and to amend the General Plan land use designations for the three parcels from Service Commercial (C-S) to Community Commercial ***(C-C)***.

Location: Project is located on the north side of Soquel Avenue, about 150 west of the intersection with 7th Avenue (2615 Soquel Avenue).

Supervisoral District: 3rd District (District Supervisor: Mardi Wormhoudt)

Permits Required: Commercial Development Permit, Riparian Exception, Preliminary Grading Approval, Rezoning and General Plan Amendment

Staff Recommendation:

- Adopt the Resolution (Exhibit F) sending a recommendation **to** the Board of Supervisors for **Approval** of Application Number **05-0797,** based on the attached findings and conditions.

  Recommend that the Board of Supervisors certify the Mitigated Negative Declaration as complying with the requirements of the California Environmental Quality Act,

Exhibits

A. Project plans
B. Findings
C. Conditions
D. Mitigated Negative Declaration (CEQA Determination) with the following attached documents:
(Attachment 2): Assessor's parcel map
(Attachment 3): Zoning Map
(Attachment 4): General Plan map
(Attachment 10-13): Comments & Correspondence
E. Rezoning & General Plan Amendment maps
F. Planning Commission Resolution
G. Reduced Architectural Plans
H. Revised Drainage Calculations

Parcel Information

Parcel Size:	025-131-14: 14,462 sq feet (before combination), 244 sq. ft. (after combination) 025-131-15: 36,939 sq. ft. 025-131-16: 16,782 sq. ft. (before combination), 31,244 sq. ft. (after combination)
Existing Land Use - Parcel:	Commercial (025-131-14) Professional Office (025-131-15), Parking Lot (025-131-16)
Existing Land Use - Surrounding:	Commercial (retail, gas station, and veterinary hospital) to the south and east Public Facility (high school) and Riparian/Open Space to the north and west.
Project Access:	Soquel Avenue
Planning Area:	Live Oak
Land Use Designation:	C-S (Service Commercial and Light Industrial); O-U (Urban Open Space)
Zone District:	C-4 (Commercial Services)
Coastal Zone:	__ Inside X Outside

Environmental Information

A Mitigated Negative Declaration has been prepared (Exhibit D) that addresses the environmental concerns associated with this application.

Services Information

Urban/Rural Services Line:	X Inside __ Outside
Water Supply:	City of Santa Cruz
Sewage Disposal:	Santa Cruz County Sanitation District
Fire District:	Central Fire District
Drainage District:	Zone 5

History

According to Assessor's records, the existing Quonset hut on parcel 025-131-14 was constructed in 1945. The structure was formerly used as an auto parts store. In 1976 Permit 76-524-PD was issued to allow a retail fruit and vegetable market in the same location. A retail flower shop currently operates out of the same 960 square foot structure.

Permit 78-337-PD was issued in 1978 to allow the construction of the 3,000 sq. ft. 2-story commercial office building that currently occupies parcel 025-131-15.

All three parcels have retained their historic C-4 zone district (originally C-4-PD). The General Plan designation for parcel 025-131-15 was changed from Community Commercial to Service Commercial as part of the 1994 General Plan update. Parcels 025-131-14 & 16 were designated "Residential", "Commercial Park" and "Regional Park" prior to being changed to Service Commercial in 1994. This change in the General Plan designation and the retention of the C-4 zone district resulted in the existing uses becoming non-conforming with respect to the General Plan and zone district objectives.

Project Setting

The parcels are located in northern Live *Oak* on the northwest comer of the intersection of Soquel Avenue and 7th Avenue. The site is approximately 800 feet south of Highway One. The subject parcels are developed with an existing office building (025-131-14), parking area (025-131-15), and 960 square foot retail flower shop.

The property is part of the Soquel Avenue commercial comdor, a major east-west transportation artery in the County. Surrounding land uses include Harbor High School to the north and west, a new animal hospital to the east, and two gas stations to the south.

The southern one third of the site is generally level and contains all existing and proposed development. The northern two thirds of the site is characterized by steep slopes (30-70%), which are contained within the riparian comdor associated with Arana Gulch, an intermittent stream. The northern portion of the site contains a mix of Coast live oak and Buckeye trees; with both native and non-native understory shrubs and grasses.

Project Description

The project consists of constructing a 5,706 square foot two-story mixed use structure. The structure consists of 2,089 square foot retail use on the ground floor, a 1,822 square foot 3-bedroom residential unit on the second floor, and a 1,925 square foot basement for residential parking. The two parcels currently serving the flower shop will be combined into a single parcel.

The project includes one access driveway from Soquel Avenue to serve the existing 7-space parking lot associated with the existing flower shop. Improvements along the site's Soquel Avenue frontage will consist of a driveway apron and a bus shelter. The site is currently served by sidewalk, curb and gutter improvements.
The preliminary grading plans indicate that overexcavation and recompaction of approximately

5,000 cubic yards will be required in preparation for construction. **A** new retaining wall will be constructed along the northern edge of the parking lot adjacent to the Arana Gulch. No improvements are proposed on slopes in excess **of 30%** and no drainage will be directed to slopes in excess **of 30%.**

No physical changes or improvements are proposed for parcel 025-131-15. It is included in this project as part **of** the proposed General Plan amendment and rezoning only.

Rezoning and General Plan Amendment

The subject parcels, which total approximately 1.5 acres, are located in the C-4 (Commercial Services) zone district and have a C-S (Service Commercial and Light Industrial) General Plan land use designation for the areas outside **the** riparian comdor. The riparian comdor areas are designated as Urban Open Space.

The proposed mixed-use development is not an allowed use under the existing C-S General Plan designation and C-4 zone district. This use is allowed in **the** proposed Community Commercial land use designation and zone district. Consequently, the applicant has applied for a General Plan amendment and rezoning. The existing land uses on the subject parcels are not consistent with the zone district or General Plan designation in that the parcels **are** developed with small retail and office uses. Commercial Service districts are intended to be located generally on large sites where impacts of noise, traffic, and other nuisances and hazards will not adversely affect other land uses in the vicinity. The subject parcels are severely constrained by the riparian corridor to the north and contain a minimal amount of developable site area. These physical and environmental constraints as well as the location of the property on a 4-lane arterial road lend themselves to the types **of** commercial uses associated with C-2 (Community Commercial) district. The areas designated Urban open Space will retain this designation.

The rezoning and General Plan amendment to Community Commercial will be consistent with the existing commercial land uses on the parcels and variety of commercial uses in the vicinity and will be necessary to facilitate the proposed mixed-use development. The surrounding area is primarily characterized by small retail and service uses and several parcels to the south of Soquel Avenue were rezoned from C-4 to **C-2** in 1994 as part of **the** General Plan and zoning changes.

The proposed rezoning and General Plan amendment is appropriate due to **the** character and pattern of surrounding community commercial development.

Grading and Drainage

A geotechnical investigation wasperformed on parcels 025-131-14 and 025-131-14 in conjunction with the proposed construction of **the** new mixed-use structure. The investigation revealed an extensive amount of unconsolidated non-engineered fill, which is unsuitable for bearing loads. **As** stated above, approximately 5,000 cubic yards of material will be overexcavated and either recompacted to engineered specifications or exported to a County-approved site. Due to the proximity to the riparian comdor, the project is conditioned to require all earthwork to begin prior to July 1st of any year. No winter grading will be permitted on the site.

In order to comply with standards for driveways serving commercial development, the existing driveway will need to be widened to 20 feet.

The project drainage improvements include an 8-inch storm drain to convey runoff from the improved area to a riprap outlet structure within the riparian conidor. Additionally, two 30-foot detention pipes will be located under the upper parking lot. A stormwater treatment system is to be installed to remove contaminants from the runoff that enters the detention system. The system will consist of two silt and grease traps or Stormceptors; one in the upper parking area and the other at the end of the approach to the basement parking level. The drainage improvements within the riparian conidor will be constructed by hand and tree protection measures will be installed to preserve the existing trees within the riparian conidor in accordance with the project arborist recommendations.

The drainage plans have been reviewed and accepted by the Drainage Section of the Department of Public Works.

Riparian Exception

A portion of the drainage improvements will occur within the riparian conidor and will require a Riparian Exception. To ensure that erosion control is installed and implemented effectively through all phases of construction and post construction, a detailed erosion control plan, prepared by a Certified Professional in Erosion and Sediment Control (CPESC) is required as a project condition. The plan will include provisions for disturbed areas to be planted with ground cover and to be maintained to minimize surface erosion. Regular inspections by Environmental Planning staff are also included in project conditions in order to ensure that all erosion control measures remain in place and effective.

Environmental Planning staff has reviewed and accepted the preliminary erosion control and riparian restoration plan.

Design Review

The development of parcels 025-131-14 & 16 will be an improvement to the area. Many of the surrounding commercial structures, including the flower shop building, are dated and run down in appearance. The proposed mixed use development complies with the requirements of the County Design Review Ordinance, in that the proposed project will incorporate site and architectural design features such as articulated front facades and landscaping to reduce the visual impact of the proposed development on surrounding land uses and the natural landscape. Southern live *oak* trees will be planted along the Soquel Avenue frontage.

Environmental Review

Environmental review has been required for the proposed project per the requirements of the California Environmental Quality Act (CEQA). The project was reviewed by the County's Environmental Coordinator on 09/11/06. **A** preliminary determination **to** issue a Negative Declaration with Mitigations (Exhibit D) was made on 09113106. The mandatory public comment period expired on 10/18/06, without any comments affecting the Negative Declaration

Regarding the County's intent to issue a Mitigated Negative Declaration for the project, comments were received from the Monterey Bay Unified Air Pollution Control District (MBUAPCD). John Getchell of the MBUAPCD contacted Planning staff during the review period, regarding the issue of releasing asbestos during the demolition of the existing structure. The applicant will be required to perform an asbestos survey prior to demolition and **to** complete and submit a Notification of Demolition and Renovation from **to** the MBUAPCD as a condition of project approval.

The environmental review process focused on the potential impacts of the project in the areas of drainage, erosion control and tree protection. The environmental review process generated mitigation measures that will reduce potential impacts from the proposed development and adequately address these issues.

Conclusion

As proposed and conditioned, the project is consistent with all applicable codes and policies **of** the Zoning Ordinance and General Plan/LCP. Please see Exhibit "B" ("Findings") for a complete listing of findings and evidence related to the above discussion.

Staff Recommendation

- Adopt the attached resolution (Exhibit F), sending a recommendation to the Board of Supervisors for **Approval** of Application Number **05-0797,** based on the attached findings and conditions, and recommend certification of the Mitigated Negative Declaration per the requirements of the California Environmental Quality Act.

Supplementary reports and information referred to in this report are on file and available for viewing at the Santa Cruz County Planning Department, and are hereby made a part of the administrative record for the proposed project.

The County Code and General Plan, as well as hearing agendas and additional information are available online at: www.co.santa-cruz.ca.us

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Report Reviewed By:

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Rezoning Findings

1. **The proposed zone district will allow a density of development and types of uses which are consistent with the objectives and land-use designations of the adopted General Plan; and,**

Upon adoption of the proposed General Plan land use designation change to Community Commercial, changing the zoning of the subject parcels to the C-2 (Community Commercial) zone district from the C-4 (Service Commercial) zone district will provide for the type of uses that are consistent with the proposed land use designation and the existing commercial uses nearby. Additionally the proposed C-2 zone district would allow lower intensity uses that are more consistent with the physical and environmental constraints of the subject parcels.

2. **The proposed zone district is appropriate of the level of utilities and community service available to the land; and,**

The subject parcels lie on an arterial street completely within the Urban Services Line and the full range **of** utilities and community services including water, sewer, gas, electricity, telephone, etc. are available to serve them.

3. **The character of development in the area where the land is located has changed or is changing to such a degree that the public interest will be better served by a different zone** district.

The C-4 zone district was established along the Soquel Avenue comdor in this area with the assumption that large-scale retail commercial uses would be developed there. That scenario has not materialized. Instead, the area is characterized by more modest commercial uses associated with C-2 zoning, such as the existing flower shop on site and the retail shops on the south side of Soquel Avenue. Several parcels along the southern Soquel frontage were rezoned from C-4 to C-2 in the early 1980s to **reflect** the more modest development that has occurred along the comdor. The proposed mixed-use development is also a C-2 use that is consistent with the surrounding development. Therefore rezoning **to** the less intensive C-2 zone district is appropriate.

Development Permit Findings

1. That the proposed location of the project and the conditions under which it would be operated or maintained will not be detrimental to the health, safety, or welfare of persons residing or working in the neighborhood or the general public, and will not result in inefficient or wasteful use of energy, and will not be materially injurious to properties or improvements in the vicinity.

This finding can be made, in that the project is located in an area designated for commercial uses and is an appropriate location for mixed use due to proximity to other retail uses and transportation corridors. The project has been designed to mitigate any potential impacts to the environmental and physical constraints of the subject parcels. Construction will comply with prevailing building technology, the Uniform Building Code, and the County Building ordinance to insure the optimum in safety and the conservation of energy and resources. The proposed retail and residential structure will not deprive adjacent properties or the neighborhood **of** light, air, or open space, in that the structure meets all current setbacks that ensure access to light, air, and open space in the neighborhood.

2. That the proposed location of the project and the conditions under which it would be operated or maintained **will** be consistent with all pertinent County ordinances and the purpose of the zone district in which the site is located.

The subject parcels are proposed for rezoning to **the** C-2 (Community Commercial) zone district in conjunction with a General Plan amendment to the C-C (Community Commercial) land use designation. The proposed location of the mixed use structure and the conditions under which it would be operated or maintained will be consistent with all pertinent County ordinances and the purpose of the C-2 zone district in that the primary use of the property will be a community commercial use (retail shop) that meets all current site standards for the zone district.

3. That the proposed use is consistent with all elements of the County General Plan and with any specific plan which has been adopted for the area.

A General Plan Amendment is proposed for the subject parcels changing the land use designation from C-S (Service Commercial, Light Industrial) to the C-C (Community Commercial) land use designation. The proposed mixed use development is consistent with the proposed General Plan amendment in that site has adequate access and services and is located in an area of concentrated commercial uses accommodating a mix of activities serving the general shopping, service and office needs of the community. Additionally, in accordance with Objective 2.1 of the General Plan, the proposed commercial and residential uses are complementary and will contribute to helping establish and solidify a center of community activity and commerce.

The proposed mixed use structure will not adversely impact the light, solar opportunities, air, and/or open space available to other structures or properties. The proposed development all current site and development standards for the proposed C-2 zone district (including setbacks, height, parking, and landscaping) and will result in an upgrade to an under-developed commercial site.

The traffic generated by this project does not meet the 1 percent criteria. The project will not reduce the level of service for the intersections in the immediate area to or below LOS D. The project is therefore in conformance with the General Plan regarding traffic and circulation.

The project is consistent with the General Plan Riparian Comdors and Wetlands policy (Policy **5.2.2)** in that, while a portion **of** the proposed development will be located within the proscribed buffer setbacks, required mitigations will ensure no impact to riparian habitat. Additionally, the project includes a component to restore the adjacent riparian corridor through the revegetation of the slope using native riparian plants.

A specific plan has not been adopted for this portion of the County

4. **That the proposed use will not overload utilities and will not generate more than the acceptable level of traffic on the streets in the vicinity.**

This finding can be made, in that the proposed mixed use development is to be constructed on a **lot** developed with an existing retail flower shop. The expected level of traffic generated by the proposed project is anticipated **to** be only 1 **peak** trip per day (1 peak trip per dwelling unit), such an increase will not adversely impact existing roads and intersections in the surrounding area.

5. **That the proposed project will complement and harmonize with the existing and proposed land uses in the vicinity and will be compatible with the physical design aspects, land use intensities, and dwelling unit densities of the neighborhood.**

This finding can be made, in that the proposed structure is located in a mixed neighborhood containing a variety of architectural styles, and the proposed mixed use structure is consistent with the land use intensity and density of the neighborhood. **The** project includes providing landscaping and street **trees** on a site previously lacking these amenities.

6. **The proposed development project is consistent with the Design Standards and Guidelines (sections 13.11.070 through** 13.11.076), **and any other applicable requirements of this chapter.**

The proposed development is consistent with the Design Standards and Guidelines of the County Code in that the proposed commercial/residential building will be of an appropriate scale and **type** of design that will enhance the aesthetic qualities of the surrounding properties and will not reduce or visually impact available open space in the surrounding area. **The** proposed mixed use development generally complies with the requirements of the County Design Review Ordinance. Specifically, the proposed project will incorporate site and architectural design features such as articulated front facades and landscaping to reduce the visual impact **of** the proposed development on surrounding land uses. A combination **of** Crape myrtle, a smaller tree with showy flowers, and London plane **tree,** a larger scale deciduous **tree** are proposed along Soquel Drive.

Riparian Exception Findings

1. That there are special circumstances or conditions affecting the property.

There are special circumstances affecting the property, in that the comdor has been historically disturbed by the placement of fill materials and the habitat value of the riparian comdor has been compromised by the colonization with eucalyptus, Himalayan blackberry, broom and other invasive exotic species. In addition, the slopes and drainage patterns of the property are such that **2/3** of the parcel drains toward this channel. The addition of a substantial amount of paving and structures associated with this commercial development will necessitate the construction of energy dissipaters at the drainage outlets within the riparian buffer setback to avoid potential erosion within the banks and channel.

2. That the exception is necessary for the proper design and function of some permitted or existing activity on the property.

The exception is necessary for the proper design and function of the drainage system for the proposed commercial development an allowed use on this property (in conjunction with the proposed rezoning and General Plan Amendment –see Rezoning and General Plan Amendment Findings above). There are topographic and drainage pattern constraints on the parcel requiring the location ofdrainage outlets in the riparian buffer **to** achieve proper drainage control. In addition, diversion of this drainage to the street storm drain system will both change the existing drainage pattem and could potentially compromise the viability of the good qualityriparian habitat further downstream due to inadequate water supply. The proposed drainage improvements and restoration of a portion of the comdor with native riparian species requires a riparian exception. This work will restore the habitat value of the comdor where minimal habitat value currently exists.

3. That the granting of the exception will not be detrimental to the public welfare or injurious to other property downstream or in the area in which the project is located.

The granting of the exception will not be detrimental to the public welfare **or** injurious to other property downstream. The proposed drainage facilities will retain most of the proposed runoff and will use adequately designed riprap outlet structure to dissipate excess runoff and minimize potential erosion. The disturbance to the riparian habitat is minimal as it is well above the stream channel and the area surrounding the dissipator will be revegetated.

4. That the granting of the exception, in the coastal zone, will not reduce or adversely impact the riparian corridor, and there is no feasible less environmentally damaging alternative.

The project is not located within the Coastal Zone.

5. That the granting of the exception is in accordance with the purpose of this chapter, and with the objectives of the general plan and elements thereof, and the local coastal program land use plan.

The granting of the exception is in accordance with the purpose of the Riparian Protection Ordinance and the objectives of the General Plan, in that the location *of* the proposed drainage outlets and velocity dissipaters will control the ***runoff*** generated by the project and will minimize potential erosion **from** the runoff. The currently degraded habitat will be restored after construction, replacing the invasive exotic species with native riparian species. **As** a result, the overall functioning of **the** riparian corridor and stream channel will be enhanced.

Conditions of Approval

Exhibit **A:** **Project plans** by Thacher &Thompson Architects, dated March 14,2006 (Sheets 1-5)

Topographic Map, Grading & Drainage Plans prepared by Bowman & Williams, dated March 14,2006 (Sheets C1, C3, C4,C5), dated October 5,2006 (Sheet C2)

Erosion Control Plan prepared by Ward Hastings, dated September 26,2006

Landscape Plans by Gregory Lewis, dated October 19,2006

I. This permit authorizes the combination of Assessor's Parcel Numbers 025-131-14 and 025-131-16, to demolish an existing 960 square foot flower shop and construct an 1,189 square foot retail shop on the main floor with one 3-bedroom residential unit on the second floor and residential parking at the basement level, to grade about 5,000 cubic yards of overexcavation and recompaction and 250 cubic yards of fill, to rezone the properties (parcels 025-131-14, 025-131-15 & 025-131-16) from the C-4 zone district to the C-2 zone district, and to amend the General Plan land use designations for the three parcels from Service Commercial (C-S) to Community Commercial (C-C). Prior to exercising any rights granted by this permit including, without limitation, any construction or site disturbance, the applicant/owner shall:

A. **Sign,** date, and return to the Planning Department one copy of the approval to indicate acceptance and agreement with the conditions thereof.

B. Obtain a Demolition Permit from the Santa Cruz County Building Official.

C. Obtain a Building Permit from the Santa Cruz County Building Official.

D. Obtain a Grading Permit from the Santa Cruz County Building Official

E. Obtain an Encroachment Permit from the Department of Public Works for all off-site work performed in the County road right-of-way. Driveway, curb, gutter and sidewalk shall conform to County Design Criteria Standards.

F. Submit proof that these conditions have been recorded in the official records of the County of Santa Cruz (Office of the County Recorder).

G. Pay a Negative Declaration De Minimus fee of $25 to the Clerk of **the** Board of the County of Santa Cruz as required by the California Department of Fish and Game mitigation fees program, and **file** the Notice of Determination.

II. Prior to issuance of a Building Permit the applicant/owner shall:

A. Submit final architectural plans for review and approval by the Planning Department. **The** final plans shall be in substantial compliance with the plans marked Exhibit "A" on file with the Planning Department. Any changes from the approved Exhibit "A" for this development permit on the plans submitted for the Building Permit must be clearly called out and labeled by standard architectural methods to indicate such changes. Any changes that are not properly called out and labeled will not be authorized by any Building Permit that is issued for **the** proposed development. The final plans shall include the following additional information:

1. Identify finish of exterior materials and color of roof covering for Planning Department approval. Any color boards must be in 8.5" x 11" format – two copies of each color board are required.

2. Final grading, drainage, and erosion control plans. Erosion control plans must be prepared by a Certified Professional in Sediment and Erosion Control.

3. For any structure proposed to be within 2 feet of the maximum height limit for the zone district, the building plans must include a roof plan and **a** surveyed contour map of the ground surface, superimposed and extended to allow height measurement of all features. Spot elevations shall be provided at points on the structure that have the greatest difference between ground surface and the highest portion of the structure above. This requirement is in addition to the standard requirement of detailed elevations and cross-sections and the topography of the project site which clearly depict the total height of the proposed structure.

4. Plans shall incorporate mitigation for potential noise impacts **to** residents of the apartment unit on the second floor, made in the analysis performed by the project acoustic engineer. The engineer shall determine the necessary mitigation measures that must be built into the structure or surrounding fences/walls in order to reduce the interior noise to a point that meets the General Plan maximum **of** 50 **Leq** daytime and 45 Leq nighttime.

B. Submit four copies of the approved Discretionary Permit with the Conditions of Approval attached. The Conditions of Approval shall be recorded prior to submittal, if applicable.

C. Submit 4 copies of a soils report prepared and stamped by a licensed Geotechnical Engineer, and pay any applicable review fees.

1. The soils report must include detailed foundation preparation and design and site grading.

2. The final plans shall incorporate the soils engineer's recommendations and shall reference the project soils report.

3. The project soils engineer shall review the final building, grading and erosion control plans and shall approve the plans in writing. **The** soil engineer's review and approval letter shall reference the specific plans (dates and pages) reviewed. Submit 4 copies of the plan review and approval letter.

D. Submit a final Grading and Erosion Control Plan. The final grading and erosion control plans shall include, but are not limited **to,** the following:

1. A schedule for accomplishing **the** earthwork. All earthwork shall begin no later than July 1st in any given year. There will be no winter grading allowed **for** this site.

2. All erosion control measures shall be in place and inspected by Environmental Planning staff prior **to** any ground disturbance.

3. Temporary chain link fence demarking the riparian setback boundary

4. Tree protection fencing and other measures as recommended by the project arborist.

5. Details of **the** destination **for** all exported material. Material may only go to a municipal landfill or other permitted receiving site. Landfill tickets and grading permits that together account for all exported material will be required prior to building permit final.

6. The final grading and erosion control plans shall specify that the land clearing and restoration of the riparian comdor must start no later than July 1st ***to*** ensure completion prior to the onset of the rainy season.

7. Plan shall reference and incorporate all recommendation for tree protection during earthwork and construction made by the project arborist. The project arborist shall review final grading, drainage, and building plans and submit a letter stating that the plans are in conformance will all recommendations made in the arborist **report** submitted for the project.

8. Removal of organic material below the existing building, indicated on Sheet C2 of Exhibit A (Bowman & Williams, March 14, 2006), and installation of the drainage pipe and outlet facility shall not be done using heavy equipment.

EXHIBIT C

E. Submit a final detailed riparian restoration plan for review and approval by Environmental Planning staff. The final restoration plan shall include, but is not limited to, the following:

1. The final plan shall include diverse and numerous native riparian understory plantings in all disturbed areas.

2. Plans shall show a minimum of nine Coast live oaks distributed on the upper hillside, multi-species, native understory plantings in and around the *oak* trees and throughout the disturbance area.

3. **A** plan for the maintenance of the trees and understory until both are established. Any seed mix must be specifically be formulated for riparian areas.

F. Submit a final Landscape Plan for the entire site (parcels 025-131014 & 16) specifying the species, their size, and irrigation plans, meeting **the** following criteria and conforming to all water conservation requirements of the Santa Cruz City Water Department water conservation regulations. The final landscape plan shall be consistent with the landscape plan in Exhibit **A**

1. Turf Limitation. Turf area shall not exceed 25 percent of the total landscaped area. Turf area shall be of low to moderate water-using varieties. such as tall or dwarf fescue.

2. Plant Selection. At least 80 percent of the plant materials selected for non-turf areas (equivalent to *60* percent **of** the total landscaped area) shall be well-suited to the climate of the region and require minimal water once established (drought tolerant). Native plants are encouraged. Up to 20 percent of the plant materials in non-turf areas (equivalent to **15** percent of the total landscaped area), need not be drought tolerant, provided they are grouped together and can be irrigated separately.

3. The street trees shall be Southern live oak with a minimum size of 24-inch box. Substitute species must be reviewed and approved by the project planner and Urban Designer

4. Soil Conditioning. In new planting areas, soil shall be tilled to **a** depth of ***6*** inches and amended with six cubic yards of organic material per 1,000 square feet to promote infiltration and water retention. After planting, a minimum of 2 inches of mulch shall **be** applied to all non-turf areas to retain moisture, reduce evaporation and inhibit weed growth.

5. Irrigation Management, **All** require landscaping shall be provided with an adequate, permanent and nearby source of water which shall be applied by an installed irrigation, or where feasible, a drip imgation system. Irrigation systems shall be designed to avoid runoff, overspray, low head drainage, or other similar conditions where water flows onto adjacent property, non-imgated areas, walks, roadways or structures.

   a. The imgation plan and an irrigation schedule for the established landscape shall be submitted with the building permit applications. The irrigation plan shall show the location, size, and type of components of the imgation system, point of connection to the public water supply and designation of hydrozones. The imgation schedule shall designate the timing and frequency of imgation for each station and list the amount of water, in gallons or hundred cubic feet, recommended on a monthly and annual basis.

   b. Irrigation within the critical root zones established in the Arborist's Report is prohibited. Irrigation outside of the critical root zone, but under the dripline **of** each existing oak shall be limited to very low flow drip-type emitters.

   c. Appropriate imgation equipment, including the use of a separate landscape water meter, pressure regulators, automated controllers,. Low volume sprinkler heads, drip or bubbler imgation systems, rain shutoff devices, and other equipment shall be used to maximize the efficiency **of** water applied to the landscape.

   d. Landscape imgation should be scheduled between 6:00 pm and 11:00 am to reduce evaporative water loss.

   e. **All** landscaping shall be permanently maintained by the property owner including any plantings within the County right of way along the frontage of the property.

   f. Any trees planted in the county right of way shall be approved by the Department of Public **Works** and shall be installed according to provisions of the County Design Criteria.

G. Meet all requirements of and pay Zone 5 drainage fees to the County Department **of** Public **Works,** Drainage. Drainage fees will be assessed on the net increase in impervious area. The final Drainage Plans shall include, but are not limited to, the following:

1. **The** final drainage plans must include silt and grease traps on all catch basins, and a monitoring and maintenance plans for these silt and grease traps. Plans shall show all runoff from parking and driveway areas directed through water quality treatment **prior** to discharge from the site.

2. Plans must include calculations **for** the proposed drainage system, demonstrating that the drainage system meets all DPW Drainage design criteria requirements.

3. If the drainage system provides for drainage of adjacent properties, **an** easement shall be provided showing this use.

4. A recorded maintenance agreement for the detention system will be required.

5. Provide notation on the plans for permanent bold markings at each inlet that read "NO DUMPING-DRAINS TO BAY."

H. Meet all requirements and pay any applicable plan check fee of the Central Fire Protection District and pay any applicable plan check fee.

I. All outdoor areas, parking and circulation areas shall be lighted with low-rise lighting fixtures that do not exceed 15 feet in height. The construction plans must indicate the location, intensity, and variety of all exterior lighting fixtures.

1. All lighting must be consistent with Title **24,** Part ***6,*** California Code of Regulations, Energy Efficiency Standards for Non-Residential Buildings.

2. All lighting shall be directed downward onto the site and shielded such that there **is** no overspill onto adjacent properties. The lighting plan shall show that all lights shall be directed away from the riparian corridor and any lights close enough to illuminate the comdor shall be shielded in that direction.

J. Submit a final signage program that is consistent with Chapter 13.10.581 of the County Code.

1. Final designs, coloration and sample materials of the signs shall be submitted for review and approval of the Urban Designer.

K. Pay the current **fees for** Parks and Child Care mitigation for *3* bedroom(s) and 1,189 square feet of new retail construction. Currently, these fees are, respectively, $1000, $109 per bedroom, and $.23 per square foot.

L. Pay the current fees for Roadside and Transportation improvements for the project. Currently, the Live Oak TIA fee is $2,200 per residential unit and $220 per trip end for transportation fees and $2,200 per residential unit and $220 per trip end for roadside improvement fees.

M. Submit a written statement signed by an authorized representative of the school district in which the project is located confirming payment in full of all applicable developer fees and other requirements lawfully imposed by the school district.

N. Provide all required off-street parking. Parking spaces shall meet County standards for the dimensions and numbers of compact, regular and ADA accessible parking set forth in County Code section 13.10.550. All parking must be located entirely outside vehicular rights of way. Parking must be clearly designated and numbered on the plot plan. The plan must comply with all provision of the ADA and State law regarding the number and size of accessible parking spaces. The number of required spaces are as follows:

1. For the retail space provide 7 spaces,

2. For the residence provide 3 spaces.

O. Final plans shall meet all requirements of the Santa Cruz County Sanitation District.

III. Prior to site disturbance and during construction:

A. The applicant shall organize a pre-construction meeting prior to any site disturbance. The following parties shall attend this meeting: applicant, grading contractor supervisor, project CPESC, project geotechnical engineer, and Santa Cruz County Resource Planning staff. The temporary construction fencing demarking **the** disturbance envelope, tree protection fencing, staking indicating the drainage pipe and outlet, and silt fencing will be inspected at that time. **The** receiving site for excavated material shall he identified and, if the site is other than a municipal landfill, a valid grading permit for the receiving site must be shown.

B. To minimize noise, dust, and nuisance impacts on surrounding properties to insignificant levels during construction, the owner/applicant shall comply with the following measures during all construction work:

1. The temporary access driveway shall be surfaced with rock and wheel washers shall be installed at the entrance for all trucks leaving the site to avoid dirt and dust leaving the site.

2. All inactive stockpiles shall be covered at all times

3. During grading and construction, a temporary fence shall be placed along the perimeter western and northern property lines to minimize dust, noise and trespass issues onto the adjacent developed properties.

4. Wet all soils exposed frequently enough to prevent significant amounts of dust from leaving the site. Street sweeping on adjacent or nearby streets may be required to control the export of excess dust and dirt.

5. Limit all construction-related activities to the time between 8:00 am and 5:00 pm weekdays unless a temporary exemption to this time restriction is approved in advance by the Planning Department to address an emergency situation. **The** owner/applicant shall designate a disturbance coordinator to respond to citizen complaints and inquiries from area residents during construction. **A** 24-hour contact number shall be conspicuously posted on the job site on a sign that shall be minimum of two feet high and four feet wide. This shall be separate from any other signs on site, and shall include the language "for construction noise and dust problems call the 24-hour contact number." The disturbance coordinator shall record the name, phone number, and nature of the disturbance. **The** disturbance coordinator shall investigate complaints and take remedial action, if necessary, within 24 hours of receipt of the complaint or inquiry. Unresolved complaints received by the County staff from areas residents may result in the inclusion of additional construction conditions at the discretion of the Planning Director.

IV. **All** construction shall be performed according to the approved plans for the Building Permit. Prior to final building inspection, the applicant/owner must meet the following conditions:

A. **All** site improvements shown on **the** final approved Building Permit plans shall be installed.

B. **All** inspections required by the building and grading permits shall be completed to **the** satisfaction of the County Building Official.

C. The project must comply with all recommendations of the approved soils reports.

D. **The** project must comply with all recommendations of the approved arborist report.

E. **All** riparian restoration shall be completed, inspected and approved by Environmental Planning staff.

F. Pursuant to Sections 16.40.040 and 16.42.100 of the County Code, if at any time during site preparation, excavation, or other ground disturbance associated with this development, any artifact or other evidence of an historic archaeological resource **or** a Native American cultural site is discovered, the responsible persons shall immediately cease and desist from all further site excavation and notify the Sheriff-Coroner if the discovery contains human remains, or the Planning Director if the discovery contains no human remains. The procedures established in Sections 16.40.040 and 16.42.100, shall be observed.

V. Operational Conditions

A. The following uses are allowed on subject site:

1. The use is an allowed use in the C-2 zone district under "Retail Sales, Neighborhood" or "Retail Sales, Community" in

2. The use is an allowed use in the C-2 zone district under "Commercial Services, Neighborhood" or "Commercial Services, Community" in County Code Section 13.10.332.

B. All runoff shall be filtered through silt and grease traps prior to leaving the site. The traps shall be maintained according to the following monitoring and maintenance procedures:

1. The traps shall be inspected to determine if they need cleaning or repair prior to October 15th of each year.

2. A brief annual report shall be prepared by the trap inspector at the conclusion of each October inspection and submitted to the Drainage Section of the Department of Public Works within 5 days of inspection. This monitoring report shall specify any repairs that have been done or that are needed to allow the trap to function adequately.

C. All landscaped areas and related imgation systems shall be permanently maintained. All irrigation shall conform to the required water conservation measures as regulated by the City of Santa Cruz Water Department. Dead plant material shall be removed and replaced consistent with the approved Exhibit **A.** The property owner(s) is responsible for the ongoing health and care of all landscaping on the site. Any dead or dying street trees shall be promptly removed and replaced with a minimum 24-inch box tree. The Planning Director must approve substitute species in advace.

D. Any dead or dying street trees within the riparian restoration area shall be promptly removed and replaced with a like-sized tree (minimum 15-gallon)

E. In the event that future County inspections of the subject property disclose noncompliance with any Conditions of this approval or any violation of the County Code, the owner shall pay to the County the full cost of such County inspections, including any follow-up inspections and/or necessary enforcement actions, up to and including permit revocation.

IV. As a condition of this development approval, the holder of this development approval ("Development Approval Holder"), is required to defend, indemnify, and hold harmless the COUNTY, its officers, employees, and agents, from and against any claim (including attorneys' fees), against the COUNTY, it officers, employees, and agents to attack, set aside, void, or annul this development approval of the COUNTY or any subsequent amendment of this development approval which is requested by the Development Approval Holder.

A. COUNTY shall promptly notify the Development Approval Holder of any claim, action, or proceeding against which the COUNTY seeks **to** be defended, indemnified, **or** held harmless. COUNTY shall cooperate fully in such defense. If COUNTY fails to notify the Development Approval Holder within sixty ***(60)*** days of any such claim, action, or proceeding, or fails to cooperate fully in the defense thereof, the Development Approval Holder shall not thereafter be responsible to defend, indemnify, or hold harmless the COUNTY if such failure to notify or cooperate was significantly prejudicial to the Development Approval Holder.

B. Nothing contained herein shall prohibit the COUNTY from participating in the defense of any claim, action, or proceeding if both of the following occur:

1. COUNTY bears its own attorney'sfees and costs; and

2. COUNTY defends **the** action in good faith.

C. Settlement. **The** Development Approval Holder shall not be required to pay or perform any settlement unless such Development Approval Holder has approved the settlement. When representing the County, the Development Approval Holder shall not enter into any stipulation or settlement modifying or affecting the interpretation or validity of any of the terms or conditions of the development approval without the prior written consent of the County.

D. Successors Bound. "Development Approval Holder" shall include the applicant and the successor'(s) in interest, transferee(s), and assign(s) of the applicant.

V. Mitigation Monitoring Program

The mitigation measures listed under this heading have been incorporated into the conditions of approval for this project in order to mitigate or avoid significant effects on the environment. **As** required by Section 21081.6 of the California Public Resources Code, a monitoring and reporting program for the above mitigations is hereby adopted as a condition **of** approval for this project. This monitoring program is specifically described following each mitigation measure listed below. The purpose of this monitoring is to ensure compliance with the environmental mitigations during project implementation and operation. Failure to comply with the conditions of approval, including the terms of the adopted monitoring program, may result in permit revocation pursuant to Section 18.10.462 of the Santa Cruz County Code.

A. Mitigation Measure: Preconstruction Meeting (Condition II.A.)

Monitoring Program: In order to ensure that the mitigation measures B-F (below0 are communicated to the various parties responsible for constructing the project, prior to any disturbance on the property the applicant shall convene a pre-construction meeting on the site. The following parties shall attend: applicant, grading contractor supervisor, project CPESC and Santa Cruz County Resource Planning staff. The temporary construction fencing demarcating the disturbance envelope, tree protection fencing, staking indicating the drainage pipe and outlet, and silt fencing will be inspected at that time. The receiving site for excavated material shall be identified and, if the site is other than a municipal landfill, a valid grading permit for the receiving site must be shown.

B. Mitigation Measure: Water Quality (Condition IV.B.1 &2)

Monitoring Program: Sediment and grease traps shall be maintained according to the following monitoring and maintenance procedures

1. The traps shall be inspected to determine if they need cleaning or repair prior to October 15th each year, at a minimum interval of once per year.

2. **A** brief annual report shall be prepared by the trap inspector at the conclusion of each October inspection and submitted to the Drainage Section of the Department of Public Works within ***5*** days of inspection. This monitoring report shall specify any repairs that have been done or that are needed to allow the trap to function adequately.

C. Mitigation Measure: Riparian Corridor Protection (Condition I.A.2. & I.E.1, 2, &3)

Monitoring Program: A mitigation and replanting plan shall be submitted by the applicant and approved by Environmental Planning staff. The plan shall include a minimum of nine Coast Live oaks (in order to maintain **a 3:1** replacement ratio) distributed on the upper hillside, multi species, native understory plantings in and around the *oak* trees and throughout the disturbance area, and a plan for maintenance of the trees and understory until both are established. Any see mix must be specifically formulated for riparian areas. The plan have been reviewed and approved by the Environmental Planning staff prior to scheduling the public hearing.

D. Mitigation Measure: Erosion and Sediment Control (Condition II.A.2,II.D)

Monitoring Program: **A** revised drainage plan was submitted, reviewed and approved by the Drainage Section of the Department of Public Works. The plan demonstrated that the post-development runoff rate does will not exceed the pre-development rate, including the consideration of drainage that is not captured in the detention system as currently shown on the plans.

To prevent erosion and sedimentation of Arana Gulch:

1. Prior to approval of a grading permit, the applicant shall submit an operational sedimentation and erosion control plan, prepared by a CPESC, for review and approval by Planning Grading staff. The plan shall incorporate the elements called for by Environmental Planning staff (Attachment 12), including detention in place prior **to** October 15, enhanced BMPs, weekly inspection and reporting by the project CPESC.

2. Winter grading (October 15 to April **15)** will not be approved.

3. If earthwork does not begin by July 1 of any year it shall be postponed until the following April 15''.

4. Prior to the start of construction, a chain link fence shall be installed marking the grading/disturbance boundary.

5. Removal of organic material below the existing building, indicated on sheet C2 of the plans (Bowman and Williams, March 14, 2006), and installation of the drainage pipe and outlet facility shall not be done using heavy equipment.

E. Mitigation Measure: Tree Protection (Condition II.D.3, 4,7, IV.D)

Monitoring Program: To limit the loss of *oak* trees to the three indicated on the plans, **prior** to public hearing the applicant shall revise the plans to indicate any native trees within 15 feet of the disturbance boundary. A consulting arborist shall visit the site and provide recommendations for protecting these trees during earthwork and construction. The information from the arborist shall be reviewed and approved by Environmental Planning staff and shall be incorporated into the plans.

The plans have been revised, reviewed and accepted by Environmental Planning staff and consulting arborist **James** Allen.

F. Mitigation Measure: Noise Protection (Condition II.A.4)

Monitoring Program: In order to mitigate potential noise impacts to residents of the building from traffic on Soquel Drive, prior to building permit approval, an analysis shall be performed by an acoustical engineer. The engineer shall determine the necessary mitigation measures that must be built into the structure or surrounding fences/walls in order to reduce the interior noise to a point that meets the General Plan maximum of 50 Leq daytime and 45 Leq nighttime. Plans shall incorporate those measures prior to approval.

Minor variations to this permit which do not affect the overall concept or density may be approved by the Planning Director at the request of the applicant or staff in accordance with Chapter 18.10 of the County Code.

Please note: This permit expires two years from the effective date on the expiration date listed below unless you obtain the required permits and commence construction.

Approval Date: _____

Effective Date: _____

Expiration Date: _____

Mark Deming
Assistant Planning Director

Robin Bolster-Grant
Project Planner

Appeals: Any property owner, or other person aggrieved, or any other person whose interests are adversely affected by any act or determination of the Planning Commission, may appeal the act or determination to the Board of Supervisors in accordance with chapter 18.10 of the Santa Cruz County Code.

EXHIBIT *C*

COUNTY OF SANTA CRUZ

PLANNING DEPARTMENT
701 OCEAN STREET, 4TH FLOOR, SANTA CRUZ, CA 95060
(831) 454-2580 FAX (831) 454-2131 TDD (831) 454-2123
TOM BURNS, PLANNING DIRECTOR

NOTICE OF ENVIRONMENTAL REVIEW PERIOD

SANTA CRUZ COUNTY

APPLICANT: **Powers Land Planning, for Henry Nguyen, et al**

APPLICATION NO.: **05-0797**

APN: **025-131-14. -15 & -16**

The Environmental Coordinator has reviewed the Initial Study for your application and made the following preliminary determination:

XX Negative Declaration
(Your project will not have a significant impact on the environment.)

XX Mitigations will be attached to the Negative Declaration.

_____ No mitigations will be attached,

_____ Environmental Impact Report
(Your project may have a significant effect on the environment. An EIR must be prepared to address the potential impacts.)

As part of the environmental review process required by the California Environmental Quality Act (CEQA), this is your opportunity to respond to the preliminary determination before it is finalized. Please contact Paia Levine, Environmental Coordinator at (831) **454-3178,** if you wish to comment on the preliminary determination. Written comments will be received until 5:00 p.m. on the last day of the review period.

Review Period Ends: **October 18,2006**

Robin Bolster-Grant
Staff Planner

Phone: **454-5357**

Date: **September 13,2006**

EXHIBIT D

NAME: Powers Land Planning for Nguyen, et al
APPLICATION: 05-0797
A.P.N: 025-131-14

NEGATIVE DECLARATION MITIGATIONS

A. In order to ensure that the mitigation measures B - F (below) are communicated to the various parties responsible for constructing the project, prior to any disturbance on the property the applicant shall convene a pre-construction meeting on the site. The following parties shall attend: applicant, grading contractor supervisor, project CPESC and Santa Cruz County Resource Planning staff. The temporary construction fencing demarcating the disturbance envelope, tree protection fencing, staking indicating the drainage pipe and outlet, and silt fencing will be inspected at that time. The receiving site for excavated material shall be identified and, if the site is other than a municipal landfill, a valid grading permit for the receiving site must be shown.

B. To protect Arana Gulch from degradation due to silt, grease, and other contaminants from paved surfaces, prior to scheduling the public hearing, the applicant shall modify the drainage plan to indicate the method(s) for treatment of all drainage leaving the site, including that which bypasses the detention system in the parking lot.

Sediment and grease traps shall be maintained according to the following monitoring and maintenance procedures:

1. The traps shall be inspected to determine if they need cleaning or repair prior to October 15 each year at a minimum;
2. A brief annual report shall be prepared by the trap inspector at the conclusion of each October inspection and submitted to the Drainage Section of the Department of Public Works within 5 days of inspection. This monitoring report shall specify any repairs that have been done or that are needed to allow the trap to function adequately.

C. In order to mitigate impacts to the riparian area to a less than significant level, the applicant shall revise the landscape plan to more completely restore the area after disturbance. The revised plan shall include a minimum of nine Coast Live oaks (in order to maintain a 3:1 replacement ratio) distributed on the upper hillside, multi species, native understoty plantings in and around the oak trees and throughout the disturbance area, and a plan for maintenance of the trees and understory until both are established. Any seed mix must specifically be formulated for riparian areas. The revised plan shall be approved by Environmental Planning staff prior to scheduling the public hearing.

D. To prevent erosion and sedimentation of Arana Gulch:

1. Prior to scheduling the public hearing, the applicant shall submit a revised drainage plan for the review and approval of Department of Public Works Drainage staff. The plan shall demonstrate that the post-development runoff rate will not exceed the pre-development rate, including consideration of drainage that is not captured in the detention system as currently shown on the plans.
2. Prior to approval *of* a grading permit, the applicant shall submit an operational sedimentation and erosion control plan, prepared by a CPESC, for review and approval by Planning Grading staff. The plan shall incorporate the elements called for by Environmental Planning staff (Attachment 12), including:

EXHIBIT D

detention in place prior to October 15, enhanced BMPs. weekly inspection and reporting by the project CPESC.

3. Winter grading (October 15 to April 15) will not be approved.
4. If earthwork does not begin by July 1 of any year it shall be postponed until the following April 15.
5. Prior to start of construction, a chain link fence shall be installed marking the grading/disturbance boundary.
6. Removal of the organic material below the existing building, indicated on sheet C2 of the plans (Bowman and Williams, March, 14, 2006). and installation of the drainage pipe and outlet facility shall be not be done using heavy equipment.

E. To limit the loss of oak trees to the three indicated on the plans, prior to public hearing the applicant shall revise the plans to indicate any native tree within **15** feet of the disturbance boundary. A consulting arborist shall visit the site and provide recommendations for protecting these trees during earthwork and construction. The information from the arborist shall be reviewed and approved by Environmental Planning staff, and shall be incorporated into the plans.

F. In order to mitigate potential noise impacts to residents of the building from traffic on Soquel Drive, prior to building permit approval, an analysis shall be performed by an acoustical engineer. The engineer shall determine the necessary mitigation measures that must be built into the structure or surrounding fences/walls in order to reduce the interior noise to a point that meets the General Plan maximum of 50 Leq daytime and 45 Leq nighttime. Plans shall incorporate those measures prior to approval.

Environmental Review
Initial Study

Application Number: 05-0797

Date: September 14,2006
Staff Planner: Robin Bolster-Grant

I. OVERVIEW AND ENVIRONMENTAL DETERMINATION

APPLICANT: Powers Land Planning

APN: 025-131-14, 15,16

OWNER: Henry Nguyen, et al

SUPERVISORAL DISTRICT: 3rd

LOCATION: The project is located on the north side of Soquel Avenue, about 150 feet west of the intersection with 7th Avenue (2615 Soquel Avenue).

SUMMARY PROJECT DESCRIPTION: This is a proposal to amend the General Plan land use designation for 3 parcels from Service Commercial (C-S) to Community Commercial (C-C); to rezone the parcels from C-4 to C-2; to combine parcels 025-131-14 and 025-131-16; to demolish an existing 960 square foot flower shop and construct an 1,189 square foot retail shop on the main floor with one 3-bedroom residential unit on the second floor. Residential parking will be accommodated on the basement level. The project also requires approximately 5,000 cubic yards of excavation and 250 cubic yards of fill in order to stabilize the adjacent hillside, which is composed largely of unconsolidated fill.

ALL OF THE FOLLOWING POTENTIAL ENVIRONMENTAL IMPACTS ARE EVALUATED IN THIS INITIAL STUDY. CATEGORIES THAT ARE MARKED HAVE BEEN ANALYZED IN GREATER DETAIL BASED ON PROJECT SPECIFIC INFORMATION.

X	Geology/Soils		Noise
X	Hydrology/Water Supply/Water Quality		Air Quality
X	Biological Resources		Public Services & Utilities
	Energy & Natural Resources	X	Land Use, Population & Housing
	Visual Resources & Aesthetics		Cumulative Impacts
	Cultural Resources		Growth Inducement
	Hazards & Hazardous Materials		Mandatory Findings of Significance
	Transportation/Traffic		

EXHIBIT D 4

DISCRETIONARY **APPROVAL(S)** BEING CONSIDERED

X General Plan Amendment	X Grading Permit
____ Land Division	X Riparian Exception
X Rezoning	____ Other:
X Development Permit	____
____ Coastal Development Permit	____

NON-LOCAL APPROVALS
Other agencies that must issue permits or authorizations:

Department of Fish & Game

ENVIRONMENTAL REVIEW ACTION
On the basis of this Initial Study and supporting documents:

___ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

✓ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the attached mitigation measures have been added to the project. A MITIGATED NEGATIVE DECLARATION will be prepared.

___ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

Paia Levine

Sept 15, 06
Date

For: Ken Hart
Environmental Coordinator

EXHIBIT D

II. BACKGROUND INFORMATION

EXISTING SITE CONDITIONS

Parcel(s) Size: 65,034 square feet
Existing Land Use: Retail Flower shop, parking lot and office building
Vegetation: The area in the vicinity of the proposed project is vegetated with a mix of Coast live oaks, Laurel, and native and non-native understory shrubs and grasses.
Slope in area affected by project: .05 acres 0 - 30% .95 acres 31 – 100%
Nearby Watercourse: Arana Gulch
Distance To: Northwest edge of properly

ENVIRONMENTAL RESOURCES AND CONSTRAINTS

Groundwater Supply: No Mapped Resource
Water Supply Watershed: No Mapped Resource
Groundwater Recharge: No Mapped Resource
Timber or Mineral: No Mapped Resource
Agricultural Resource: No Mapped resource

Biologically Sensitive Habitat: None mapped or visible during site reconnaissance

Fire Hazard: Mapped Critical Fire Area
Floodplain: Mapped Floodplain/Floodway, however site visit and surveyed topography verify that project not located in flood hazard areas.
Erosion: Moderate to Highly Erodable
Landslide: None Mapped

Liquefaction: Low potential
Fault Zone: None Mapped

Scenic Corridor: None Mapped
Historic: No Mapped resource
Archaeology: Portion of each parcel mapped with resources, however proposed development occurs outside of mapped portion in previously disturbed area.

Noise Constraint: Mitigations will be required to protect residential use

Electric Power Lines: No hazard
Solar Access: Available

Solar Orientation: Available
Hazardous Materials: Low potential

SERVICES

Fire Protection: Central Fire District
School District: Live Oak Elementary
Santa Gruz High School
Sewage Disposal: Santa Cruz County Sanitation District

Drainage District: Zone 5
Project Access: Soquel Ave.

Water Supply: City of Santa Cruz

EXHIBIT I

PLANNING POLICIES

Zone District: C-4 (Commercial Service) **Special Designation:** None
General Plan: C-S (Service Commercial)
Urban Services Line: _X_ Inside ___ Outside
Coastal Zone: ___ Inside _X_ Outside

PROJECT SETTING AND BACKGROUND:

Application 05-0797 is a proposal to demolish an existing flower shop and construct a new mixed use development with retail use on the lower floor and a 3-bedroom residential unit on the second floor. The project requires a General Plan Amendment, a rezoning, a Commercial Development Permit, Preliminary Grading Approval, a Geologic and Soils Report Review, and a Riparian Exception for earthwork and drainage improvements in the riparian area. The project site is located in Live Oak on three parcels, which total approximately 1.5 acres. All three parcels are currently zoned C-4 (Commercial Service) with a General Plan designation of Commercial Service. No development is proposed for parcel 025-131-15, which is currently developed with an office building and parking lot and is included in this application for ,rezoning and General Plan Amendment only. All three parcels have about 500 feet of combined Soquel Avenue frontage. The project site is within the unincorporated portion of Santa Cruz County.

The southern one third of the site is generally level and currently developed with an existing office building, parking area, and retail flower shop. The northern two thirds of the site slopes steeply (30-70%) down to Arana Gulch, an intermittent stream that outlets to the Pacific Ocean through the small crafl harbor, also known as Woods Lagoon. The northern portion of the site contains a mix of Coast live oak and Buckeye trees; with both native and non-native understory shrubs and grasses.

The property is part of the Soquel Avenue commercial corridor, a major east-west transportation artery in the County. The parcels on both sides (east and west) of the property are also zoned C-4, while the property to the north is zoned **PF** (Public Facility). Properties across Soquel Avenue to the south are zoned C-2 (Community Commercial).

Existing land use in the area is not consistent with the above stated zone district, as the majority of the C-4 properties are underdeveloped with modest and/or dated structures. Parcels on both sides of the subject property are developed with relatively small buildings containing small businesses. Two gas stations occupy the properties to the south across Soquel Avenue. Both gas stations are relatively new. The property to the north contains Harbor High School, which is owned by the Santa Cruz School District.

EXHIBIT D

DETAILED PROJECT DESCRIPTION:

This project consists of constructing a 1,189 square foot, two-story commercial structure, with a 3-bedroom residential unit on the second floor and a basement for residential parking. The project includes one access driveway from Soquel Avenue to serve the existing 7-space parking lot serving the flower shop. Improvements along the site's Soquel Avenue frontage will consist of a driveway apron. Curb, gutter and sidewalk currently exist. A bus shelter is also proposed within the right-of-way.

Site development includes removing 3 oak trees (10" and 15" in diameter) and one 17" Eucalyptus tree. **All** other oak and buckeye trees will be preserved along the Arana Gulch corridor at the northern portion of the property. Six new 5-gallon oaks will be planted along the retaining wall adjacent to the riparian corridor, while five 24" box southern live oaks will be planted at the Soquel frontage.

The preliminary grading plans indicate that overexcavation and recompaction of approximately 5,000 cubic yards will be required in preparation for construction. The stated grading figures include the removal of a significant amount *of* unconsolidated fill, as is recommended by the required geotechnical report (Attachment 7). The unconsolidated material is non-engineered fill, and is not suitable for bearing loads. The material will be either recompacted in lifts to engineered specifications or will be exported to a County-approved site. A significant portion of the estimated 5,000 cubic yard total is expected to be exported.

The project drainage improvements include an 8-inch storm drain to convey runoff from the improved area to a riprap outlet structure within the Arana Gulch riparian corridor. Additionally, two 30-foot detention pipes will be located under the upper parking lot. A stormwater treatment system is to be installed io remove hydrocarbons, heavy metals, and contaminated sediments from the runoff that enters the detention system. The system will consist of a silt and grease trap or Stormceptor in the parking area. Prio to public hearing, the Drainage Section of the Department of Public Works will work with drainage engineering consultants and project geotechnical engineer to assure that the detention system effectively maintains the pre-development runoff rate.

The parcel contains an existing asphalt driveway that will be retained. In order to comply with standards for driveways serving commercial development, the existing driveway will need to be widened to 20 feet. Grading for the access road, driveway and extension of the existing parking lot will involve approximately 2,350 cubic yards of cut and 50 cubic yards of fill. A new retaining wall will be constructed along the northern edge of the parking lot adjacent to the Arana Gulch.

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable

111. ENVIRONMENTAL REVIEW CHECKLIST

A. Geology and Soils

Does the project have the potential to:

1.	Expose people or structures **to** potential adverse effects, including the risk of material **loss,** injury, or death involving:			
	A. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning **Map** issued by the State Geologist for the area or as identified by other substantial evidence?		X	
	B. Seismic ground shaking?		X	
	C. Seismic-related ground failure, including liquefaction?		X	

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
D. Landslides?		X		

*All of Santa Cruz County is subject to some hazard from earfhquakes. The project site is not located within any state or county mapped fault zone. Bauldry Engineering completed a Geotechnical Investigation for the proposed project, dated December **9,** 2005 (Attachment 7). The reporl concluded that the potentia/ for liquefaction is low, based on the nature of the subsurface, the estimated ground accelerations, and the location of the groundwater (encountered at depths of 6 to 7). The report also states that structures built in accordance with the latest edition of the Uniform Building Code for Seismic Zone **4** have an increased potential of experiencing only minor damage, which should be repairable.*

The project will likely be subject to some seismic shaking during the life of the structure. The structure shall be designed in accordance with the uniform Building Code as well as any additional requirements dictated by the soils engineer such that the hazard presented by seismic shaking is mitigafed to a less than significant level.

Some portions of the site contain non-engineered fill Io depths of up to 22 feet along the slope at the back of the upper level parking lot. Because of the poor quality of fill, potential for settlement, and the steep slopes along the northwestern side of the property, there is a potential for both seismically induced and aseismic landsliding to occur. Therefore overexcavation and recompaction or removal of all unconsolidated fill will be performed for the site. The geofechnical engineer recommends a soldier pier retaining wall to protect the parking lot and driveway serving the residential parking area in the basement.

Additionally, shoring must be used to prevent ground loss and damage to the adjacent property to the east during the removal of fill and rubble-laden material. Finally, the geotechnical engineer recommends that unretained site improvements be set back a minimum of 15 feet from existing slopes and where structures will be located less than 15 feet, they must be founded on piers embedded into competent bedrock.

All recornmendations made in the geotechnical report will be incorporated into Conditions of Approval for the Development Permit. Additionally, the County Civil Engineer will be present to observe most phases of the grading activities to ensure that all recommendations are implemented.

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Imparl	Not Applicable
2. *Subject people or improvements to damage* from *soil instability as a result* of *on- or off-site landslide, lateral spreading,* lo *subsidence, liquefaction, or structural collapse?*			X	

*See A.*1 *above. As discussed previously, the site may he subject to seismic or aseismic landsliding, however, if sliding were to occur, there are no off-site structures or improvements that would be impacted. The foundation design for the proposed structure must take into account the potential for subsidence of any non-compacled fill. The foundations must be designed to be anchored on the underlying Purisima Formation bedrock or on engineered fill. A soldier pier retaining wall may he used to protect fhe parking lot or structures located within 20 feet from the break in slope. Following these recomrnendalions will result in less than significant impacts to people or improvements.*

The Geotechnical Investigation has been reviewed and accepted by the County Civil Engineer.

3. *Develop land* with a *slope exceeding* 30%?				X

There are slopes that exceed 30% on *the property. However, no improvements are proposed on slopes in excess of 30% and no drainage will be directed to slopes in excess of 30%. A retaining wall is proposed to replace the existing wall adjacent to the parking lot.*

4. *Result in soil erosion or the substantial* loss of *topsoil?*		X		

The Geotechnical Investigation for the property (Attachment 7) determined that the near surface soils consist mostly of loose non-engineered fill comprised of silty sand and sandy silt. Given the soils characteristics, steep slope and degree of proposed excavation, there is a significant potential for erosion of topsoil on the site. Additionally, the Arana Gulch Watershed could be impacted by sedimentation if erosion is not adequately controlled. To ensure erosion control remains effective throughout all phases of construction and post construction, a detailed erosion control plan, prepared by a Certified Professional in Erosion and Sediment Control (CPESC) will be required as a project condition.

The plan will include provisions for disturbed areas to he planted with ground cover and to be maintained to minimize surface erosion. An additional condition of project approval will require regular inspections by Environmenfal Planning staff before, during, and after construction lo *ensure that all erosion control measures remain in*

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable

place and effective. Additionally, grading will not be permitted during the wet season. With a professionally prepared erosion control plan, regular monitoring and the absence of winter grading, the potential impact of erosion will be reduced to less than significant.

5. *Be located on expansive soil, as defined in Table 18-1-B* of *the Uniform Building* Code(1994), *creating substantial risks* to *property?* X

The project geotechnical engineer recommends segregation and removal of expansive soil if encountered during the excavation operation discussed above ***(A.****I*, *A.2,* ***A.3)*** *along with all organic and other deleterious material. The geotechnical engineer and County Civil Engineer will be present during much* of *the grading operations to ensure that this and all recommendations made in the Geotechnical Report are implemented.*

6. Place sewage disposal systems *in areas dependent upon soils incapable* of *adequately supporting the use of septic tanks, leach fields,* or *alternative waste water disposal systems?* X

No septic systems are proposed. The project will connect to the Santa Cruz County Sanitation District, and the applicant will be required to pay standard sewer connection and service fees that fund sanifation improvements within the district as a Condition of Approval for the project.

7. Result in coastal cliff erosion? X

The project is not located in the coastal zone.

EXHIBIT D 1

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable

B. Hydrology, Water Supply and Water Quality

Does the project have the potential to:

1. *Place development within a 100-year flood hazard area?* — X

According to the Federal Emergency Management Agency (FEMA) National Flood Insurance Rate Map (FIRM), dated April 15, 1986, a portion of the project site lies within a 100-year flood hazard area (see Attachment 5). The floodplain of Arana Gulch is at the northern, lower portion of the site about 35 vertical feet below the building site. Bowman & Williams, consulting civil engineers, determine the 100-year elevation to be 43.25 feet above mean sea level based on FEMA FIRM data. No portion of the proposed building will be placed within the flood hazard areas. Reference the Flood Insurance Rate Map (Panel 355) in Attachment 5 and the project plans.

2. *Place development within the floodway resulting in impedance or redirection of flood flows?* — X

See B.1 above. No earthwork or development is proposed in the flood hazard area.

3. *Be inundated by a seiche or tsunami?* — X

4. *Deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit, or a significant contribution* to *an existing net deficit in available supply, or a significant lowering* of *the local groundwater table?* — X

The project will obtain water from the City of Santa Cruz Water Department and will not rely on *private well water. Although the project will incrementally increase water demand, the City of Santa Cruz has indicated that adequate supplies are available to serve the projeci (Attachment 73). The project is not located in a mapped groundwater recharge area, however at the behest of the Department of Public Works, the proposal includes a detention system below the upper parking lot.*

EXHIBIT D 1

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
5. *Degrade a public or private water supply? (Including the contribution of urban contaminants, nutrient enrichments, or other agricultural chemicals or seawater intrusion).*			X	

No commercial or industrial activities are proposed that would generate a significant amount of contaminants to a public or private water supply. The parking and driveway associated with the project will incrementally contribute urban pollutants to the environment; however, the contribution will be minimal given the size of the driveway and parking area. Potential siltation from the proposed project will be mitigated through implementation of erosion control measures. The rezoning from C-4 to C-2 precludes a number of potential uses on the site, such as automobile repair and service shops, contractor's storage yards, and building materials yards. The reduced intensity of such allowable uses will protect the water supply from potential contaminants that would otherwise be allowable under the C-4 zone district. Further, there are no allowable uses under the proposed C-2 district which would have the potential to degrade the water supply that are not currently allowable under the existing C-4 zone district.

Site clearing, grading, and excavation will be limited to the dry season to minimize the potential for erosion and downstream sedimentation during the construction phase of the project. See also A-4 above.

A silt and grease trap, and a plan for maintenance, will be required to reduce this impact to a less than significant level.

6. Degrade septic system functioning?			X	

There is no indication that exisfing septic systems in the vicinity would be affected by the project.

7. Alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner which could result in flooding, erosion, or siltation on or off-site?			X	

Currently the site is developed with a retail flower shop and is connected to the public storm drain system. The proposed project will not alter the exisfing overall drainage pattern of the site, in that runoff will continue to be directed toward Arana Gulch. Department of Public Works Drainage Secfion staff has reviewed and approved the proposed drainage plan with respect to feasibility. The drainage system will be designed such that the post-development runoff rates will not exceed the existing rates, thereby reducing potential flooding and erosion off site to a less than significant impact.

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
8. *Create* or *contribute runoff which would exceed the capacity* of *existing or planned storm water drainage systems, or create additional* source(s) *of polluted runoff?*	____	X		

Drainage Calculations prepared by Bowman & Williams dated March 9, 2006 (Attachment 9), have been reviewed for potential drainage impacts and accepted by the Department of Public Works (DPW) Drainage Section staff. The calculations show that total storage requirement for the site is 185 cubic feet. The runoff rate from the property will be controlled by a detention system that uses two 30-foot long 24" diameter HDPE pipes and has a maximum capacity of 190 cubic feet. DPW staff has determined that existing storm water facilities are adequate to handle the increase in drainage associated with the project. Refer to response B-5 for discussion of urban contaminants and/or other polluting runoff.

9. *Contribute* to *flood levels or erosion in natural water courses by discharges* of *newly collected runoff?*		X		

See 8.8 above. Water runoff rate will be restricted to pre-development storm rates by an on-site detention system. Storage will be regulated with a weir box to *ensure that predevelopment rates for a 10-year storm is released from the system. The driveway leading to the residential parking garage will bypass the project detention system. To ensure the release of predevelopment runoff rates from the site, the estimated flow from the driveway area is subtracted from the rates use to size the weir box. From the weir box, the outflow discharges through the driveway retaining wall* lo *a riprap outlet located approximately 112 feet from the bank of Arana Gulch. All final drainage plans must be reviewed and accepted by the Drainage Section of the Department of Public Works prior to issuance of any building permits, as a condition of discretionary approval.*

10. *Otherwise substantially degrade water supply or quality?*		X		

See 8.5 above. Erosion control measures to protect the riparian area and a silt and grease trap for parking lot runoff will be installed during construction. With these measures any negative impact on *water qualify is reduced to a less than significant level.*

EXHIBIT D 1

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable

C. Biological Resources

Does the project have the potential to:

1. *Have an adverse effect on any species identified as a candidate, sensitive, or special status species, in local or regional plans, policies,* or *regulations, or by the California Department* of *Fish and Game, or* U.S. *Fish and Wildlife Service?* X

According to the California Natural Diversity Data Base (CNDDB), maintained by the California Department of Fish and Game, there is the potential for Southern Steelhead to exist in Arana Gulch. The drainage pipe and dissipafer are within the corridor but not within the bankful flow or floodplain. All grading activities are confined to the dry season. Erosion Control Best Management Practices will be implemented and monitored by Environmental Planning staff, mitigating any potential significant impacts to riparian species. See also A.4 above.

2. *Have an adverse effect on a sensitive biotic community (riparian corridor), wetland, native grassland, special forests, intertidal zone, etc.)?* X

The project involves the placement of a drainpipe and dissipater, and construction of a retaining wall within the riparian area. The installation of these facilities will include earthwork. The applicant shall be required to verify that the new facilifies will be placed to minimize the disturbance to the riparian area. Specifically, the pipe must be laid by hand to avoid ay removal of trees and understory shrubs and grasses and construction fencing placed around adjacent trees. A condition of project approval will require the presence of an arborist during the construction of drainage improvements to ensure the protection of trees in the vicinity. Prior to public hearing, Planning staff will verify that the location of the pipe will minimize disturbance. With the review of the final locafion of the new facilities by Planning staff, the impact to the riparian area will be less than significant. A Riparian Exception is required for the placement of the drainage improvements within the corridor. All conditions of approval for the Riparian Exception will be included in the conditions of approval for the development permit.

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
3. *Interfere with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the* use *of native or migratory wildlife nursery sites?*			X	

See C.1 and ***C.2*** *above. There is no intrusion into the riparian corridor that will limit the movement of wildlife.*

4. *Produce nighttime lighting that* **will** *illuminate animal habitats?*			X	

The development area is adjacent to a riparian corridor, which could be adversely affected by a new or additional source of light that is not adequately deflected or minimized. The following conditions will be added to the project, such that any potential impact will be reduced to a less than significant level: all site lighting shall be directed onto the site and away from adjacent properties, all lighted parking and circulation areas shall utilize low-rise light standards or light fixtures attached to the building, and all light fixtures shall be energy-efficient. Light standards are limited to a maximum height of ***15*** *feet.*

5. Make a *significant contribution to the reduction* of *the number* of *species of plants or animals?*			X	

See C.1 and ***C.2*** *above. In addition, three existing oak trees will be removed because of the required excavation of poor soils and construction of the replacement retaining wall. As shown in the landscape plan prepared by Gregory Lewis, 5 6-gallon replacement oaks will be planted to the north of the new retaining wall. Additionally,* ***5*** *southern live oak trees will be planted along the Soquel Avenue frontage.*

6. Conflict with any local policies or *ordinances protecting biological resources (such as the Significant Tree Protection Ordinance, Sensitive Habitat Ordinance, provisions* of *the Design Review ordinance protecting trees with trunk sizes* of *6 inch diameters or greater)?*			X	

See C.1 for a *discussion of sensitive habitat protection. A Riparian Exception is included as a part of this project. Findings for the Riparian Exception can be made.*

EXHIBIT D 1

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
7. Conflict with the provisions of an adopted Habitat Conservation Plan, Biotic Conservation Easement, or other approved local, regional, or state habitat conservation plan?				X

There are no conservation plans or biotic conservation easements in effect or planned in the *project* vicinity.

D. Energy and Natural Resources

Does the project have the potential lo:

1. Affect or be affected by land designated as "Timber Resources" by the General Plan?				X
2. Affect or be affected by lands currently utilized for agriculture, or designated in the General Plan for agricultural use?				X
3. Encourage activities that result in the use of large amounts of fuel, water, or energy, or use of these in a wasteful manner?			X	

The additional square footage and addition of a residential *unit* will entail a minimal increase in wafer and/or energy use.

4. Have a substantial effect on the potential use, extraction, or depletion of a natural resource (i.e., minerals or energy resources)?				X

The project does not entail the extraction or substantial consumption of minerals, energy resources, or other natural resources.

E. Visual Resources and Aesthetics

Does the project have the potential to:

1. Have an adverse effect on a scenic resource, including visual obstruction of that resource?				X

The project *will* not directly impact any public scenic resources, as designated in the County's General Plan *(1994),* or obstruct any public views of these visual resources.

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
2. Substantially damage scenic resources, within a designated scenic corridor or public view shed area including, but not limited to, *trees, rock outcroppings. and historic buildings?*				X

The project site is not located along a County designated scenic road or wifhin a designated scenic resource area.

3. *Degrade the existing visual character or quality of the site and its surroundings, including substantial change in topography or ground surface relief features,* and/or *development on a ridge line?*		X		

The existing visual setting is in an urbanized commercial area. The proposed project is designed and landscaped so as to improve and enhance this setting. The project has been reviewed and accepted by the County Urban Designer.

4. *Create a new source of light or glare which would adversely affect day or nighttime views in the area?*			X	

Site lighting will be mounted on the building at a maximum height of 15 feet and shall be shielded to minimize the impact on the neighboring area. The project is conditioned such that no exterior lights will face the riparian area.

5. Destroy, cover, or modify any unique geologic or physical feature?				X

There are no unique geological or physical features on or adjacent to the site that would be destroyed, covered, or modified by the project.

F. Cultural Resources

Does the project have the potential to:

1. *Cause an adverse change in the significance of a historical resource as defined in* **CEQA** *Guidelines* 15064.5?				X

The existing structure(s) on the property is not designated as a historic resource on any federal, State or local inventory.

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
2. *Cause an adverse change in the significance of an archaeological resource pursuant* to *CEQA Guidelines* 15064.5?			X	

While portions of the subject parcels are identified as containing archaeological resources, the proposed development will occur outside of the mapped areas in locations that have been historically disturbed and/or developed. Pursuant to County Code Section 16.40.040, if at any time in the preparation for or process of excavafing or otherwise disturbing the ground, any human remains of any age, or any artifact or other evidence of a Native American cultural site which reasonably appears to exceed 100 years of age are discovered, the responsible persons shall immediately cease and desist from all further site excavation and comply with the notification procedures given in County Code Chapter 16.40.040.

3. *Disturb any human remains, including those interred outside of formal cemeteries?*			X	

Pursuant to Section 16.40.040 of the Santa Cruz County Code, if at any time during site preparation, excavation, or other ground disturbance associated with this project, human remains are discovered, the responsible persons shall immediately cease and desist from all further site excavation and notify the sheriff-coroner and the Planning Director. If the coroner determines that the remains are not of recent origin, a full archeological report shall be prepared and representatives of the local Native California Indian group shall be contacted. Disturbance shall not resume until the significance of the archeological resource is determined and appropriate mitigations to preserve the resource on the site are established,

4. *Directly or indirectly destroy a unique paleontological resource* or *site?*			X	

G. Hazards and Hazardous Materials

Does the project have the potential to:

1. *Create a significant hazard* to *the public or the environment as a result of the routine transport, storage, use, or disposal* of *hazardous materials, not including gasoline or other motor fuels?*			X	

The site will be occupied by a future retail use that will not generate or store on-site waste.

EXHIBIT D

Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable

*The rezoning from **C-4** to C-2 precludes a number of potential uses on the site, such as automobile repair and service shops, contractor's storage yards, and building materials yards. The reduced intensity of such allowable uses will significantly preclude the use, storage, or transportation of hazardous materials being present, which might otherwise be allowable under the C-4 zone district. Further, there are* no *allowable uses under the proposed C-2 district, which would have the potential include hazardous materials that are not currently allowable under the existing C-4 zone district.*

2. *Be located on a site which is included on a list of hazardous materials sites compiled pursuant* to *Government Code Section* 65962.5 *and,* **as** *a result, would it create a significant hazard* to *the public or the environment?* ____ ____ ____ X

The project site is not included on the 7/15/05 list of hazardous sites in Santa Cruz County compiled pursuant to the specified code.

3. Create a *safety hazard for people residing or working in the project area as a result of dangers from aircraft using a public or private airport located within two miles* **of** *the project site?* ____ X

4. *Expose people* to *electro-magnetic fields associated with electrical transmission lines?* ____ X

5. Create a potential fire hazard? ____ X ____

The project design incorporates all applicable fire safety code requirements and will include fire protection devices as required by the local fire agency.

6. Release bio-engineered organisms or chemicals into the air outside of *project buildings?* ____ X

H. Transportation/Traffic

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
Does the project have the potential to:				
1. *Cause an increase in traffic that is substantial in relation* to *the existing traffic load and capacity of the street system* (i.e., *substantial increase in either the number of vehicle trips, the volume* to *capacity ratio on roads,* or *congestion at intersections)?*			X	

The project will create a small incremental increase in traffic on nearby roads and intersections. However, given the small number of new trips created by the additional residential unit (approximately 10 new trips per day), this increase is less than significant. Further, the increase will not cause the Level of Service at any nearby intersection to drop below Level of Service D.

The project is required to pay standard development Fees intended to mitigate the impact of new development on County-maintained roads. These Roadside and Transportation Improvement fees are calculated with an estimate of the increase in trip-ends generated by the project.

The rezoning from **C-4** *to* C-2 *precludes a number ofpotential uses on the site, such as automobile repair and service shops, contractor's storage yards, and building materials yards, that would potentially generate a greater number of new trips than those uses allowed under the proposed C-2 zoning district. Additionally, parking demands associated with currently allowable uses would potentially exceed current capacity. Further, there are no allowable uses under the proposed C-2 district, which would have the potential to generate a greater number of trips than those currently allowed under the C-4 zone district.*

2. *Cause an increase in parking demand which cannot be accommodated by existing parking facilities?*			X	

The project meets the code requirements for the required number of parking spaces and therefore new parking demand will be accommodated on site. The new residential use will create a need for three additional parking spaces. ***A*** *basement level parking garage will be constructed to provide parking for the residential use.*

3. *Increase hazards* to *motorists, bicyclists, or pedestrians?*			X	

The proposed project will comply with current road requirements to prevent potential hazards to motorists, bicyclists, and/or pedestrians. The driveway curb cut will be completed per Public Works Design Criteria standards and the site plan has been

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
reconfigured to provide a wheelchair accessible parking space to meet Public Works standards.				
4. *Exceed, either individually (the project alone) or cumulatively (the project combined with other development), a level* **of** *service standard established by the county congestion management agency for designated intersections, roads or highways?*			X	

See response H-1 above. The project will generate approximately 10 new daily trips. When these trips are added to the network, Soquel Avenue is expected to continue to operate at a LOS ***B*** *or better, similar to existing conditions.*

I. Noise

Does the project have the potential to:

1. *Generate a permanent increase in ambient noise levels in the project vicinity above levels existing without the project?*			X	

The project will create an incremental increase in the existing noise environment. However, this increase will be small, and will be similar in character to noise generated by the surrounding existing uses, and will be less than the noise generated by the traffic on Soquel Avenue.
Under the existing ***C-4*** *zone district, allowable uses include automobile repair shops, and storage of heavy machinery, which would potentially generate a large increase above the ambient noise level. The proposed rezoning to C-2 will limit the degree of noise impact by limiting allowable uses onsite to smaller retail or service establishments with much less potential for creating significant noise impacts.*

2. *Expose people* **to** *noise levels in excess* of *standards established in the General Plan, or applicable standards* of *other agencies?*			X	

Per County policy, average hourly noise levels shall not exceed the General Plan threshold of ***50*** *Leq during the day and* ***45*** *Leq during the nighttime. Impulsive noise levels shall not exceed* ***65*** *db during the day or 60 db at night. Traffic noise along Soquel Avenue can exceed these standards. However project conditions will include an analysis of the building plans by an acoustic engineer, while the building will be required to meet interior noise standards, such as the use of double-paned glass.*

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
3. *Generate a temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?*		X		

Noise generated during construction will increase the ambient noise levels for adjoining areas. Construction will be temporary, however, and given the limited duration of this impact it is considered to be less than significant.

J. Air Quality

Does the project have the potential to:
(Where available, the significance criteria established by the MBUAPCD may be relied upon to *make the following determinations).*

1. *Violate any air quality standard or contribute substantially* to *an existing or projected air quality violation?*		X		

The North Central Coast Air Basin does not meet State standards for ozone and particulate matter (PM10). Therefore, the regional pollutants of concern that would be emitted by the project are ozone precursors (Volatile Organic Compounds [VOCs] and nitrogen oxides [NOx]), and dust.
Given that only 13 new trips will be generated by the project there is no indication that new emissions of VOCs or NOx will exceed Monferey Bay Unified Air Pollution Control District (MBUAPCD) thresholds for these pollutants and therefore there will not be a significant contribution to an existing air quality violation.
Project construction may result in a shorf-term, localized decrease in air quality due to generation of dust. However, standard dust control best management practices, such as periodic watering, will be implemented during construction to reduce impacts to a less than significant level.

2. *Conflict with or obstruct implementation of an adopted air quality plan?*		X		

The project will not conflict with or obstruct implementation of the regional air qualify plan. See J-I above.

3. *Expose sensitive receptors* to *substantial pollutant concentrations?*		X		

See J.1 and J.2 above.

4. *Create objectionable odors affecting a substantial number* of *people?*			X	

EXHIBIT D

Significant O. Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable

The proposed project does not include restaurants or other activities, which could emit potentially objectionable odors.

While the existing C-4 zone district allows such uses as automobile repair and building supply stores, which have the potential to create Objectionable odors, the proposed C-2 zone district allows smaller scale, less impactful uses, which will be less likely to generate objectionable odors. Additionally, there are no allowable uses under the proposed C-2 district which would have the potential to generate odors that are not currently allowable under the existing C-4 zone district.

K. Public Services and Utilities

Does the project have the potential to:

1.	*Result in the need for new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:*				
	a. *Fire protection?*			X	
	b. *Police protection?*			X	
	c. *Schools?*			X	
	d. *Parks or other recreational activities?*			X	
	e. *Other public facilities; including the maintenance of roads?*			X	

While the project represents an incremental contribution to the need for services, the increase will be minimal. Moreover, the project meets all of the standards and requirements identified by the local fire agency, as applicable, and school, park, and transportation fees to be paid by the applicant will be used to offset the incremental increase in demand for school and recreational facilities and public roads.

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No impact	Not Applicable
2. *Result in the need for construction* of *new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*			X	

Drainage analysis of the project (Bowman & Williams, March 9, 2006) concluded that the Arana Creek spillway and culvert under La Fonda Avenue are constricted and overtopped in larger flood events; therefore on-site detention has been designed lo *restrict the flow of runoff leaving the site. Department of Public Works Drainage staff have reviewed the drainage information and have determined that downstream storm facilities are adequate to handle the increase in drainage associated with the project.*

3. *Result in the need for construction* of *new water or wastewater treatment facilities or expansion* of *existing facilities, the construction* of *which could cause significant environmental effects?*			X	

The project will connect to an existing municipal water supply. The City of Santa Cruz Water District has defermined that adequate supplies are available to serve the project (Attachment 13).

Municipal sewer service is available to serve the project, as reflected in the attached letter from the Santa Cruz County Sanitation District (Attachment ***14).*** *The project will not necessitate expansion of wastewater treatment facilities.*

4. *Cause a violation* of *wastewater treatment standards* of *the Regional Water Quality Control Board?*			X	

The project's wastewater flows will not violate any wastewater treatment standards.

5. *Create a situation in which water supplies are inadequate* to *serve the project or provide fire protection?*			X	

The water mains serving the project site provide adequate flows and pressure for fire suppression. Additionally, the Central Fire Protection District has reviewed and approved the project plans, assuring conformity with fire protection standards that include minimum requirements for water supply for fire protection.

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impart	Not Applicable
6. *Result in inadequate access for fire protection?*		X		

*See **K.5** above*

7. *Make a significant contribution to a cumulative reduction of landfill capacity or ability* to *properly dispose of refuse?*		X		

According to Bowman & Williams, civil engineering consultants, excess soils material of up to 2,500 cubic yards will be removed and disposed of as part of this development. The need to export material is largely driven by the poor, mixed quality of fill, debris and other deleterious material and is thus not able to be reduced in volume by a significant degree. Any fill that cannot be accommodated at a permitted private site will be hauled to the Buena Vista or Marina landfill for disposal.

8. *Result in a breach of federal, state, and local statutes and regulations related* to *solid waste management?*				X

L. Land Use, Population. and Housing
Does the project have the potential to:

1. *Conflict with any policy of the County adopted for the purpose* of *avoiding or mitigating an environmental effect?*			X	

The proposed project was reviewed for conformance with the County of Santa Cruz General Plan. The policy areas that are germane to this project are noted below:

Land Use Element – The proposed retail and residential unit are uses allowed in the Community Commercial (C-C) land use designation, and not in the more intensive uses allowed in the existing Community Service (C-S) land use designation. The existing office use is similarly located on a parcel designated as C-S and is nonconforming. Consequently, the applicant has applied for a General Plan Amendment to change the land designation to C-C, which more accurately reflects the existing and proposed land uses on the subject parcels. Changing the General Plan

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable

land use designation will bring the existing commercial and office uses into conformance with a less-intensive land use designation. Allowing less intensive land uses will also provide a greater degree of protection to the adjacent riparian resources. Because the General Plan amendment will lead to less intensive uses, there will be no resulting significant environmental impact. Additionally, because the site's location adjacent to a riparian corridor, it is unlikely that most uses associated with the C-S General Plan designation would be approved on these sites. Therefore the loss of two C-S designated parcels does not result in an physical impact.

Community Design Element – The development of two of the subject lots will be an improvement to the area. Soquel Drive is an arterial street that has historically lacked cohesion in terms of street frontage and attractive design elements. The current proposal is consistent with recent developments to the adjacent lots to the east and south, in that it provides landscaping and aesthetically pleasing design features on a site previously lacking these amenities.

Conservation and Open Space – Policy 5.2.2 provides for the protection of Riparian Corridors and Wetlands. The proposed development includes a component to restore the adjacent riparian corridor through the removal of invasive exotic plant species and the removal of fill which has historically been responsible for a large degree of erosion and sedimentation.

2.	*Conflict with any County Code regulation adopted for the purpose of avoiding or mitigating an environmental effect?*		X	

As discussed in L-1 above, the subject parcels' zoning and General Plan land use designation is not consistent with the existing and proposed land uses. The proposed mixed use development is not allowed in the C-4 zone district. Rezoning the parcels to C-2 will result in allowable uses that have a lesser degree of potential impact than those that would be allowed under the current C-4 zone district. "Downzoning" the parcels will provide a greater measure of protection for the adjacent riparian corridor. Therefore, there will be no significant environmental impacts resulting from the parcel rezoning.

3.	*Physically divide an established community?*			X

EXHIBIT D

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
The project will not include any element that will physically divide an established community.				
4. *Have a potentially significant growth inducing effect, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension* of *roads or other infrastructure)?*			X	
The proposed project is designed at the density and intensity of development allowed by the amended General Plan and zoning designations proposed for the parcel. Additionally, the project does not involve extensions of utilities (e.g., water, sewer, or new road systems) into areas previously not served. Consequently, it is not expected to have a significant growth-inducing effect.				
5. Displace substantial numbers of people, or amount of existing housing, necessitating the construction **of** *replacement housing elsewhere?*			X	
The proposed project will entail a net gain in housing units.				

EXHIBIT D

M. Non-Local Approvals

Does the project require approval of federal, state, or regional agencies? Yes X No ___

California Department of Fish & Game

N. Mandatory Findings of Significance

1 Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant, animal, or natural community, or eliminate important examples of the major periods of California history or prehistory? Yes No X

2. Does the project have the potential to achieve short term, to the disadvantage of long term environmental goals? (A short term impact on the environment is one which occurs in a relatively brief, definitive period of time while long term impacts endure well into the future) Yes No X

3. Does the project have impacts that are individually limited, but cumulatively considerable ("cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, and the effects of reasonably foreseeable future projects which have entered the Environmental Review stage)? Yes ___ No X

4. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? Yes No X

EXHIBIT D

TECHNICAL REVIEW CHECKLIST

	REQUIRED	COMPLETED*	N/A
Agricultural Policy Advisory Commission (APAC) Review			
Archaeological Review			
Biotic Report/Assessment			
Geologic Hazards Assessment (GHA)		12/05	
Geologic Report			
Geotechnical (Soils) Report	X	**12/05**	
Riparian Pre-Site			
Septic Lot Check			
Other:			
Drainage Calculations	X	*03/06*	

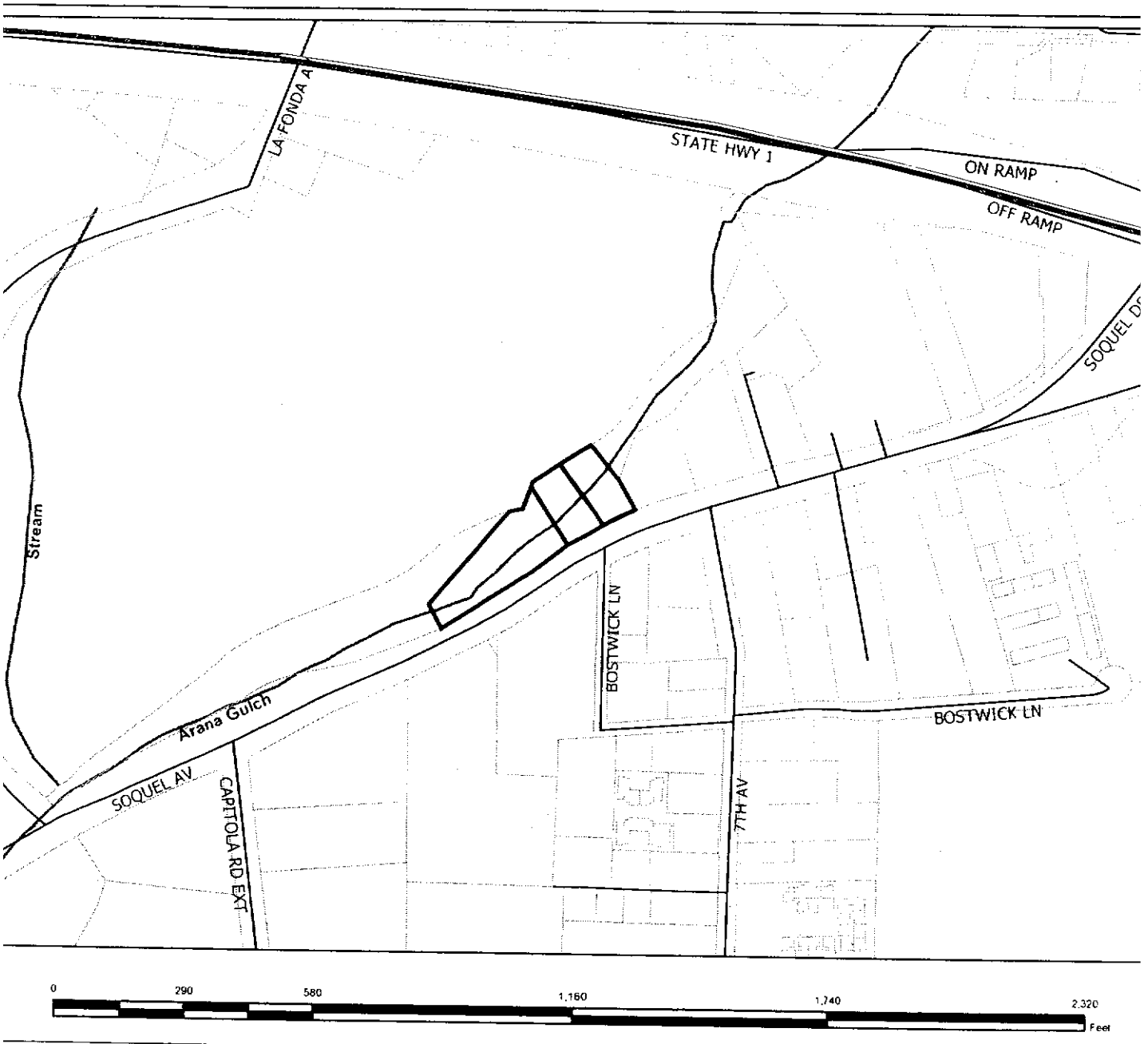
Attachments:

For all construction projects:

1. Location Map
2. Assessors Parcel Map
3. Map of Zoning Districts
4. Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for Santa Cruz County, Community Panel Number 060353 0355B, dated April 15, 1996.
5. Project Plans
6. General Plan Designation map
7. Geotechnical Investigation (Conclusions and Recommendations) prepared by Bauldry Engineering, dated December *9,2005*
8. Geotechnical Review Letter prepared by Kent Edler, dated April 12, 2006
9. Drainage calculations prepared by Bowman *8* Williams, dated March 9, 2006
10. Design Review by County Urban Designer, dated December 27, 2005
11. Letter from RDA, dated January 11, 2006
12. Discretionary Application Comments, miscellaneous dates, printed August 21, 2006
13. Letter from City of Santa Cruz Water District, dated January 12, 2006
14. Memo from Department of Public **Works,** Sanitation, dated January 3, 2006

EXHIBIT D

Location Map



Legend

- Assessors Parcels selection
- State Highways
- Streets
- Assessors Parcels
- INTERMITTENT STREAM
- PERENNIAL STREAM

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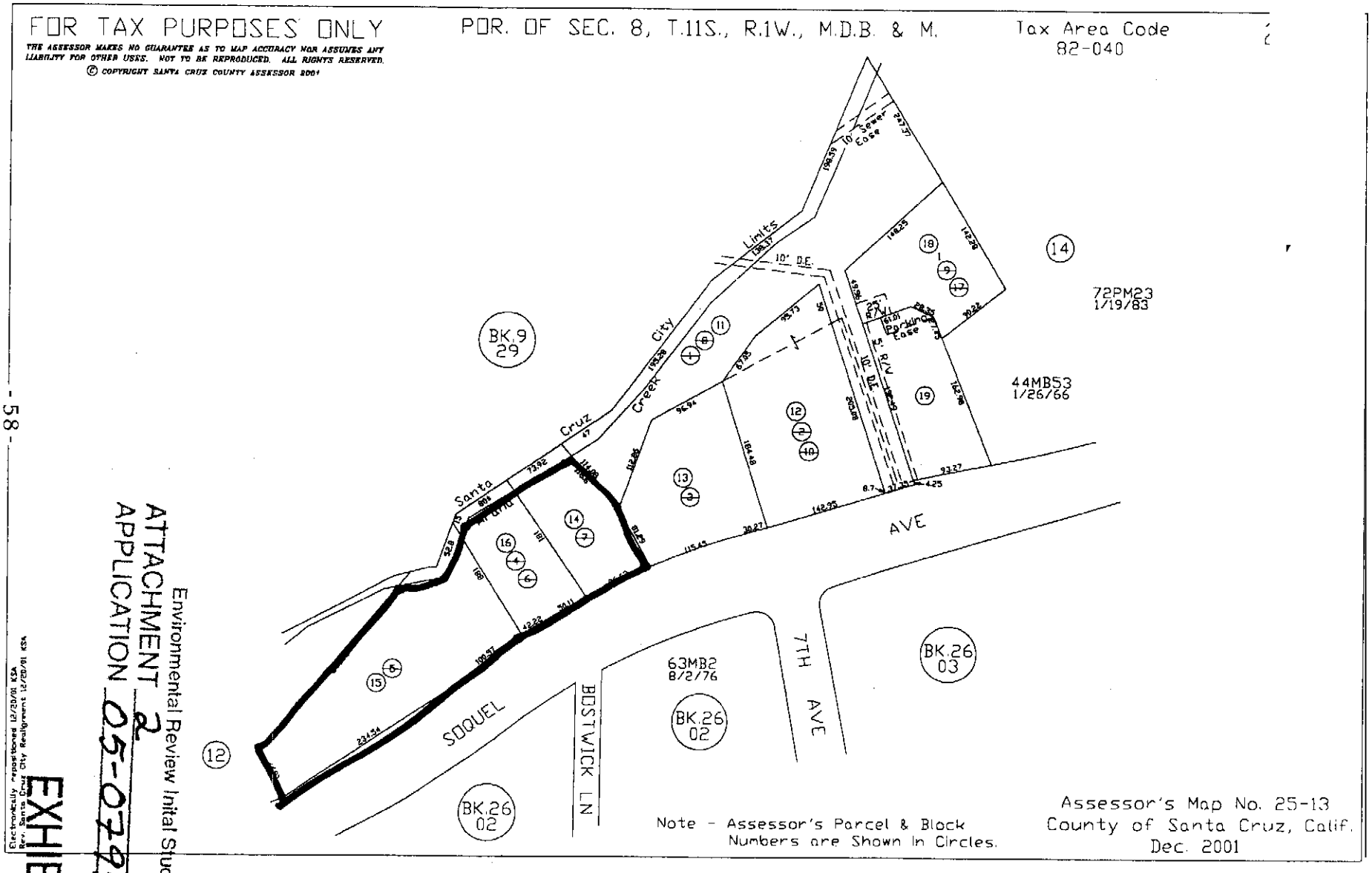
Environmental Review Inital Study
ATTACHMENT 1
APPLICATION 04-0797

Map Created by
County of Santa Cruz
Planning Department
January 2006

EXHIBIT D

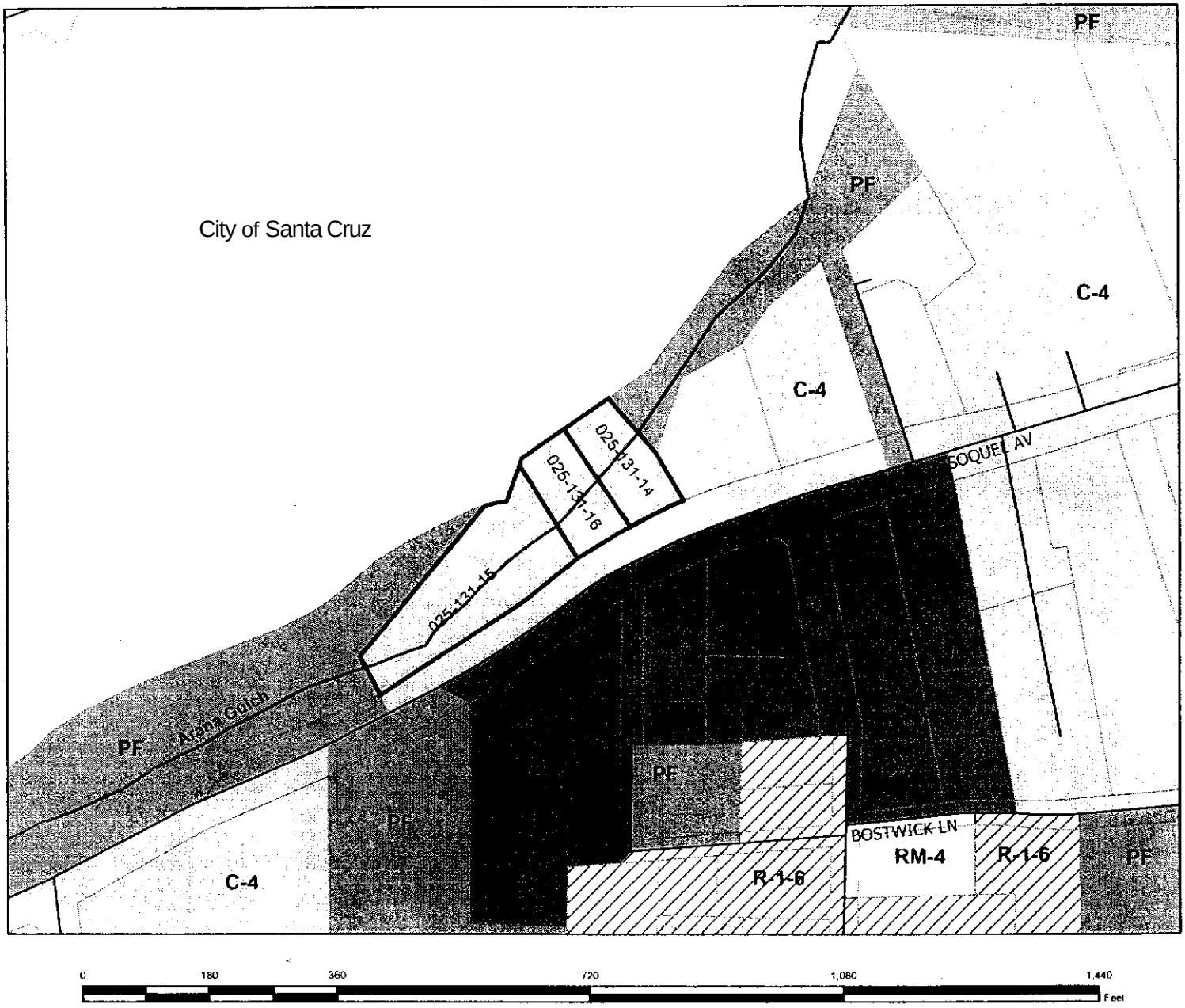


Environmental Review Initial Study
ATTACHMENT 2
APPLICATION 05-0297

EXHIBIT D 1

Electronically repositioned 12/20/01 KSA
Rev. Santa Cruz City Realignment 12/20/01 KSA

Zoning Map



Legend

- Assessors Parcel Selection
- Slreets
- Assessors Parcels
- PERENNIAL STREAM
- COMMERCIAL SERVICE (C-4)
- PUBLIC FACILITY (PF)
- COMMERCIAL-COMMUNITY (C-2)
- RESIDENTIAL-MULTI FAMILY (RM)
- RESIDENTIAL-SINGLE FAMILY (R-1)

N

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S

Environmental Review Inital Study

ATTACHMENT 3

APPLICATION 05-0797

Map Created by
County of Santa Cruz
Planning Department
January 2006

EXHIBIT D

0 D 1000

NATIONAL FLOOD INSURANCE PROGRAM

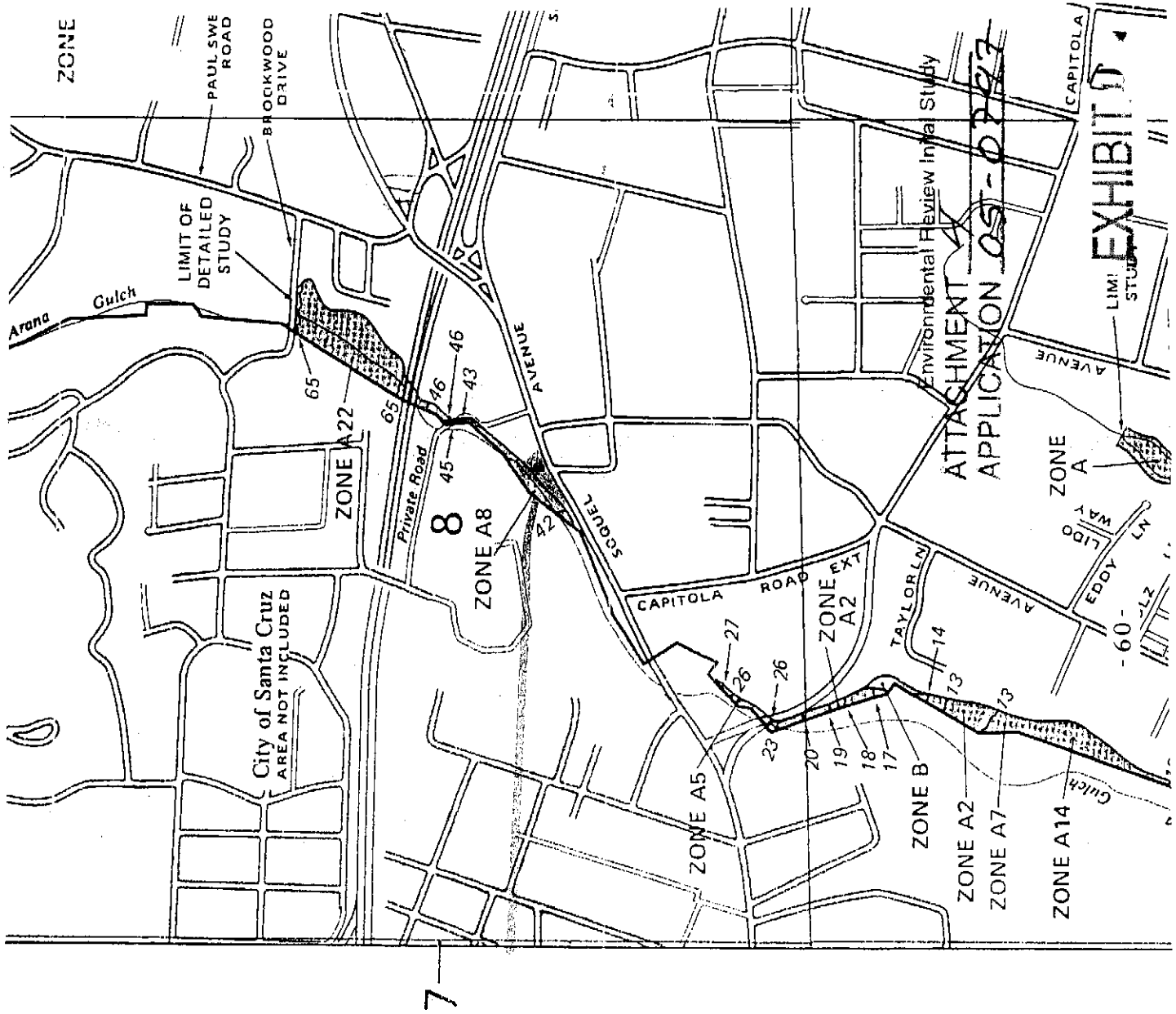
FIRM
FLOOD INSURANCE RATE MAP

SANTA CRUZ COUNTY, CALIFORNIA
(UNINCORPORATED AREAS)

PANEL 355 OF 450
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
060353 0355 B

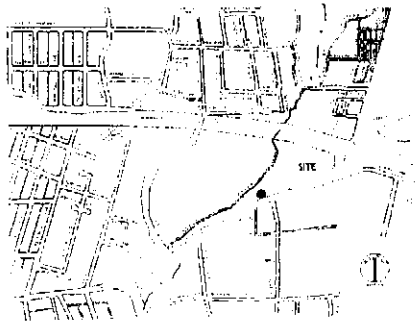
EFFECTIVE DATE:
APRIL 15, 1986



FARM FRESH FLOWERS

2615 SOQUEL AVENUE, SANTA CRUZ, CA

VICINITY MAP



PROJECT TEAM

ARCHITECT	THACHER & THOMPSON ARCHITECTS (TOM THACHER) 320 WASHINGTON STREET, SUITE 301 SANTA CRUZ, CA 95060 (831) 457-3939
CIVIL ENGINEER	BOWMAN AND WILLIAMS (JOEL RICCA) 1011 CEDAR STREET SANTA CRUZ, CA 95060 (831) 426-3560
GEOTECHNICAL ENGINEER	BAULDRY ENGINEERING (BRIAN BAULDRY 147 S. MORRISSEY AVENUE SANTA CRUZ, CA 95062 (831) 457-1122)
LANDSCAPE ARCHITECT	GREG LEWIS, LANDSCAPE ARCHITECT 736 PARK WAY SANTA CRUZ, CA 95065 (831) 425-4747
PLANNING CONSULTANT	POWERS LAND PLANNING, INC. 1807 OCEAN STREET #8 SANTA CRUZ, CA 95060 (831) 426-1663

PROJECT DATA

OWNER	[illegible] [illegible] AVENUE SANTA CRUZ, CA 95060 (831) 462-1863
PROJECT SITE	2615 SOQUEL AVENUE SANTA CRUZ, CA 95062
PROJECT DESCRIPTION	DEMOLISH EXISTING 1 STORY FLOWER SHOP AND CONSTRUCT NEW 2 STORY STRUCTURE WITH BASEMENT PARKING, 1ST FLOOR FLOWER SHOP AND 2ND FLOOR APARTMENT.
APN	[illegible]
LOT AREA	[illegible]
BUILDING AREA	BASEMENT [illegible] SF. 1ST FLOOR FLOWER SHOP [illegible] SF. 1ST FLOOR STORAGE/MECHANIST ROOM 868 SF TOTAL 1ST FLOOR 2049 SF APARTMENT ENTRY [illegible] SF SECOND FLOOR APARTMENT [illegible] SF TOTAL APARTMENT [illegible] SF TOTAL HEATED SPACE [illegible] SF.
ENCLOSED PARKING	[illegible] SPACES [illegible] UNITS [illegible] SPACES

AREA CALCULATIONS

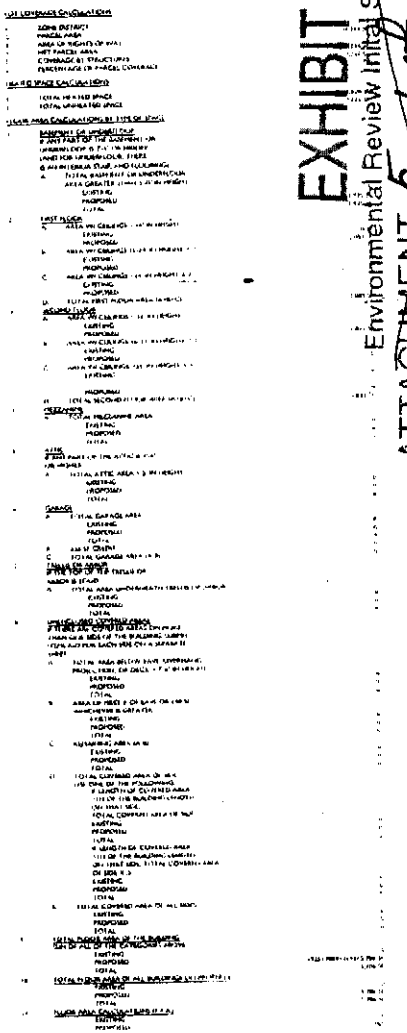


EXHIBIT D
ATTACHMENT 2 1 of 15
APPLICATION 05-0297
Environmental Review Initial Study

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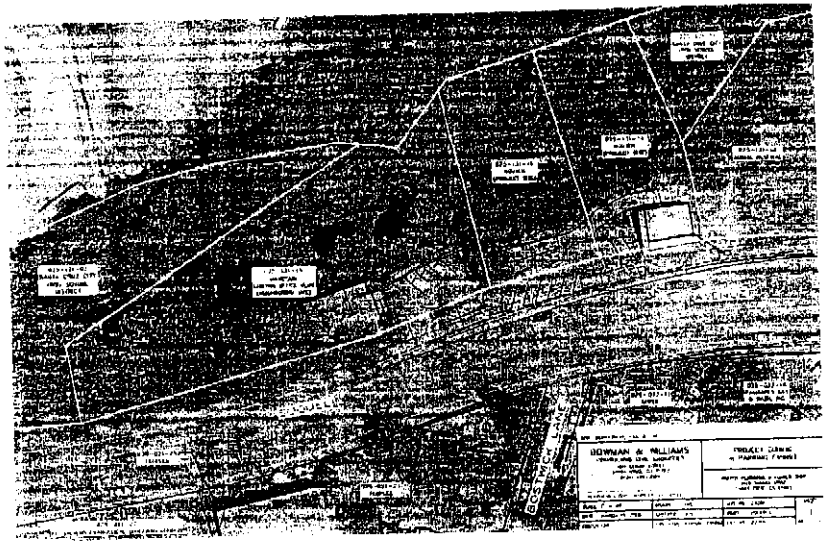
1

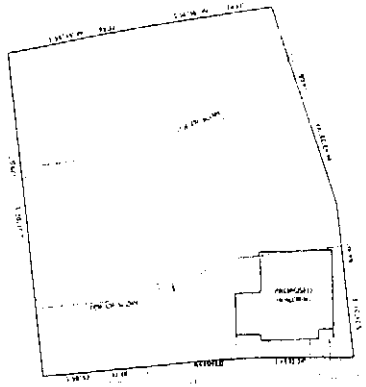
PROJECT DATA & SITE PLAN

FARM FRESH FLOWERS

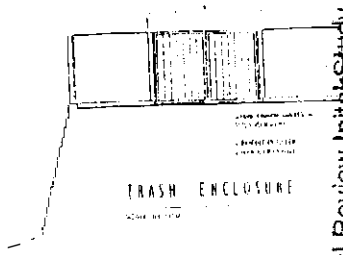
THACHER & THOMPSON ARCHITECTS

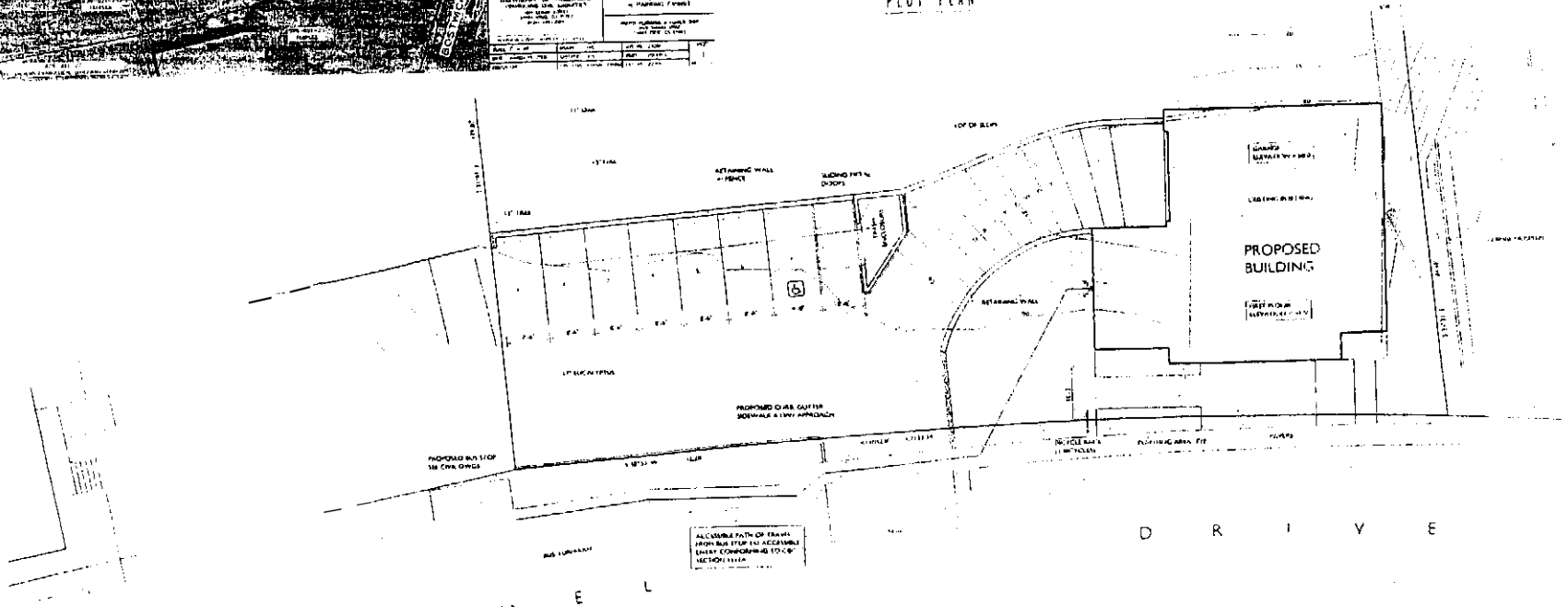
DECEMBER 9, 2005
FEB. 2, 2006
REV. MARCH 14, 2006





PLOT PLAN





SITE PLAN

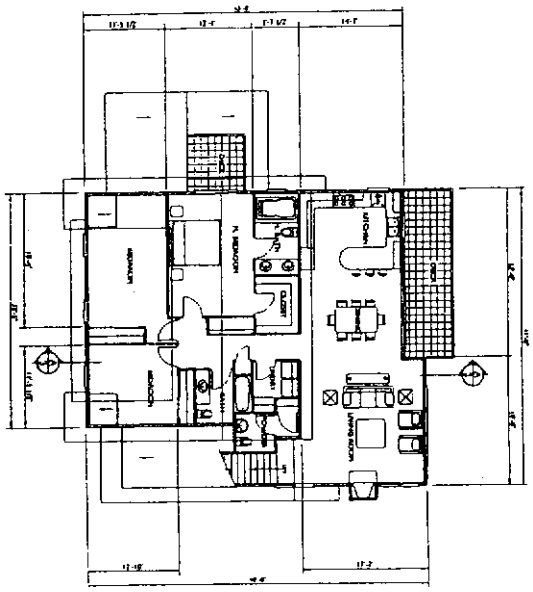
FARM FRESH FLOWERS

2

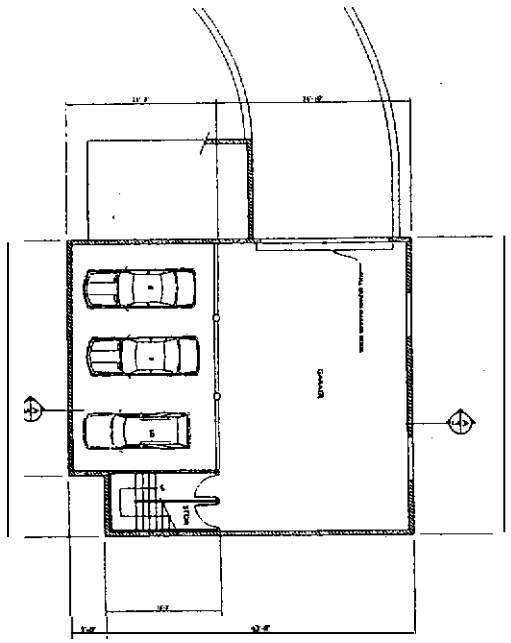
DECEMBER 9 2005

Environmental Review Initial Study
ATTACHMENT 2 of 15
APPLICATION 05-0297

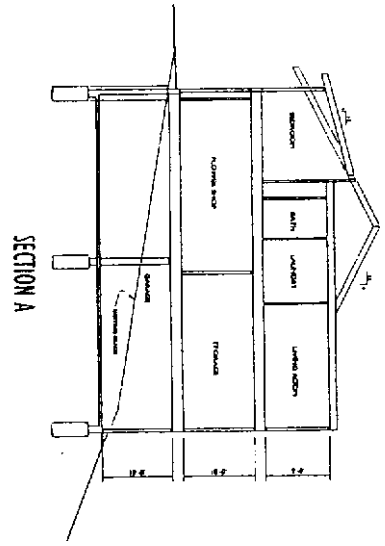
EXHIBIT D



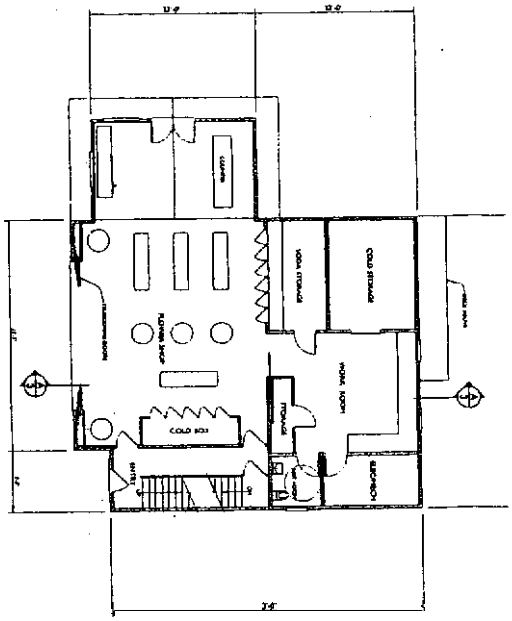
SECOND FLOOR



BASEMENT



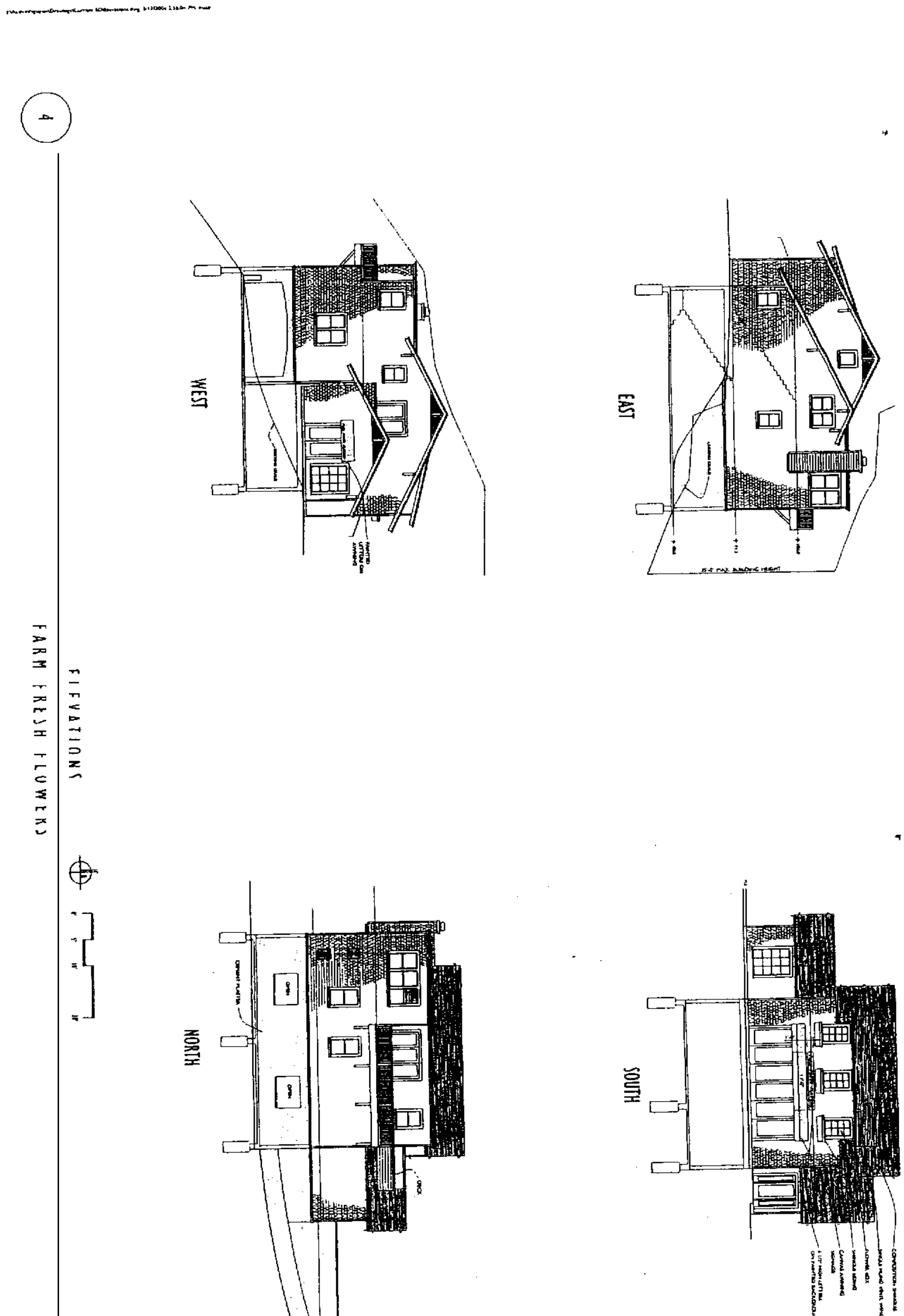
SECTION A



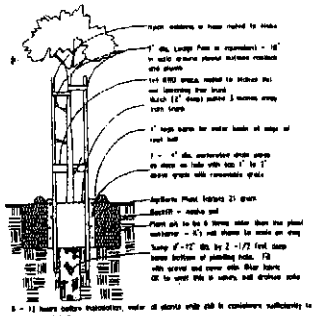
FIRST FLOOR

THACHER & THOMPSON

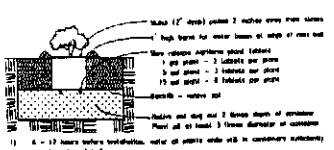
Environmental Review Inital Study
ATTACHMENT 5, 3 of 15
APPLICATION 05-0797
EXHIBIT D



Environmental Review Inital Study
ATTACHMENT 5, 4 of 15
APPLICATION 05-0797
EXHIBIT D



Tree Planting
No Scale



Shrub Planting
No Scale

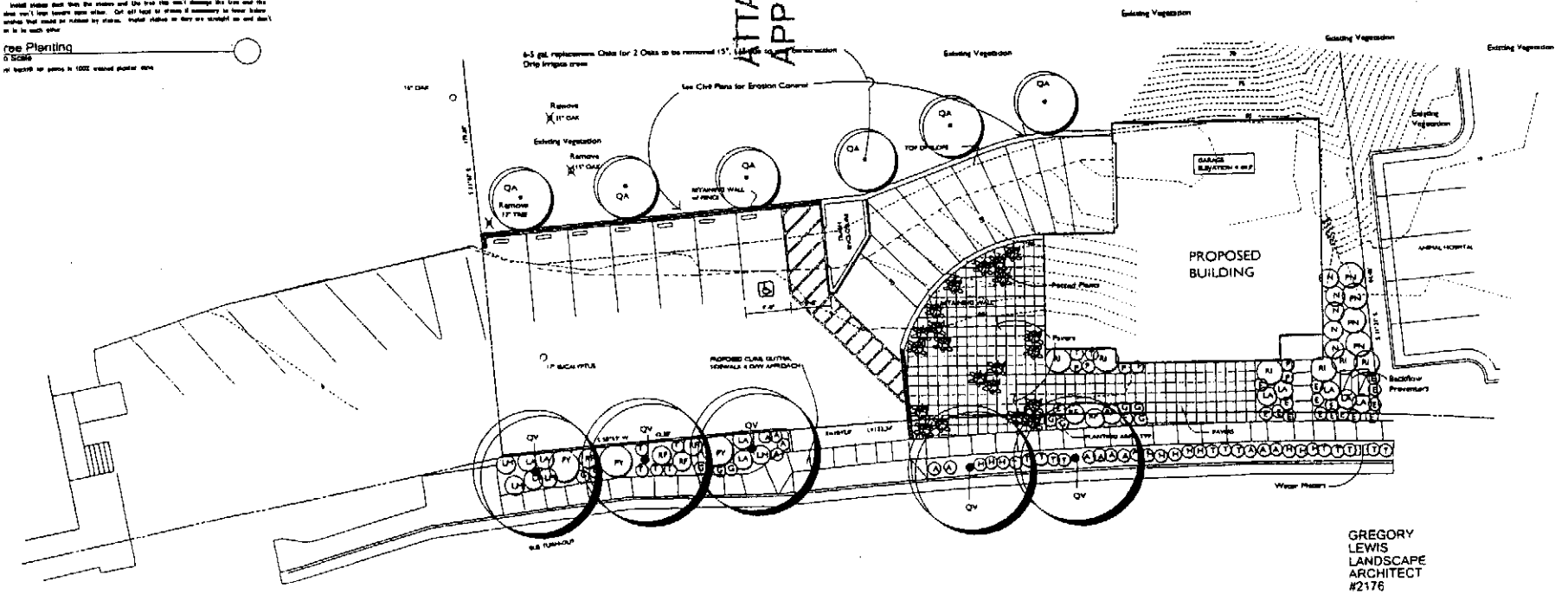
Environmental Review Inital Study
ATTACHMENT 5, 5 of 15
APPLICATION 05-0297

Landscape Notes

1) Final construction drawings to include complete irrigation plan, Details, and Specs. Irrigation plan must meet requirements of the City of Santa Cruz Water Dept.
2) Use 2 inch deep mulch in all planting areas. Provide sample and obtain approval of mulch before installation. Provide Approved Mulch from Water Recycling at the Santa Cruz County Nature Site in Watsonville, Highway, de-nested redwood bark mix or the best top grade material to have no sharp edge pieces.
3) Install plants for all plant zones shown on the plan even if they aren't labeled. Call for identification. For bidding purposes, if no one is available to answer questions, assume that any plant zones shown less than 6' wide to 5 ea. and any shrub spaced larger in 24" box size.
4) If the plan is schematic, Don't install plants too close to edges of parking or pedestrian. Be sure plants are not blocking sprinkler spray immediately. Keep shrubs and ground covers away from trees. The contractor is using a design/build irrigation system.
5) Soil agents, composition and amendments and fertilizer. For bidding purposes until the soil fertility test is done, add 5 cubic yards of redwood/redwood sawdust, and 10 pounds of 11-12-12 fertilizer (Also into the top 6" to 8" of all other planting and to 12" deep, except under existing tree or no deep roots.

Plant Legend

KEY	SIZE	BOTANICAL NAME	COMMON NAME
QV	15 gal.	Quercus virginiana	Southern Live Oak
QA	15 gal.	Quercus agrifolia - replacement trees on rear slope	
PK		Pittosporum 'Silver Sheen'	
PT		Pittosporum tobira 'Wheeler's Dwarf'	Dwarf Mock Orange
RI	5 gal.	Rosa 'Iceberg' - shrub	Iceberg White Rose
RF		Rosa 'FLOWER CARPET' shrub	Landscape Rose
PY	5 gal.	Pittosporum 'Silver Sheen' or 'Variegata'	
		(bright variegated, smallest size Avail.)	
PC		Rhaphiolepis 'Clara'	India Hawthorne
LC		Lantana montevidensis	Purple Lantana
RO		Rosmarinus officinalis 'Prostratus'	Rosemary Prostrate
LA		Lavandula angustifolia	English Lavender
GROUND COVER			
		Xylosma congestum	Shiny Xylosma
		Xylosma congestum 'Silver Sheen'	Silver Xylosma
		Agapanthus 'Peter Pan'	Lily of the Nile
		Hemerocallis 'Little Miss Sunshine'	Yellow Daylily
		Gaillardia 'Kargo Red'	Blanket Flower
		Pennisetum 'Hameln' or 'Compacta'	Dwarf Fountain Grass
		Pennisetum 'Hameln' or 'Compacta'	Dwarf Fountain Grass
		Erigeron karvinskianus	Santa Barbara Daisy



GREGORY LEWIS LANDSCAPE ARCHITECT #2176
738 Park Way
Santa Cruz, CA 95060
(831) 426-4747
FAX 425-1107

1/8"=1'-0"
0' 8' 16'

NORTH

Planting Plan

GREGORY LEWIS LANDSCAPE ARCHITECT #2176
738 Park Way, Santa Cruz, CA 95060 (831) 426-4747 FAX 425-1107

Nguyen Flower Shop
Soquel Ave. close to 7th Ave., Santa Cruz, CA

L1

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EXHIBIT D

Landscape Irrigation Concept

This is a small commercial flower shop project
Plant list to come
No irrigation in strip and medians
All plants are low and moderate water use.

Area 1 is on separate property
1" meter has been installed and is operational

Hydrozone Summary and Estimated Water Use

Zone 1	Bubbler, trees, med. water, sun	Valves A,C	3 GPM	80 sq.ft.
Zone 2	Bubbler, shrubs, med. water, sun	Valve B,D	18 GPM	408 sq.ft.
Zone 3	Drip, med. water, sun	Valves E	11 GPM	373 sq.ft.
Zone 4	Drip, low water, sun Oaks	Valve F	1 GPM	96 sq.ft.

Max. Applied Water Allowance
34.37 CF + .8 (697 sq.ft.) .62 x .00134 = 23.3 CCF
Est. Applied Water Allowance from Hydrozone
Method (see area, Schedule) = 21.8 CCF

Drip Irrigation Notes

1) Secure larger 1/2" drip tubing 1" below grade with 7" or 11" U-shaped stakes 3 feet on center or closer as that the tubing can be found easily but does not show if the mulch gets blushed away. Cover tubing with soil and mulch and install manual flush valves at ends of tubing and mark them so they can be found easily.
2) Run lamps tubing loops in pants to minimize length of smaller 1/4" tubing.
3) Secure emitters on 1/2" tubing at plant root balls. When necessary run short lengths of 1/4" tubing from emitters to plant root balls. Install stakes on 1/4" tubing at 12" on center and cover tubing with 1" of soil and mulch.
4) As the plant and plant roothall increase in size, the locations of the emitters may need to be adjusted so they are evenly spaced over the roothall.
5) Install pressure compensating emitters (with minimal distance in flow between 10 PSI and 40 PSI) at each plant on root ball (not right at stem). Use Agrifim PC Plus (pressure compensating emitters). Use the ones that 1/4 tubing can be connected to. Other emitters may have a higher dischange rate at plantes requiring larger pipe size.

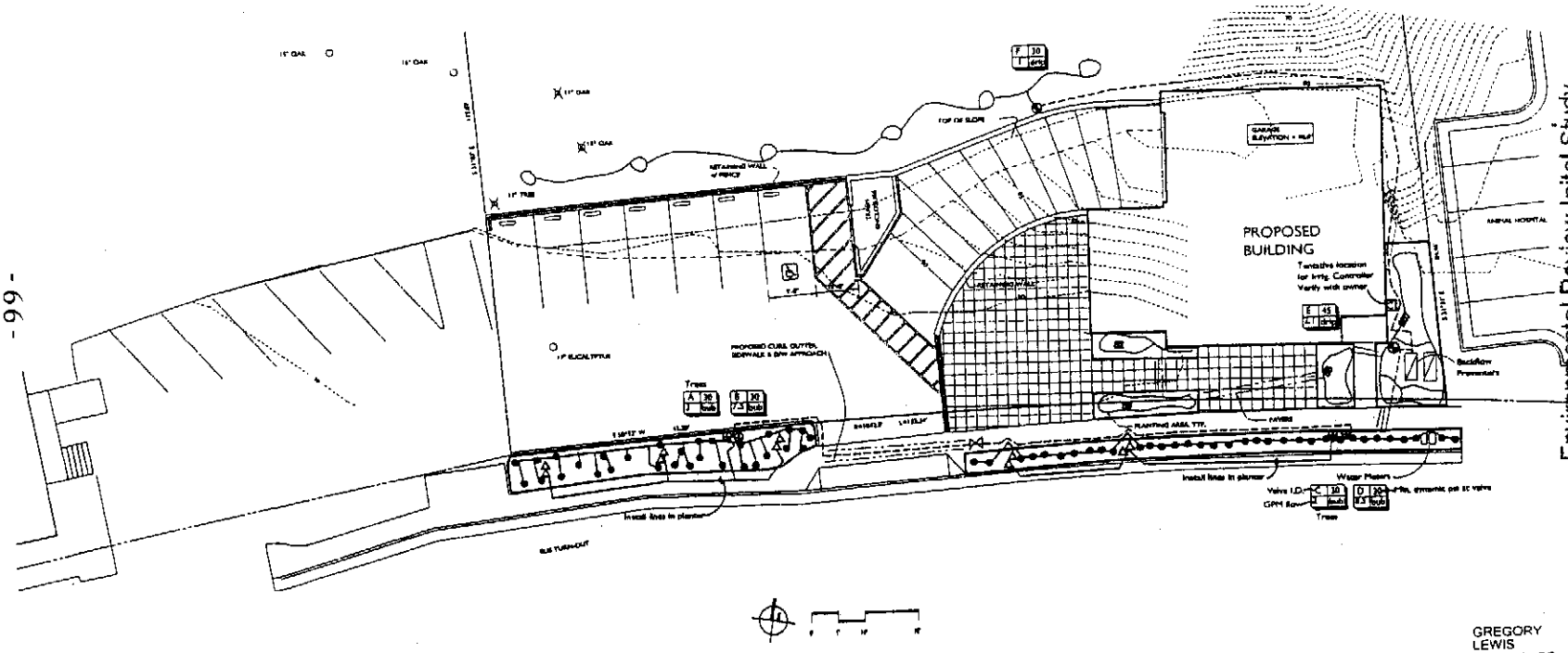
Emitter schedule:
Tree 1 GPH emitters at small shrubs (overdoor size)
Three 1 GPH emitters at medium shrubs
Six 1 GPH emitters at large shrubs
Eight 1 GPH emitters at large tree root balls
Add additional 1 GPH emitters (12) on 2 foot x 2 foot grid in planting area under future tree canopy
With shrubs that have multiple emitters, put some over root ball (not right at stem) and some out under future canopy. Space emitters evenly in root zone area.

Irrigation Notes

1). See sheet L3 and L4 for specifications and details
2). This system is designed to operate with maximum 10 GPM at minimum 45 p.s.i. at the point of connection. If this condition is not met contact the Landscape Architect for possible correction. If pressure exceeds 75 psi at point of connection install a Wilkins 600 1" pressure regulator. - Santa Cruz Water Dept. says there is 72 psi in the street in this area.
3). Backflow preventer is located with any pressure lines run buried in the same trench with control wires and with any lines of any kind under paving run in a trench with control wires.
4). Electric controllers should be set to water between 8:00 PM and 11:00 a.m. to avoid watering during times of higher wind or temperature and programmed with repeat cycles to conserve water. This is not so important for drip that is not affected by the wind. Set correctly for the season.
5). Run 2 extra control wires from the controller to the far end of each leg and tie the furthest loose leg, coming out of each valve box with some extra wire along the way so valves could be added if necessary in the future.
6). The routing of controller lines is schematic on the plan. Do not put valves too close to trees. Stay 6' to 10' away if possible. Do not put pressure lines under trees. Install line in planting areas before finish grading. Install on undisturbed soil under paving whenever possible.
7). As required by the County Ag Irrigation Schedules and Water Use estimation have been done for an average year. They are 8-1/2x11 format.

Irrigation Legend

KEY	MANUF.	MANUF. #	DESCRIPTION
C	Hunter	PC-600	6 station weatherproof freestanding wall mount with multiple programming, water saver, and calendar program. Install Hunter Rain-Clik rain shut off device connected to controller
	Hunter	PGV-101A	1" remote control angle valve bubbler grade in valve box Install 3/4" bubbler T (Nail and Screwdriver PK50 accessory required) with adapter to drip tube in associated valve box - for drip circuits
	Hunter	PGV-101A	1" remote control angle valve bubbler grade in valve box For bubbler circuits
	Rainbird	33DLRC	3/4" quick coupler with bubbler spout and 3 valves total - provide one valve key and one hose swivel in valve box Assumes in-ground bubblers irrigation - Install as per Ch1 and Water Dept. Specs. and Details - Install brass bushing and provide option for stainless steel rings
	Febco	825Y	1" Reduced pressure backflow preventer - Install as per Ch1 and Water Dept. Specs. and Details - Install brass bushing and provide option for stainless steel rings
	Rainbird	150-DV	.5 GPM pressure compensating bubbler at top of vertical drop exiting tube - adjust to 1 GPM Use Rainbird 6MS-BOX2 root watering system tube with spray jet, grate, bubbler, and tube seal Install 3' per tree
	Nibco	T-113	1.0 GPM flood bubbler with Sch 80 PVC threaded swing joint - one bubbler per tree
			Install some manual isolation valves into the mains with as few pressure lines, below grade in valve boxes at major points anywhere on that different portions of the site can be isolated for repairs while retaining irrigation water to the rest of the site. Valve locations on as-built.
			1/2" PE drip tubing with compression fittings - see drip notes
			3/4" Homeowners line - Sch 40 PVC 3/4" unless noted for longer size - 1" of same
			Proposed line - CL315 PVC 1-1/4" unless noted for smaller size or size min. 18" deep (24" deep under A.C. paving)
			At main pressure coupling of the pressure line, install 4 Sch 40 PVC 1-1/4" pressure line in 3" sleeves, on every 1-1/4" Sch 40 PVC line in 3" sleeve, and a 1" gray PVC conduit for passive wires.
			Where over 4 low pressure dry erosion zoning, use 1" Sch 40 PVC line in 3" sleeve Also install on every 1" Sch 40 PVC line in sleeve. Cap and mark ends with stake. Sleeves are needed for water lines. They should be twice as large as the pipe inside them. (e.g. Use a 4" sleeve for a 2" line



IRRIGATION PLAN

GREGORY LEWIS LANDSCAPE ARCHITECT #2176
138 Park Way
Santa Cruz, CA 95060
(831) 423-4747
FAX 425-1107

Environmental Review Inital Study
ATTACHMENT 5, 6 of 15
APPLICATION 05-0393

GREGORY LEWIS LANDSCAPE ARCHITECT #2176
138 Park Way Santa Cruz, CA 95060 (831) 423-4747 FAX 425-1107

Nguyen Flower Shop
Soquel Ave. close to 7th Ave., Santa Cruz, CA

L2

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EXHIBIT D

ATTACHMENT 5, 3 of 15
APPLICATION 05-0292

Environmental Review Initial Study

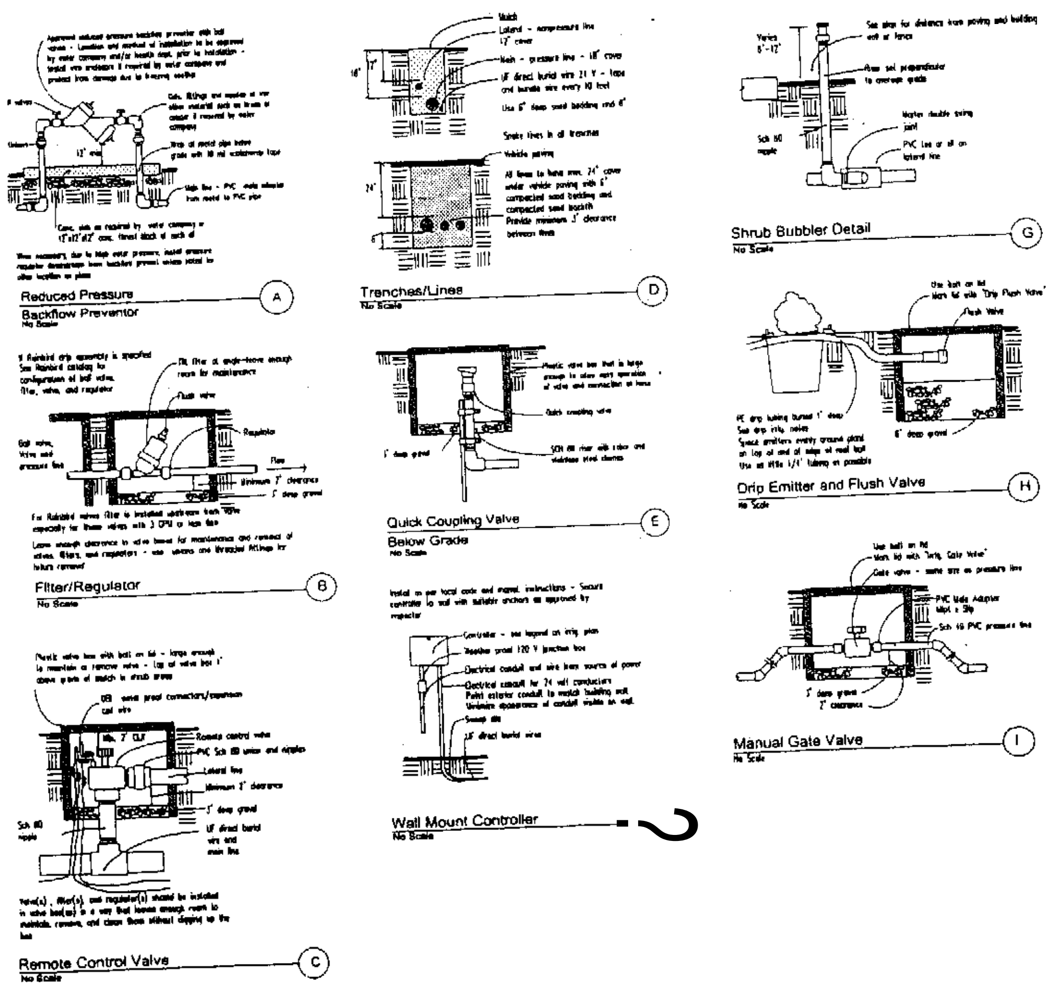
Nguyen Flower Shop
Soquel Ave. close to 7th Ave., Santa Cruz, CA

L3

GREGORY LEWIS LANDSCAPE ARCHITECT #2176

1/8"=1'-0"

NORTH



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GREGORY
LEWIS
LANDSCAPE
ARCHITECT
#2178

GREGORY LEWIS LANDSCAPE ARCHITECT

Nguyen Flower Shop

Soquel Ave. close to 7th Ave., Santa Cruz, CA

L4

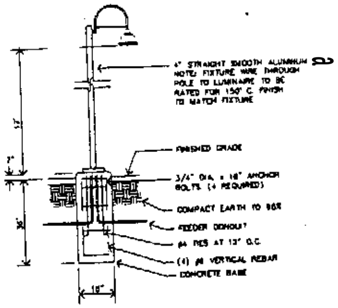
EXHIBIT D

① FIXTURE SCHEDULE				
TAG	MANUFACTURER	DESCRIPTION	LAMP	WATTAGE
AA	HADCO / [illegible] / [illegible] POLE	CFL SERIES LUMINAIRE WITH [illegible] 100W MH WITH FULL CUT-OFF, 12' MOUNTING HEIGHT	(1)100W MH MEDIUM	125
BB	HADCO / [illegible] / [illegible]	SAME AS TYPE "AA" EXCEPT WALL MOUNT 100W MH WITH FULL CUT-OFF, 12' MOUNTING HEIGHT	(1)100W MH MEDIUM	125
CC	[illegible] / [illegible] 7'-4" WALL MOUNT	WALL MOUNTED FULL CUT-OFF DOWN LIGHT, 7'-8" [illegible] HEIGHT	(1)70W MH ED-17	90

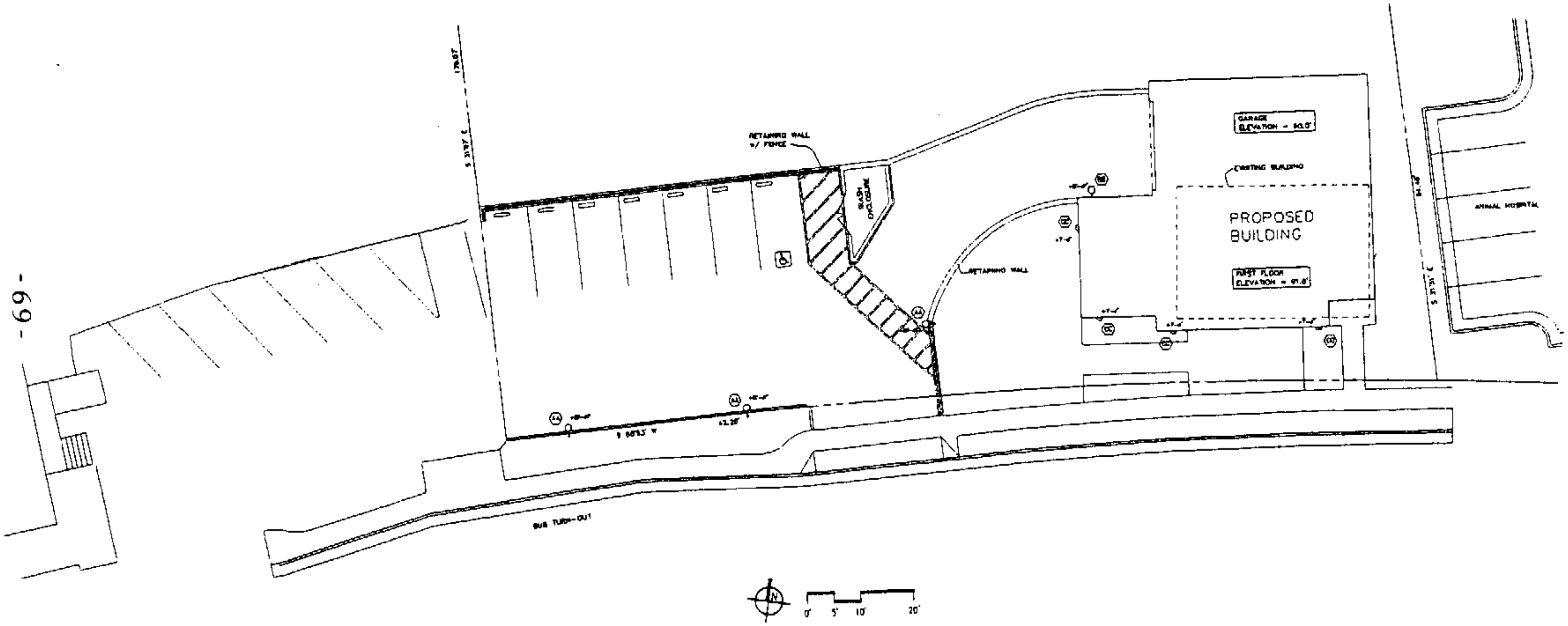
EXTERIOR LIGHTING NOTES

EXTERIOR LIGHTING SHALL MEET OR EXCEED 2005 TITLE 24 STANDARDS.

THIS PROPERTY IS A LZ3 URBAN LIGHTING AREA, PER THE 2000 US CENSUS.



2 PARKING LUMINAIRE TYPE "AA"
NOT TO SCALE



LIGHTING SITE PLAN

NGUYEN FLOWER SHOP

PrimeDesignGroup

THACHER & THOMPSON ARCHITECTS

JANUARY 30, 2006
MARCH 14, 2006

EXHIBIT D

(E)

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EXHIBIT D A

ATTACHMENT 5
APPLICATION 5670-50

Environmental Review Initial Study

EXHIBIT D

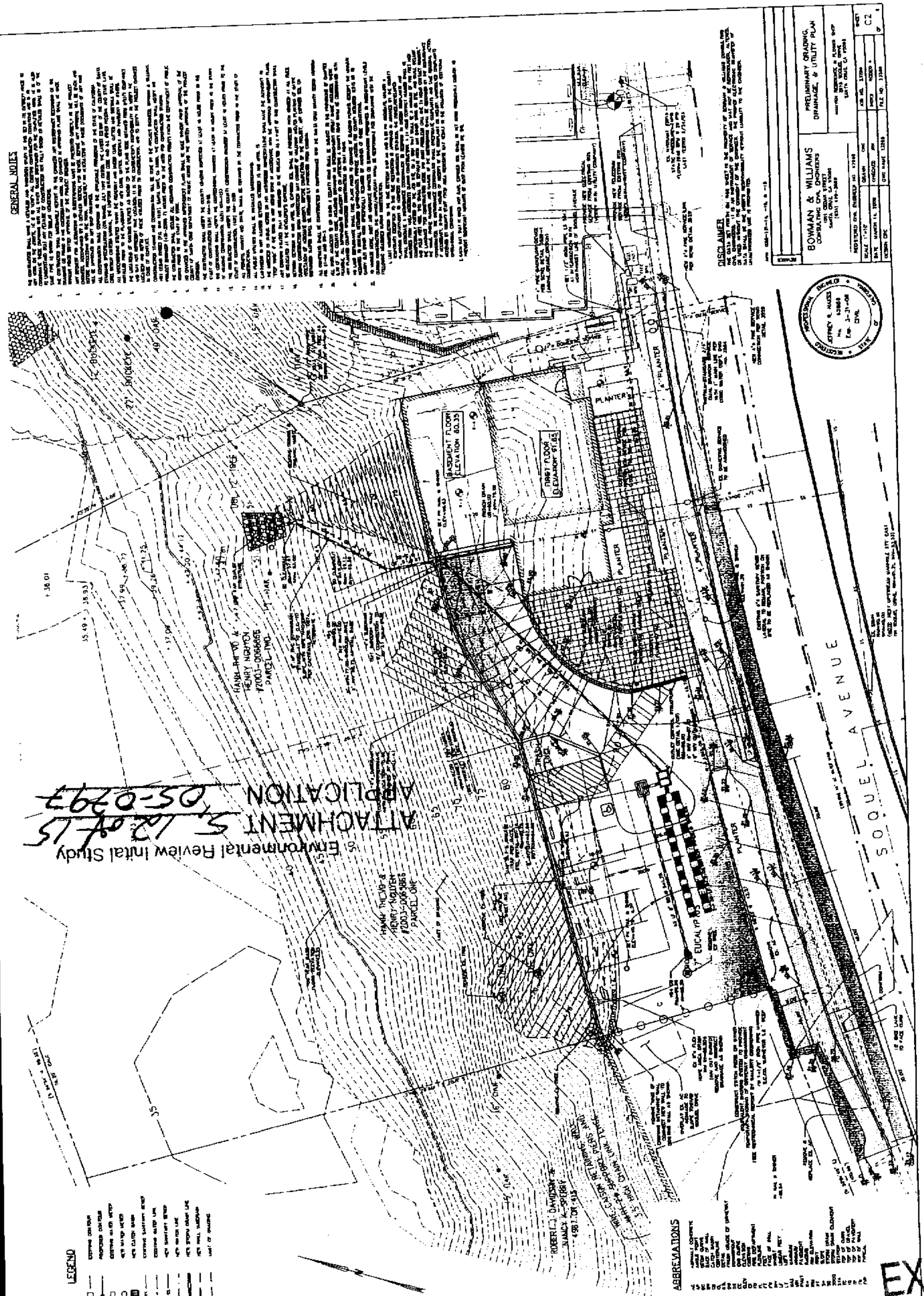
GENERAL NOTES
DISCLAIMER
BOWMAN & WILLIAMS
CONSULTING CIVIL ENGINEERS
PRELIMINARY GRADING, DRAINAGE, & UTILITY PLAN
C2
SOQUEL AVENUE
BASEMENT FLOOR ELEVATION 80.35
FIRST FLOOR ELEVATION 91.85
PLANTER
EUCALYPTUS
HANH-THI VO & HENRY NGUYEN #2003-0066665 PARCEL TWO
HANH THI VO & HENRY NGUYEN #2003-0063666 PARCEL ONE
LEGEND
ABBREVIATIONS
Environmental Review Initial Study
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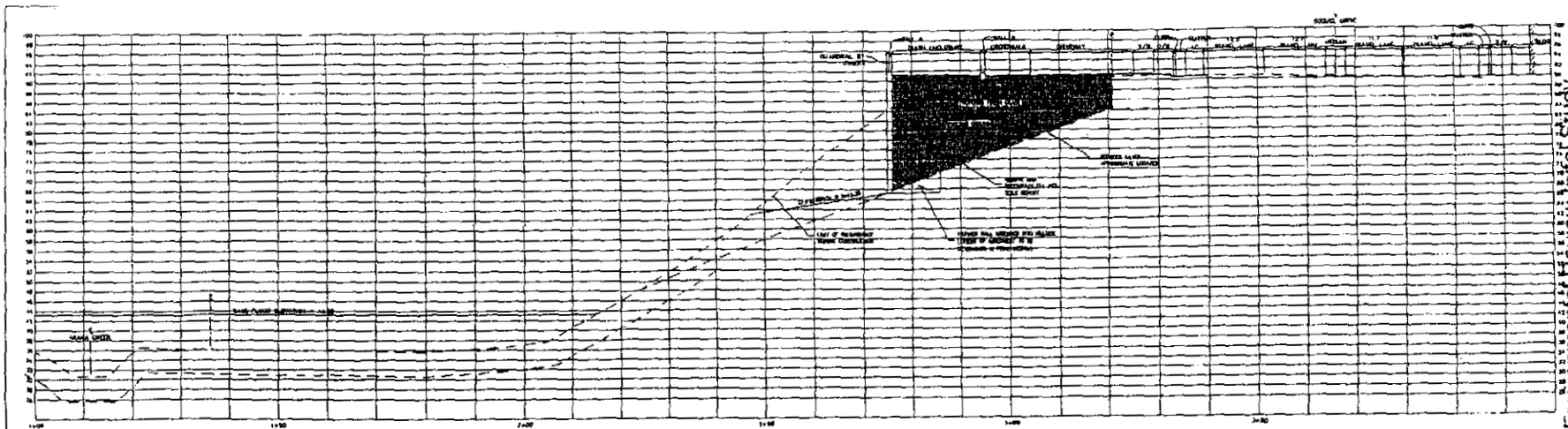
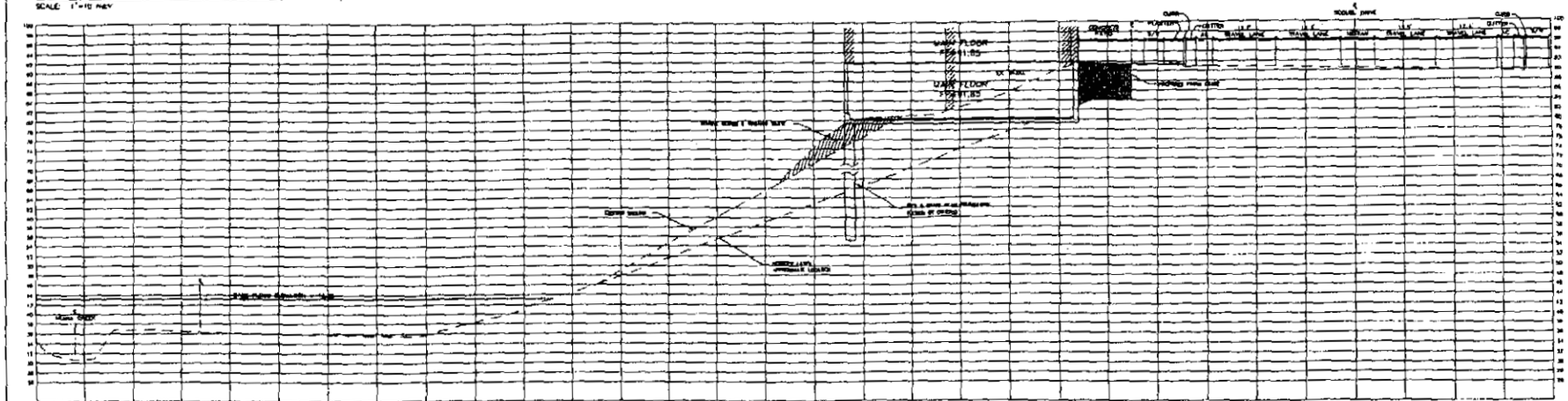
EXHIBIT D I



SECTION B-B
SCALE 1"=10 HOR



SECTION C-C
SCALE 1"=10 HOR

DISCLAIMER

BOWMAN & WILLIAMS
CONSULTING CIVIL ENGINEERS

PRELIMINARY SECTIONS & NOTES

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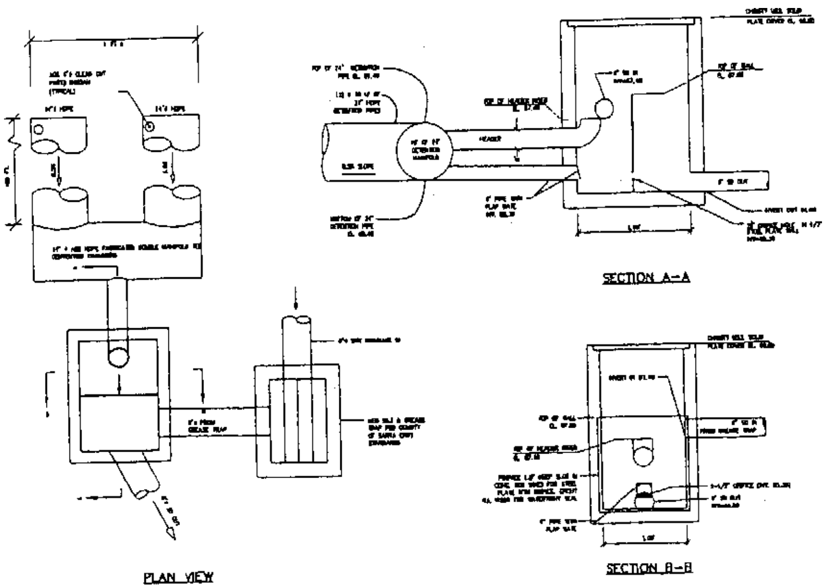
EXHIBIT D



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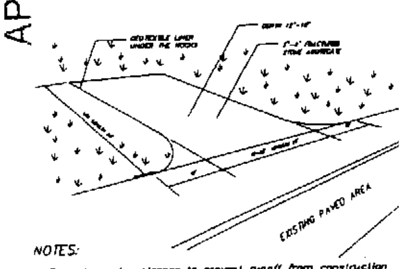
GRADING QUANTITIES

WATER SYSTEM NOTES

STORM DRAIN NOTES

GRADING INTENT



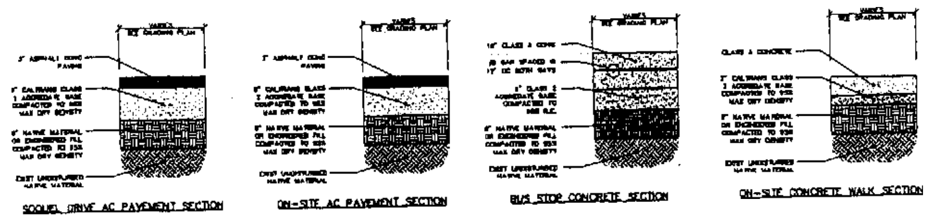
NOTES:

1. Properly grade entrance to prevent runoff from construction site. Entrance elevation should be lower than street.
2. Inspect routinely for damage and repair as needed.
3. Require that all employees, subcontractors and suppliers utilize the stabilized construction entrance.
4. Service sediment trapping devices regularly.

3 / C5 CONSTRUCTION ENTRANCE
SCALE: NTS

SANTA CRUZ COUNTY SANITATION DISTRICT NOTES

TECHNICAL SPECIFICATIONS



DISCLAIMER

BOWMAN & WILLIAMS
CONSULTING CIVIL ENGINEERS

PRELIMINARY
NOTES & DETAILS

SHEET C5

EXHIBIT D

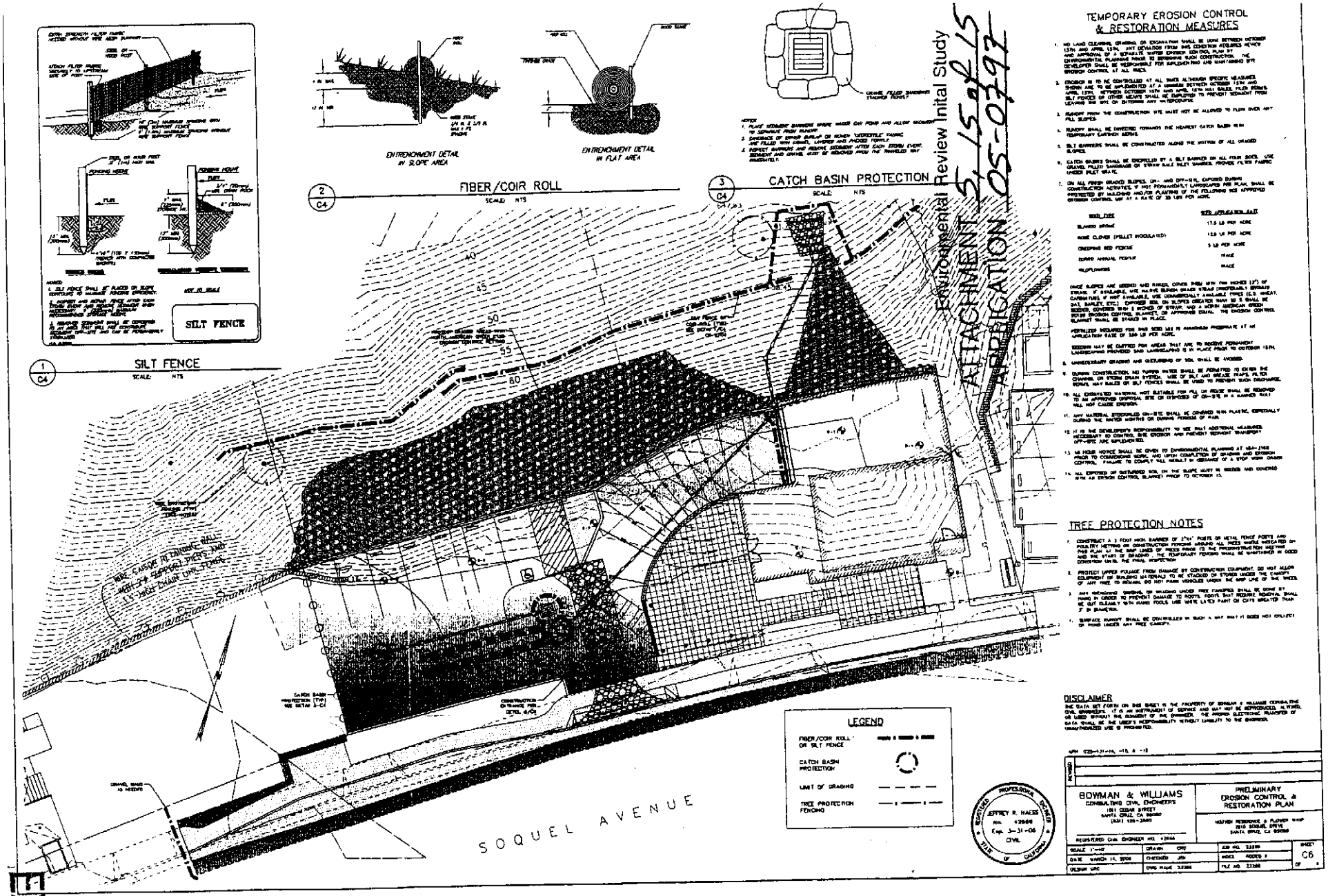


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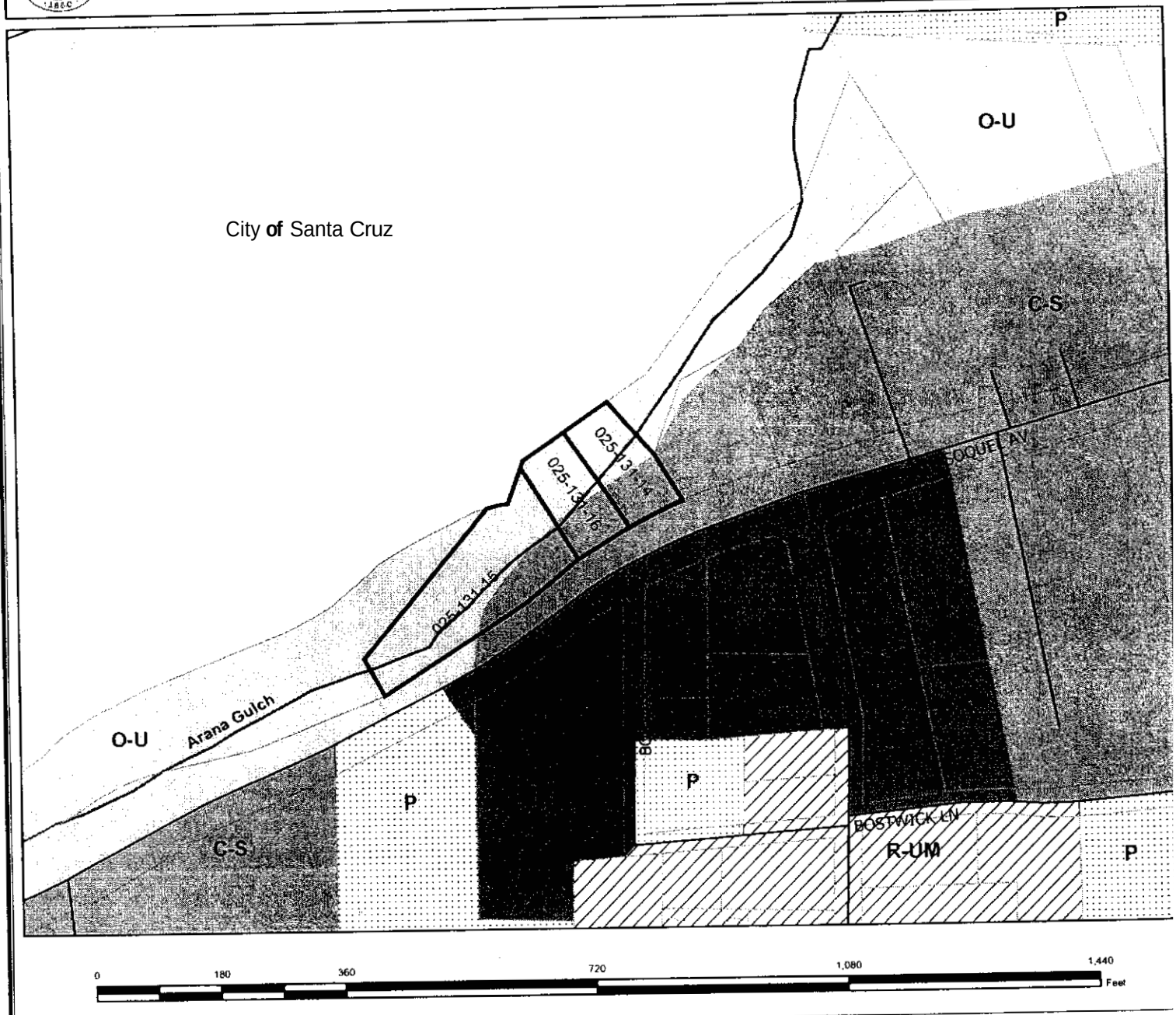
EXHIBIT D

General Plan Designatin Map



Legend

- Assessors Parcel Selection
- Streets
- Assessors Parcels
- PERENNIAL STREAM
- Urban Open Space (O-U)
- Commercial-Service (C-S)
- Commercial-Community (C-C)
- Public Facilites (P)
- Residential - Urban Medium Density (R-UM)

N

W E

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Map Created by
County of Santa Cruz
Planning Department
January 2006

EXHIBIT D

GEOTECHNICAL INVESTIGATION
FOR
PROPOSED RETAIL-RESIDENTIAL BUILDING
2615 SOQUEL AVENUE
SANTA CRUZ, CALIFORNIA

FOR
HENRY AND VO HANH T. NGUYEN
SANTA CRUZ. CALIFORNIA

BY
BAULDRY ENGINEERING
CONSULTING GEOTECHNICAL ENGINEERS
0447-SZ972-H52
DECEMBER 2005

EXHIBIT D
Environmental Review Initial Study
ATTACHMENT 1, 1 of 22
APPLICATION 05-0297

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Bauldry Engineering, Inc.
CONSULTING GEOTECHNICAL ENGINEERS
147 S. MORRISSEY AVENUE, SANTA CRUZ, CA 95062 (831) 457-1223 FAX (831) 457-1225

0447-SZ972-H52
December 9, 2005

Henry and Vo Hanh T. Nguyen
2615 Soquel Avenue
Santa Cruz. CA 95062

Subject: Geotechnical Investigation
Proposed Retail-residential Building
2615 Soquel Avenue
A.P.N. 025-131-14, & -16
Santa Cruz, California

Dear Mr. and Ms. Nguyen.

In accordance with your authorization. we have performed a geotechnical investigation for your proposed retail-residential building located at 2615 Soquel Avenue in Santa Cruz, California.

The accompanying report presents our conclusions and recommendations as well as the results of the geotechnical investigation on which they are based. The conclusions and recommendations presented in this report are contingent upon our review of the plans during the design phase of the project, and our observation and testing during the construction phase of the project.

If you have any questions concerning the data, conclusions, or recommendations presented in this report. please call our office.

Very truly yours,
Bauldry Engineering

REGISTERED PROFESSIONAL ENGINEER BRIAN D. BAULDRY No. 2479 GEOTECHNICAL STATE OF CALIFORNIA

Brian D. Bauldry
Principal Engineer
G.E. 2479
Exp. 12/31/06

O:/Brian/Engineering/Projects/0447gi
Copies: 3 to Mr. and Mrs. Nguyen
3 to Powers Land Planning, Inc
1 to Thacher &Thompson Architects
1 to Bowman &Williams
1 to Don Urfer & Associates

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GEOTECHNICAL INVESTIGATION

PURPOSE OF INVESTIGATION

The purpose of our investigation was to explore the subsurface conditions in the area of the proposed new construction, and based on our findings provide geotechnical engineering recommendations for the design and construction of the proposed retail-residential building and parking lot.

SCOPE OF SERVICES

This report describes the geotechnical investigation and presents results, including recommendations, for the proposed retail-residential development. If the proposed design and construction differ significantly from that planned at the time this report was written, the conclusions and recommendations provided in this report are null and void unless the changes are reviewed by our firm, and the conclusions and recommendations presented in this report are modified, or verified, in writing.

Our scope of services for this project has consisted of:

1. Discussions with you, Ron Powers of Powers Land Planning, Tom Thacher of Thacher & Thompson Architects, and Jeff Naess of Bowman & Williams – the Project Civil Engineers.

2. Review of the following maps and reports:
   a. Preliminary Grading Plan prepared by Bowman & Williams and dated September 27, 2005.
   b. Undated Conceptual Building Sections and Floor Plans prepared by Thacher & Thompson Architects.
   c. Geologic Map of Santa Cruz County, California, Brabb, 1989.
   d. Preliminary Landslide Deposits in Santa Cruz County, California, Cooper-Clark, 1975.
   e. Map Showing Quaternary Geology and Liquefaction Potential of Santa Cruz County, California, Dupre. 1975.
   f. Map Showing Faults and Their Potential Hazards in Santa Cruz County, California; Hall, Sarna-Wojcicki, Dupre, 1974.
   g. USGS 7.5 Minute Topographic Map, Soquel Quadrangle.

3. The drilling and logging of 7 test borings and the hand augering of 2 exploratory borings.

4. Laboratory analysis of retrieved soil samples

5. Engineering analysis of the field and laboratory results

6. Preparation of this report documenting our investigation and presenting recommendations for the design of the project.

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SITE DESCRIPTION

Location

The project site consists of two adjacent parcels located in the Live Oak area of Santa Cruz County. The parcels are situated adjacent to and north *of* Soquel Avenue. The site address is 2615 Soquel Avenue. The Assessors Parcel Numbers are 025-131-14, 8 -16.

Site Topography and Setting

The subject parcels are comprised of an upper and lower terrace along Soquel Avenue, a steeply descending slope on the north side of the terrace, and a drainage at the base of the slope. The tops of terraces are relatively flat. The gradient of the slope generally ranges from 60% to 85%.

The terrace is occupied by a metal quonset hut that is currently used as a retail flower shop. The upper and lower terraces are connected by a paved driveway that runs alongside the flower shop. The flower shop is a two story structure that is cut into the upper terrace and founded on the lower terrace. The upper floor of the flower shop fronts Soquel Avenue and is accessed from the upper terrace. The basement floor is accessed from the lower terrace. The remainder of the upper terrace is paved with walkways and a parking area. The slope is vegetated with a variety of trees and thick brush.

Proposed Development

The proposed project consists of the demolition of the existing flower shop and the construction of a new retail-residential building. The proposed building is a three story multi-use structure. The lower floor will be a parking garage, the middle floor will be a retail shop, and the upper floor will be residential quarters.

We anticipate that the finished design grades for the proposed project will vary only slightly from the current ones. The new structure will occupy the same general area as the existing one but the footprint of the new building will be larger than the existing building footprint.

The parking lot will need to be extended 10± feet to the north to create the required amount of parking area for the proposed retail building. This will necessitate constructing a new retaining wall along the slope.

Earth Materials

The project site is mapped on the USGS Geologic Map of Santa Cruz County (Brabb 1989) as being underlain by the Purisima Formation (Tp; Pliocene and Upper Miocene) which typically consists of yellowish-gray siltstone with interbeds of fine grained sandstone. The bedrock encountered in our test borings consisted of sandstone and siltstone which was consistent with the above description. The top 6 to 7 feet of bedrock was highly weathered.

Our firm was present during the drilling of the piers that support the building (Soquel Animal Hospital) on the adjacent parcel to the east. The upper 6 to 7 feet of the bedrock encountered during the drilling *of* numerous pier shafts on the adjacent lot, was weathered to a decomposed state and caved during the drilling operation. The caving necessitated extending steel casing down 6 to 7 feet into the bedrock.

A shallow layer of native soil (silty sand) overlaid the bedrock. The native soil was overlaid by several feet of rubble laden non-engineered fill. The fill encountered in our borings was generally comprised of silty and clayey sandy with abundant asphalt, concrete and brick fragments, and organics and wood.

The rubble laden fill extended across the adjacent parcel and was removed from the adjacent parcel during construction. The excavated fill on the adjacent parcel contained a significant amount of rubble including logs, lumber, large concrete blocks, concrete footings, sidewalk slabs, bricks, metal objects and trash pockets.

The face *of* the slope directly behind the existing Flower Shop is covered with a thick layer of organic litter and debris.

Detailed descriptions of the materials encountered during in our test borings are included in the Boring Logs in Appendix A of this report.

Groundwater

Free groundwater was encountered in only one of our test borings. however it must be noted that the borings were open less than an hour which may not have been sufficient time for a perched water table to become noticeable. The groundwater that was encountered in our boring was perched approximately 6 to 7 feet below the top of the sandstone. Our firm was present during the drilling of the piers that support the building on the adjacent parcel to the east. Perched groundwater was encountered in numerous pier shafts at a similar depth of roughly 6 to 7 feet below the top of the bedrock.

The groundwater conditions described in this report reflect the conditions encountered during our subsurface investigation at the project site on December 8, 2004 and March 25, 2005 at the specific locations drilled, and the groundwater conditions encountered on the adjacent lot during construction. It must be anticipated that the perched and regional groundwater tables may vary with location and will fluctuate with variations in rainfall, surface runoff, irrigation and other changes to the conditions existing at the time our measurements were made.

GEOTECHNICAL HAZARDS

Seismic Shaking and **UBC** Design Parameters

The project should be designed assuming that significant seismic shaking will occur during the lifetime of the project. Generally, shaking will be more intense the closer the site is to an earthquake epicenter, however, seismic shaking can be intensified by local topography and soil conditions. Mapped active or potentially active faults which may significantly affect the site are listed in the following table. The fault distances and seismic source types are based on a review *of* the document titled "Maps Of Known Active Faults Near-Source *Zones* In California And Adjacent Portions Of Nevada" prepared by the California Department of Conservation Division of Mines and Geology and published February 1998

Fault	Seismic Source Type	Distance to Source (kilometers)
San Andreas	A	14%
San Gregorio	A	19%
Zayante	B	9
Monterey Bay –Tularcitos	B	13%

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Structures built in accordance with the latest edition of the Uniform Building Code for Seismic Zone 4 may be damaged during a large magnitude earthquake, but should not collapse. The following values for seismic design at the project site were derived or taken from the 1997 UBC.

2001 CBC Seismic Design Parameters

Seismic Zone	Zone 4
Seismic Zone Factor	Z = 0.4
Soil Profile Type	Stiff Soil Profile (S_D)
Near Source Factor N_a	N_a = 1.0
Near Source Factor N_v	N_v = 1.1
Seismic coefficient C_a	C_a = 0.44
Seismic coefficient C_v	C_v = 0.70

Liquefaction

Liquefaction and lateral spreading tend to occur in loose, saturated fine grained sands or coarse silts. An analysis of this site, including the nature of the subsurface soil, the location of the ground water table, and the estimated ground accelerations, leads to the conclusion that the liquefaction potential is low.

Landsliding and **Slope** Stability

Existing Fill Slope: The subject site is presently covered with poor quality fill. The thickness of the fill, as revealed in our borings, ranges from approximately 4 to 5 feet along Soquel Avenue to 17 to 22 feet along the slope at the back of the upper level parking lot. Our SPT sampling indicates the fill is loose. The fill along the slope is steeply inclined. It is our opinion that the fill should be considered unstable.

Sandstone Slope: No landslide deposits are mapped on or in the direct vicinity of the site (Preliminary Map of Landslide Deposits in Santa Cruz County, California, Cooper-Clark Associates). We did not observe any evidence of past deep seated landsliding nor any evidence that indicates deep seated landsliding will occur during the lifetime of the project. This is not a guarantee that deep-seated landsliding will not occur, but only a reasonable projection of how the cliff will behave, in regard to deep-seated landsliding. during the expected design life of the project.

Given the steepness of the slope and the seismic setting, it is our opinion that intense ground shaking could trigger localized slumping or surficial failures along the slope that borders the north side of the building and parking lot.

Mitigation Recommendations: Recommendations are provided in the body of this report to reduce the potential for fill failure, or the potential that localized slumping, surficial failures or erosion of the native slopes will adversely affect the project. Mitigation recommendations include setback, grading, foundation and retaining wall recommendations.

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CONCLUSIONS AND RECOMMENDATIONS

PRIMARY GEOTECHNICAL ISSUES

1. **Site** Viability

The results of our investigation indicate that from a Geotechnical Engineering perspective the property may be developed as proposed. It is our opinion that provided our recommendations are followed; the proposed retail-residential structure can be designed and constructed to an "ordinary" level of seismic risk and performance as defined below:

> "Ordinary Risk": Resist minor earthquakes without damage: resist moderate earthquakes without structural damage, but with some non-structural damage: resist major earthquakes of the intensity or severity of the strongest experienced in California without collapse, but with some structural damage as well as non-structural damage. In most structures it is expected that structural damage, even in a major earthquake, could be limited to reparable damage. (Source: Meeting the Earthquake Challenge, Joint Committee on Seismic Safety of the California Legislature, January 1974).

If the property owner desires a higher level of seismic performance for this project, supplemental design and construction recommendations will be required.

2. Primary Geotechnical Constraints

Based on our field and laboratory investigations, it is our opinion that the primary geotechnical issues associated with the design and construction of the retail-residential structure at the subject site are the following:

a. **Loose** Rubble-Laden Non-Engineered Fill: The site is extensively covered by loose rubble laden fill. The fill encountered in our borings contained abundant asphalt, concrete, and brick fragments, and organics and wood. The rubble laden fill that underlies the subject site extended to and across the adjacent parcel. The fill was removed from the adjacent parcel during the recent construction. The fill excavated from the adjacent parcel contained a significant amount of rubble including logs, lumber, large concrete blocks, concrete footings, sidewalk slabs, bricks, metal objects and trash pockets. It should be anticipated that the existing fill at the Flower Shop site may similarly contain logs, lumber, large concrete blocks, concrete footings, sidewalk slabs, bricks, metal objects and trash pockets.

   The face of the slope directly behind the existing Flower Shop is covered with a relatively thick layer of organic waste and debris.

b. Protection ***of*** Adjacent Property: The removal of the rubble laden fill will result in a deep excavation that encroaches on the adjoining parking lots to the east and west. The excavation contractor must protect the excavation so that the soil of the adjoining property will not cave or settle.

c. Slumping and Surficial Failures along **the** Face **of the** Slope: Given the steepness of the slope and the seismic setting, it is our opinion that intense ground shaking could trigger localized slumping or surficial failures along the slope that borders the north side of the building and parking lot.

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d. Proposed Building Location Design, and Site Reconstruction: There is a significant volume of rubble laden fill that needs to be removed and replaced as an engineered fill. Although, the building site is restrained by its geology, narrow geometry and setback requirements, it is not necessary, from a geotechnical perspective, to reconstruct the grades and site layout to the same configuration as now exists.

The type, and cosls, of the foundation system will depend on the final earthwork reconstruction scheme and the building location. If the building can be setback a minimum of 15 feet from the face of the slope, it may be feasible to found the building on shallow footings embedded into engineered fill. If government ordinances or architectural requirements result in the building be positioned within 15 feet of the slope, the building will need to be supported by piers socketed into bedrock. A pier and grade beam foundation would most likely be significantly more expensive than shallow spread footings.

e. Groundwater and Caving Pier Shafts: Perched groundwater was encountered in one of our borings at the subject site at a depth of roughly 6 to 7 feet below the top of the sandstone. Additionally, our firm was present during the drilling of the piers that support the building on the adjacent parcel to the east. Perched groundwater was encountered in numerous pier shafts on the adjacent site at a similar depth of roughly 6 to 7 feet below the top of the bedrock. The upper 6 to 7 feet of the bedrock in several of the pier shafts was weathered to a decomposed state and caved during the drilling operation. The caving necessitated extending steel casing down 6 to 7 feet into the bedrock. It must be anticipated that caving soils will necessitate the use steel casing during the construction of drilled piers at the subject site.

f. Drainage and **Storm** Water Runoff As in all hillside environments, adequate control of storm water is essential for retarding erosion and reducing the potential for slope failure.

3. Mitigation Measures

Fill Removal: To mitigate construction and settlement problems associated with the loose rubble-laden fill, we recommend that all loose or rubble-laden fill be removed and replaced as engineered fill. It should be anticipated that the hauling away of debris and densification of the remaining soil will result in the lowering *of* the grades unless fill is imported to the site. Detailed recommendations are provided in the EARTHWORK AND GRADING section of this report.

The thick layer **of** organic waste and debris that lies within the grading limits and covers the face of the slope directly behind the existing Flower Shop should be removed.

Protection Of Adjacent Property: To provide a safe working environment and to prevent ground *loss* and damage to adjacent properties, the excavation to remove the rubble laden fill must be shored, as feasible, or the sides of the excavation must be laid back to a stable angle. Shoring should be used in areas where safe side slope angles would encroach on adjacent property.

Shoring and slope construction must be performed in strict accordance the requirements and regulations of all applicable building codes, governing agencies, and OSHA standards. Shoring designs must be provided by and are the sole responsibility of the contractor.

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Slope Failure: To mitigate the potential for localized slumping, sloughing or erosion of the existing slopes to adversely affect the project we recommend the following, as applicable:

- Site improvements should be set back a minimum of **15** from the existing slopes, or
- Site improvements may be set back less than 15 feet of the existing slopes provided that the slopes are retained
- Structures may be set back less than 15 feet of the existing slope provided that the structure is founded on piers embedded into competent bedrock with the piers designed to resist lateral earth forces on their up-slope side.

Proposed Building Design and Location. and Site Reconstruction: We anticipate that the costs of the fill reconstruction, and the building and retaining wall construction will be substantial. To minimize costs, we recommend the architect, civil engineer, structural engineer, contractor and other members of the design team review, explore and collaborate on the various alternative scenarios for fill reconstruction, building location, and building and retaining wall designs.

As requested by Mr. Nguyen, our firm has obtained an opinion regarding possible retaining wall alternatives and a "range of magnitude" estimate of probable costs for the construction of a retaining wall along the rear slope of the property including the removal and reconstruction of the existing debris laden fill. These opinions were obtained from a local engineering contractor and were based on the preliminary conceptual plans provided by Bowman & Williams. The contractor indicated that a HilfikerTM welded wire wall may be one of the less expensive alternatives for the present conceptual design. We have provided geotechnical recommendations for the design and construction of a welded wire wall in the body of this report. Other alternatives discussed to date include soldier piers with timber lagging (may require tiebacks), a geogrid reinforced modular block wall and a crib wall. These, and other alternatives, may be feasible but design recommendations have not been provided in this report. Geotechnical recommendations associated with alternative designs can be provided by our firm, as necessary.

Based on our observations of the fill removed from the adjacent site, it is our opinion that the existing fill beneath the north side of the proposed building may contain logs, lumber, large concrete blocks, concrete footings, sidewalk slabs, bricks and other debris that could obstruct or prevent the drilling of new piers. We therefore recommend that the existing fill be removed prior to drilling. The removed fill may be fully or partially replaced as an engineered fill beneath the building, or be used to reconstruct the parking area rather than replaced beneath the new building.

As currently designed, the north side of the basement floor will extend out over the slope (refer to the cross-section in Appendix A). The amount and final configuration of the reconstructed fill beneath the building will determine the extent or feasibility of using a slab-on-ground floor system for the basement floor. The north side of the basement floor, as currently proposed, will need to be designed as a pier supported structural mal that obtains no ground support or as a raised floor.

Drainage: Concentrated storm runoff must not be allowed to flow onto or over the native or fill slopes. Recommendations for controlling storm water are provided in the SURFACE DRAINAGE section of this report. Irrigation activities at the site should not be done in an uncontrolled or unreasonable manner. We recommend that landscaping be done with native and other drought tolerant plants that require minimum watering.

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9. Subgrade Preparation

Subgrade Beneath A New Pier Supported Structure: Based on our observations of the fill removed from the adjacent site, it is our opinion that the existing fill beneath the north side of the proposed building may contain logs, lumber, large concrete blocks, concrete footings, sidewalk slabs, bricks and other debris that would obstruct or prevent the drilling of new piers. We therefore recommend that the existing fill beneath the building be removed prior to drilling. The excavated fill may be fully or partially replaced as an engineered fill beneath the building or be used to reconstruct the parking area rather than replaced beneath the new building.

Soil removal should be limited to the existing fill. The layer of native soil that overlies the bedrock should not be removed. A representative of our firm should observe the excavation operation to help establish the removal limits and requirements.

If an engineered fill is to be constructed beneath the building. following the removal of the existing fill, the exposed should be scarified, moisture conditioned, and compacted as an engineered fill. Approved excavated soil may then be replaced as engineered fill in thin lifts.

Note: The project as currently proposed requires the use of a pier foundation system. If the proposed project is modified and a shallow foundation is feasible, supplemental subgrade preparation recommendations must be provided by our firm.

Subgrade in Parking and Driveway Areas: All existing non-engineered fill should be removed from the parking and driveway areas. The layer of native soil that lies between the existing fill and bedrock should not be removed. Following removal of the existing fill, the exposed native soils should be scarified, moisture conditioned and compacted. Approved excavated soil may then be replaced as engineered fill in thin lifts.

Subdrains shall be constructed within the reconstructed fill as determined by the project Geotechnical Engineer in the field.

Specific subgrade preparation recommendations are provided for the subgrade beneath the welded wire wall.

10. Compaction Requirements

The minimum compaction requirements are outlined in the table below:

Minimum Compaction Requirements

Percent of Maximum Dry Density	Location
95%	• All aggregate base and subbase in pavement areas • The upper 8 inches of subgrade in pavement areas • All utility trench backfill in pavement areas
90%	All remaining native soil and fill material

The maximum dry density will be obtained from a laboratory compaction curve run in accordance with ASTM Procedure #D1557. This test will also establish the optimum moisture content of the material. Field density testing will be in accordance with ASTM Test #D2922.

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11. Moisture Conditioning

The moisture conditioning procedure should result in soil with a moisture content of 1 to 3 percent over optimum at the time of compaction. If the soil is dry water may need to be added. If grading is performed during or soon after the rainy season, the native soil may require a diligent and active drying and/or mixing operation to uniformly reduce the moisture content to the levels required to obtain adequate compaction.

12. Engineered Fill Material – General Fill Areas

The native soil, existing fill and/or imported fill may be used as engineered fill in areas of the project, other than the backfill for the welded wire mesh wall, as indicated below. Specific recommendations for the Select Granular Material to be used as backfill of the welded wire mesh wall are provided in the WELDED WIRE RETAINING WALL section of this report.

Re-use of the on-site soil will require the following:

a. Segregation and removal of expansive soil if encountered during the excavation operation
b. Segregation and removal of all organics and deleterious material. All organics and deleterious material must be removed from the site.
c. Removal of concrete, brick and asphalt rubble and cobbles larger than 3 inches.
d. Thorough mixing and moisture conditioning of approved native soil.

All imported engineered fill material should meet the criteria outlined below.

a. Granular, well graded, with sufficient binder to allow utility trenches to stand open
b. Minimum Sand Equivalent of 20 and Resistance ***"R"*** Value of 30
c. Free of deleterious material, organics and rocks larger than 2 inches in size
d. Non-expansive with a Plasticity Index below 12

Samples of any proposed imported fill planned for use on this project should be submitted to the Geotechnical Engineer for appropriate testing and approval not less than **4** working days before the anticipated jobsite delivery.

13. Erosion Control

The surface soils are classified as moderately to highly erodable. All finished and disturbed ground surface, including all cut and fill slopes, should be prepared and maintained to reduce erosion. This work, at a minimum, should include track rolling of the slope and effective planting. The protection of the slopes should be installed as soon as practicable so that a sufficient growth will be established prior to inclement weather conditions. It is vital that no slope be left standing through a winter season without the erosion control measures having been provided. The ground cover should be continually maintained to minimize surface erosion.

EXCAVATION – SHORING AND SLOPE ANGLES

14. Safety and Protection ***of*** Adjoining Properties

To provide a safe working environment and to prevent ground loss and damage to adjacent properties, the excavation to remove the rubble laden fill must be shored, where feasible, or the sides of the excavation must be laid back to a stable angle. The excavation contractor must protect the excavation so that the soil of the adjoining property will not cave or settle. Shoring should be used in areas where safe slope angles encroach on adjacent property.

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Shoring and slope construction must be performed in strict accordance the requirements and regulations of all applicable building codes, governing agencies, and OSHA standards.

Shoring construction should be observed by a representative of Bauldry Engineering

Shoring designs must be provided by and are the responsibility of the contractor. Shoring designs should be submitted to the Project Civil Engineer and Bauldry Engineering for review and approval a minimum of two weeks prior *to* construction.

CUT AND FILL **SLOPES**

15. Cut and Fill Slope Height and Gradient

Cut and fill slopes shall not exceed a 2:1 (horizontal to vertical) gradient. The design and construction of all proposed cut or fill slopes must be reviewed and approved by the Geotechnical Engineer. All fill slopes should be constructed with engineered fill meeting the minimum density requirements of this report. The above recommended gradients do not preclude periodic maintenance of the slopes, as minor sloughing and erosion may take place.

16. **Fill** Slope Setbacks: The toe of all new fill slopes should be set back a minimum of 8 feet from the face of the closest native slope.

17. Fill Slope Keyways

Fill slopes should be keyed into the native slopes with a 10 foot wide base keyway that is sloped negatively at least 2% into the bank. The depth of the keyways will vary, depending on !he materials encountered. The depth of the keyways shall be at least 2 feet into firm undisturbed native material. The Geotechnical Engineer will designate keys in the field. See the Keyway Detail in Appendix A for general details.

18. Subsurface Drainage

Our recommended cut and fill slope gradients assume that the soil moisture is a result of precipitation penetrating the slope face, and not a result of subsurface seeps or springs, which can destabilize slopes with hydrostatic pressure. All groundwater seeps encountered during construction should be adequately drained to maintain stable slopes at the recommended gradients. Drainage facilities may include subdrains, gravel blankets, rock-lined surface trenches or horizontally drains. The Geotechnical Engineer will determine the drainage facilities required during the grading operations.

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WELDED WIRE RETAINING WALL

19. General Design and Construction Recommendations

The parking lot may be reconstructed with a mechanically stabilized earth wall using commercially available systems such as a welded wire mesh system (e.g. Hilfiker™, or equivalent) or a modular block retaining wall system (e. g. Allan Block ™, or equivalent). Following are general recommendations for the construction of a welded wire mesh wall. Recommendations for alternative systems can be provided, as requested.

The base of welded wire mesh shall extend down to and be underlain by bedrock. The base should be level for a width equal to or exceeding the length of the reinforcement mal.

The wall should be set back a minimum of 8 feet from the face of !he slope.

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For design purpose we recommend using a peak horizontal ground acceleration of 0.5g.

The wall should be designed and constructed in strict accordance with the manufacturer's specifications and recommendations.

20. Select Backfill Material -Welded Wire Wall
Due to the relatively high fines content, the non-homogeneity of the existing fill and the presence of deleterious material, we recommend that the welded wire wall be backfilled with a select granular import.

The Select Granular Backfill shall be free of organics and deleterious material and conform to the following as determined by ASTM D-422:

Sieve Size	% Passing by Weight
6 inches	100
3 inches	100 – 75
No. 200	0 – 25*

* If the % passing the No. 200 sieve is greater than 15%, the backfill shall conform to all of the following additional requirements:

a. The Plasticity Index (PI) as determined by ASTM D-4318 shall not exceed 6

b. The fraction finer than 15 microns (0.015 mm), as determined by ASTM D-422 shall not exceed 15%.

c. The material shall exhibit an angle of internal friction of not less than 34°, as determined by the standard direct shear test ASTM D-3080, utilizing a sample of the material compacted to 90% of ASTM D-1557 at optimum moisture content.

21. Corrosion Protection -Welded Wire Mesh System
Durability and corrosion protection are an important design consideration. We recommend that the welded wire wall be constructed with hot-dip galvanized wire. All damage done to the mesh galvanization prior to or during installation shall be repaired in an acceptable manner and in a galvanized coating comparable to that provided.

To obtain an adequate factor of safety in regard to the design service life, we recommend that a sacrificial thickness be included when determining the required wire reinforcement cross-section.

The backfill material shall meet the following corrosion requirements:

Resistivity	23000 OHM-cm (min)
pH	5.0 to 10.0
Chlorides	≤ 200 mg/kg (ppm)
Sulfates	≤ 1000 mg/kg (ppm)

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22. Compliance

The Contractor shall provide the Owner's Civil and Geotechnical Engineers a Certificate of Compliance certifying that the select granular backfill material complies with the specifications provided above.

A copy of the test results performed by the Contractor, which are necessary to assure compliance with the above specifications, shall be furnished with the Certificate of Compliance.

The frequency of the sampling of the Select Granular Backfill necessary to assure the above specifications shall be determined by the Owner's Engineer.

FOUNDATIONS - GENERAL

23. General Design and Construction Recommendations

Two foundation options are feasible – drilled cast-in-place concrete piers socketed in bedrock or shallow spread footings underlain by engineered fill.

The spread footing option is *only* acceptable when the *structure is* entirely set back **75** feet from the face of the steep native slope and when a// the non-engineered *fill* in the building area *is* removed and replaced **as** an engineered *fill.* Additional soil or bedrock removal may be required to mitigate differential settlement and establish uniform fill depths and uniform bearing conditions.

The building as currently proposed requires the use of a pier foundation. If the proposed project is modified and a shallow foundation is feasible, supplemental foundation recommendations must be provided.

The piers and grade beams, or spread footings, should contain steel reinforcement as determined by the Project Structural Engineer in accordance with applicable UBC or ACI Standards.

FOUNDATION - PIER AND GRADE **BEAM**

24. General

It is our opinion that end bearing cast-in-place reinforced concrete piers in conjunction with reinforced concrete grade beams is an appropriate foundation system to support the proposed building

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25. Pier Design Criteria

The piers should be designed as end bearing piers to the following criteria:

a. Minimum pier embedment should be 10 feet into competent sandstone. We anticipate minimum pier depths ranging from 10 feet (when the existing fill is removed from beneath the building and bedrock is exposed at finish pad grade) to 17 feet (when the existing non-engineered fill is removed and placed back as an engineered fill). Actual depths may be deeper and will depend upon a lateral force analysis performed by your structural engineer.

b. Minimum pier size should be **24** inches in diameter and all pier holes must be free of loose material on the bottom

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c. The allowable end bearing capacity for a pier embedded 10 feet into sandstone is 8,000 psf, with a 1/3rd increase for wind or seismic loading.

d. At-rest pressure against the upper section *of* the piers is 65 psf/ft of depth and acts on a plane which is 1% times the pier diameter. Design for at-rest pressure acting on piers within 15 feet of the slope as follows.

Distance from Slope	Length of pier on which at-rest pressures act
0 to 5 ft.	upper 10 feet
6 to 10 ft.	upper 7 feet
11 to 15 ft.	upper 4 feet

e. Passive pressures of 350 psf/ft of depth can be developed, acting over a plane 1½ times the pier diameter. Neglect passive pressure along the following sections of the piers, whichever is deeper:

- the section of the pier upon which the at-rest pressures act
- the top 2 feet of the pier

26. Pier Construction Recommendations and Anticipated Conditions

Following are the construction conditions we anticipate and our pier construction recommendations:

a. It is likely that *some* or all ***of*** the piers will need to be cased during drilling. Our firm was present during the drilling of the piers that support the building on the adjacent parcel to the east. The upper 6 to 7 feet of the bedrock in several of the pier shafts was weathered to a decomposed state and caved during the drilling operation. The caving necessitated extending steel casing down 6 to 7 feet into the bedrock. Our subsurface investigation indicates that similar subsurface conditions may exist at the subject site. It must be anticipated that caving soils will necessitate the use steel casing during the construction of drilled piers at the subject site.

b. If the casing is pulled during the concrete pour, it must be pulled slowly with a minimum of 4 feet of casing remaining embedded within the concrete at all times.

c. It is probable that perched groundwater will be encountered during drilling. Perched groundwater was encountered during our subsurface investigation and in numerous pier shafts on the adjacent site. The groundwater was generally encountered at a depth of roughly E to 7 feet below the top of the bedrock. It should be anticipated that groundwater will have to either be pumped before steel and concrete placement or the concrete placed through a tremie. If concrete is placed via a tremie. the end of the tube must remain embedded a minimum of **4** feet into the con'crete at all times.

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d. All pier construction must be observed by a representative of Bauldry Engineering. Any piers constructed without the full knowledge and continuous observation of Bauldry Engineering, will render the recommendations of this report invalid.

BASEMENT FLOOR SYSTEMS

27. Basement Floor Design

As currently designed, the north side of the basement floor will extend out over the slope (refer to the cross-section in Appendix A). The amount and final configuration of the reconstructed fill beneath the building will determine the extent or feasibility of using a slab-on-ground floor system for the basement floor. The north side of the basement floor, as currently proposed, will need to be designed as a pier supported structural mat that obtains no ground support or as a raised floor.

If the proposed building is designed to set back a minimum of 15 feet from the slope, supplemental recommendations will be provided by our office for a slab-on-ground floor in conjunction with a shallow foundation system.

Slab thickness, reinforcement, and crack control devices should be determined by the Project Structural Engineer.

28. Moisture Control – Capillary Break

All concrete slabs-on-ground floors should be underlain by a minimum 4 inch thick capillary break of ¾ inch clean crushed rock. It is recommended that neither Class 2 baserock nor sand be employed as the capillary break material.

Where floor coverings are anticipated or vapor transmission may be a problem, a waterproof membrane should be placed between the granular layer and the floor slab in order to reduce moisture condensation under the floor coverings. A 2 inch layer of moist sand on top of the membrane will help protect the membrane and will assist in equalizing the curing rate of the concrete.

29. Subgrade Saturation

It is important that the subgrade soils be adequately moisture conditioned prior to concrete placement. Requirements for pre-wetting the subgrade soil will depend on soil type and seasonal moisture conditions, and will be determined by the Geotechnical Engineer at the time of construction.

BASEMENT WALLS AND SITE RETAINING WALLS

30. Basement Walls General

The lower level is proposed to be constructed partially below grade with basement walls constructed to retain soil. The following recornmendations should be incorporated into the basement and site retaining wall design:

31. Lateral Pressures

Basement and site retaining walls should be fully drained and designed using the following criteria:

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a. When walls are free to yield an amount sufficient to develop the active earth pressure condition (about ½% of height), design for active earth pressures as listed below. When walls are restrained at the top design for at-rest pressures.

Slope of Backfill	Active Earth Pressure	At-Rest Earth Pressure
Horizontal	45 psf/ft of depth	65 psf/ft of depth
2:1 (H:V)	60 psf/ft of depth	94 psf/ft of depth

Should the slope behind the retaining walls be other than those outlined above, the active earth or at-rest pressures for the particular slope angle may be obtained by interpolation.

b. For live or dead loads which transmit a force to the wall refer to the Surcharge Pressure Diagram in Appendix A.

c. Seismic forces should be applied to basement walls as determined by the project structural engineer in accordance with applicable codes and standards. The lateral seismic forces listed in the following table are based on the Mononobe-Okabe method of analysis. The resultant seismic force on the wall acts at a point 0.6H up from the base of the wall. H is the height of the retained soil in feet. Supplemental recommendations will be provided if the structural engineer requires an alternative method of analysis.

Restraint Condition	Resultant Seismic Force (lbs.)
Free to Yield (active pressure condition)	10 H^2
Non-Yielding (at-rest pressure condition)	20 H^2

32. Basement and Retaining wall Drains

The above criteria are based on fully drained conditions. We recommend the basement and site retaining walls be constructed with a drain meeting the following criteria:

a. The drain should be constructed using permeable material meeting the State of California Standard Specification Section 68-1.025, Class 1, Type A.

b. The permeable material should be a minimum of 12 inches in width and should extend to within 12 inches of the ground surface.

c. Mirafi 140 filter fabric, or equivalent, should be placed horizontally over the top of the permeable material and then compacted native soil placed to the ground surface.

d. A 4-inch diameter rigid perforated plastic or metal drainpipe should be placed 3 inches above the base of the permeable material.

e. The drain line and should be discharged to an approved location away from the footing area.

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33. Water Proofing Basement Walls

A water proofing system, including but not limited to water slops, liquid coatings, sheet membranes, bentonite, concrete sealant. composite systems or other appropriate options should be used to reduce moisture in the below grade portions of the structure, as recommended by your architect. The retaining wall drain should not be considered to be waterproofing.

34. Mold Prevention

Bauldry Engineering is not a mold prevention consultant; none of our services performed in connection with the proposed project are for the purpose of mold prevention. Proper implementation of the recommendations conveyed in our reports will not of itself be sufficient to prevent mold from growing in or on the structures involved. Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. Your project Architect or a mold prevention specialist should be consulted regarding mold prevention.

UTILITY TRENCHES

35. Utility Trenches and Welded Wire Mesh or Geogrid Reinforcement

Utility trenches must be located and designed so that they do not disturb any portion of the buried welded wire mesh or the geogrid reinforcement.

If welded wire mesh or geogrid reinforcement is encountered during trenching operations, the contractor must immediately cease the trenching operation and inform the project wall designer, civil engineer and our office.

36. Utility Trench Set Backs

Utility trenches that are parallel to the sides of the building should be placed so that they do not extend below a line with a 2:1 (horizontal to vertical) gradient extending from the bottom outside edge of all grade beams.

37. Utility Trench Backfill

Trenches may be backfilled with the native materials or approved import granular material with the soil compacted in thin lifts to a minimum of 95% of its maximum dry density in paved areas and 90% in other areas. Jetting of the trench backfill should be carefully considered as it may result in an unsatisfactory degree *of* compaction,

38. Shoring

Trenches must be shored as required by the local agency and the State of California Division of Industrial Safety construction safety orders

SURFACE DRAINAGE

39. Surface Grades and Storm Water ***Runoff***

Water must not be allowed to pond on building pads, parking areas or adjacent to foundations. Final grades should slope away from foundations such that water is rapidly transported to drainage facilities.

Concentrated surface water should be controlled using lined ditches, catch basins, and closed conduit piping, or other appropriate facilities, and should be discharged at an approved location away from structures and graded areas. We recommend that

concentrated storm water be discharged to Soquel Avenue, an off-site storm drain system or to a stable area at the base of the slope. Concentrated storm water must not be discharged on fill or the moderate to steep terrace slopes. Storm water runoff systems should be provided with energy dissipators that minimize erosion.

40. Roof Discharge

All roof eaves should be guttered, with the outlets from the downspouts provided with adequate capacity lo carry the storm water away from the structures and graded areas. We recommend that concentrated roof runoff be discharged to Soquel Avenue, an off-site storm drain system or to a stable area at the base of the slope. Concentrated roof runoff must not be discharged on fill or the moderate to steep terrace slopes. Storm water runoff systems should be provided with energy dissipators that minimize erosion.

41. Protection **of Cut and Fill** Slopes

Cut and fill slopes shall be constructed so that surface water will not be allowed to drain over the lop of the slope face. This may require berms or curbs along the top of fill slopes and surface drainage ditches above cut slopes.

42. Maintenance and Irrigation

The building and surface drainage facilities must not be altered, and there should be no modifications of the finished grades at the project site without first consulting Bauldry Engineering, the Project Geotechnical Engineer.

The building and surface drainage facilities must inspected and maintained on a routine basis. Repairs and upgrades, whenever necessary, must be made in a timely manner. We recommended that the property owner inspect the drainage systems prior to each rainy season, following the first significant rain, and throughout each rainy season. The civil and geotechnical engineers should be consulted if significant erosion or other drainage problems occur so that the conditions can be observed and supplemental recommendations can be provided, as necessary.

Irrigation activities at the site should not be done in an uncontrolled or unreasonable manner. We recommend that landscaping be done with native and drought tolerant plants.

43. Percolation Pits

Because they would increase **the** potential for slope failure, we do not recommend the use of percolation pits for the disposal of surface water at this site.

PAVEMENT DESIGN

44. General Pavement Recommendations

The design of the pavement section was beyond our scope *of* services for this project. **To** have the selected pavement sections perform to their greatest efficiency, it is very important that the following items be considered:

a. Properly moisture condition the subgrade and compact it to a minimum of ***95%*** of its maximum dry density, at a moisture content I-3% over the optimum moisture content.

b. Provide sufficient gradient to prevent ponding of water.

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c. Use only quality materials of the type and thickness (minimum) specified. All baserock must meet CALTRANS Standard Specifications for Class *2* Aggregate Base, and be angular in shape.

d. Compact the base and subbase uniformly to a minimum of *95%* of its maximum dry density.

e. Place the asphaltic concrete only during periods of fair weather when the free air temperature **is** within prescribed limits.

f. Maintenance **should** be undertaken on a routine basis.

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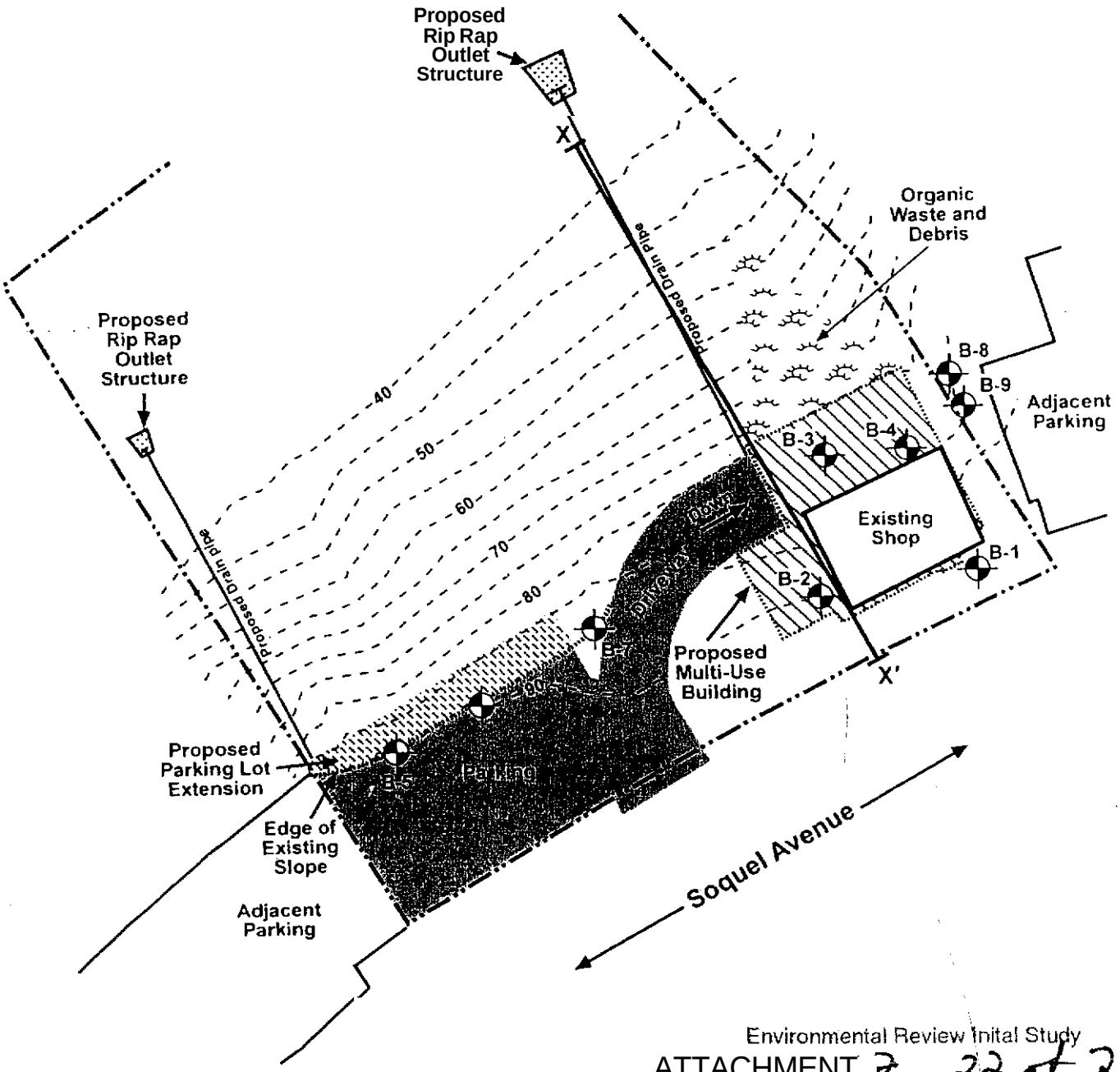

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Bauldry Engineering, Inc.	Figure No. 2	Site Plan Showing Test Borings

EXHIBIT D

COUNTY OF SANTA CRUZ

PLANNING DEPARTMENT
701 OCEAN STREET, 4TH FLOOR, SANTA CRUZ, CA 95060
(831)454-2580 FAX (831)454-2131 TDD (831)454-2123
TOM BURNS, PLANNING DIRECTOR

April 12, 2006

Powers Land Planning - Attn: Ron Powers
1607 Ocean St., Suite B
Santa Cruz. CA, 95060

Subject: Review of Geotechnical Investigation by Bauldry Engineering, Inc.
Dated December 9, 2005; Project #: 0447-SZ972-H52
APN 025-131-14,-15,-16, Application #: 05-0797

Dear Applicant:

The purpose of this letter is to inform you that the Planning Department has accepted the subject report and the following items shall be required:

1. All construction shall comply with the recommendations of the report

2. Final plans shall reference the report and include a statement that the project shall conform to the report's recommendations.

3. Prior to building permit issuance a plan review letter shall be submitted to Environmental Planning. The author of the reporl shall write the plan review letter. The letter shall state that the project plans conform to the report's recommendations.

After building permit issuance the soils engineer must remain involved with the project during construction. Please review the Notice *to* Permits Holders (attached).

Our acceptance of the report is limited to its technical content. Other project issues such as zoning, fire safety, septic or sewer approval, etc. may require resolution by other agencies.

Please submit two copies of the report at the time of building permit application.

Please call the undersigned at (831) 454-3168 if we can be of any further assistance.

Sincerely,

Kent Edler
Civil Engineer

Cc: Robin Bolster-Grant, Project Planner
Jessica de Grassi, Environmental Planning
Bauldry Engineering, Inc.
Henry Nguyen, Owner

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ATTACHMENT 6, 1 of 2
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EXHIBIT D

(over)

NOTICE TO PERMIT HOLDERS WHEN A SOILS REPORT HAS BEEN PREPARED, REVIEWED AND ACCEPTED FOR THE PROJECT

After issuance of the building permit, the County reauires your soils engineer to be involved during construction. Several letters or reporls are required to be submitted to the County at various times during construction. They are as follows:

1. When a project has engineered fills and / or grading, a letter from your soils engineer must be submitted to the Environmental Planning section of the Planning Deparlment prior to foundations being excavated. This letter must state that the grading has been completed in conformance with the recommendations of the soils report. Compaction reports or a summary thereof must be submitted.

2. Prior to placing concrete for foundations, a letter from the soils engineer must be submitted to the building inspector and to Environmental Planning stating that the soils engineer has observed the foundation excavation and that it meets the recommendations of the soils report.

3. At the completion of construction, a *final letter* from your soils engineer is required to be submitted to Environmental Planning that summarizes the observations and the tests the soils engineer has made during construction. The final letter must also state the following: "Based upon our observations and tests, the project has been completed in conformance with our geotechnical recommendations."

   If the *final soils letter* identifies any items of work remaining to be completed or that any portions of the project were not observed by the soils engineer, you will be required to complete the remaining items of work and may be required to perform destructive testing in order for your permit to obtain a final inspection.

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EXHIBIT D 1

BOWMAN & WILLIAMS
CONSULTING CIVIL ENGINEERS
A CALIFORNIA CORPORATION
1011 CEDAR • PO BOX 1621 • SANTACRUZ CA 95061-1621
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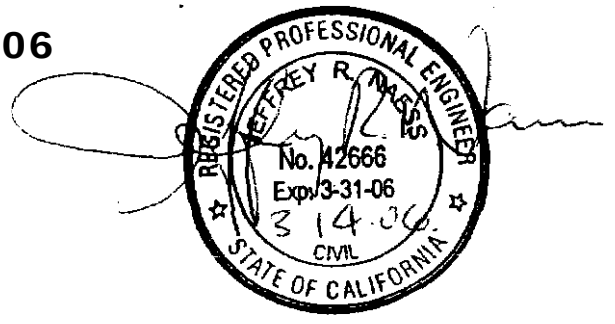
HYDROLOGY AND STORMWATER DETENTION CALCULATIONS

Prepared For
Henry Nguyen

Nguyen Flower Shop
2615 Soquel Drive
Santa Cruz, CA 95065

APN No 025-131-14
Application No. 03-0151
B&W File No 23266

March 9, 2006



BASIS OF DESIGN:

1. County of Santa Crus Design Criteria
2. ASCE Manual of Engineering Practice No. 37

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APPLICATION 05-0297
EXHIBIT D

1.0 INTRODUCTION

Mi. Nguyen proposes to construct site improvements and commercially develop his existing flower shop on APN 025-131-14. The addition will consist of a new commercial/ residential building, as well as the expansion of the existing driveway and additional grading for landscaped areas Project improvements encompass an area of approximately 0.25 acres. The runoff for the project area will be routed into a detention system to be constructed as pan of this project. Flow and Detention calculations are provided in this report

2.0 METHOD OF ANALYSIS

- The Rational Formula (show below) is used to estimate peak runoff rates.

$$Q = C_a C i_a i A$$

Where:

Q= Eshmated Peak Runoff from site (cfs)
C_a= Antecedent Moisture Factor (Unitless)
C= Runoff Coefficient (Unitless)
i_a= Rainfall Intensity Adjustment Factor (Unitless)
i= Ramfall Intensity (in/hr)
A= Area of Site (Acres)

- Storage is calculated usmg The Modified Rational Unit Hydrograph obtained from the ASCE Manual on Engineering Practice No. 37, [See attached Figure: "Detention Volume Calculations").
  - The detention volumes for the 25-year event are determined by usmg the 10 year estimated pre development peak runoff rate as the allowable release rate.
- Precipitation data/runoff coefficients are obtained from the Santa Cruz County Design Criteria Manual. Precipitation intensity is based upon the P60 Isopleth for Santa Cruz County [see attached map).

3.0 SYSTEM EVALUATION

- Included in this report are spreadsheets for the 10 year return period showing the estimated peak runoff rates from the site for current and post development conditions, as well as the eshmated required ***25*** year return storage volume for the additional runoff due to development. 10 year return was used for this project, as runoff from this project is eventually routed to Arana Creek having a 10 year downsheam capacity at La Fonda Drive.
- The time of concentration (tc) used to determine the allowable runoff rate and detention volume is assumed to be 15 minutes for pre development conditions and 10 minutes for post development conditions.
- The runoff values shown in the spreadsheets are calculated usmg the Rational Formula. For pre development conditions, C is calculated to he 0.74. For post development conditions, C is calculated to he 0.85. Values for C are found in The County of Santa Cruz Design Criteria, a copy of these values is anached to this report.
- Antecedent Moisture factors (C_a) for the Rational formula are found in The County of Santa Cruz Design Criteria, a copy of these values is anached to this repon. C_a is 1.0 for the 2- and 10-year events. and C_a is 1.1 for the 25-year event.

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- The rainfall intensities are taken from the IDF curve, which is anached *io* this report. These intensities are for the IO-year event

- Storage volumes shown in the spreadsheets are calculated usmg the Modified Rational Unit Hydrograph. **A** copy of this method is attached for reference. **A** factor of safety of **1.25** is applied to the estimated volume to ensure adequate storage is achieved and to allow for possible future connections to the system.

4.0 SUMMARY

The table below shows summaries of estimated peak flows and required storage volumes for the project

DRAINAGE AND DETENTION SUMMARY	
DRAINAGE ITEM	**QUANTITY**
PRE DEVELOPMENT FLOW (CFS) (Tc=15 MIN)	0 31
POST DEVELOPMENT FLOW (CFS) (Tc=10 MIN)	**0** 42
TOTAL STORAGE REQUIREMENT (CF) - 25 YEAR RETURN	**185**

5.0 CONCLUSIONS

The total storage requirement for the site is 185 cubic feet. The proposed detention system uses two **30'** Long **24"** diameter HDPE pipes and has a maximum capacity of 190 CF. This satisfies the storage requirement lo the site. The storage will be regulated with a weir box to ensure Qpre for a 10 year storm is released from the system; calculations for the weir box are mcluded in the report The driveway leading to the garage of the proposed residence will bypass the project detention system. To ensure the release of Qpre from the site, the estimated **flow** from the driveway area is subtracted from the Qpre used to sue the weir box. From the Weir **Box,** the outflow discharges through the driveway retaining wall to a rip rap outlet located approximately **112** feet from the bank of Arana Creek. The locahon of the outlet was chosen in the field by Bowman and Williams and Bauldry Engineering based on most even terrain available above the 100 year flood level.

It is our opinion that the proposed mitigation for the proposed improvements satisfies County requirements and will not cause adverse downstream effects.

EXHIBIT U

Environmental Review Inital Study
ATTACHMENT 9, 3 of 12
APPLICATION 05-0797

DRAINAGE CALCULATIONS FOR :
NGUYEN FLOWER SHOP
SANTA CRUZ COUNTY, CA
BOWMAN & WILLIAMS FILE: 23266
March 9, *2006*

Flow Rate Calculations

Weighted C Calculations for Pre Development **(Existing)** Surfaces

Area Description	Area (ft2)	Area (AC)	C	A*C
Landscaping/Undeveloped	2690	006	030	0.018526
Impervious Surfaces	7570	017	0.90	0 156405
Total:		0.24		0.17
Weighted C=		0.74		

Weighted C Calculations lor Post **Development** Surfaces

Area Description	Area (ft2)	Area (AC)	C	A*C
Landscaping/Undeveloped	880	*002*	030	0 01
Impervious Surfaces	9380	0 22	090	0 19
Total:		0.24		0.20
Weighted C=		0.85		

Data far Driveway Area ***Bypassing*** Detention System

Area Description	Area (ft2)	Area (AC)	C	A'C
Post Development - All Impervious	1115	0.03	0.90	0.02

Notation

Q_{Posl} = Post Development Flow Rate For Entire Project Area

Q_{Pre} = Pre Development (Existing) Flow Rate For Entire Project Area

Q_{Bypass} = Post Devleopment Flow Bypassing Project Detention System

Basis of Calculation

$I = ((4.29112)*(1.1952^{P60}))/(t_c^{((0.60924)*(0.78522^{P60}))})*I_a$

$Q_{Rdel} \leq Q_{Pre}$

Detention Volume = $Q_{Posl} - Q_{Pre}$

Return Period	I_a
2	0.64
5	0.85
10	1.00
15	1.09
25	1.20
50	1.35
100	1.50

Intensity for Storm

Return Period = 10 Years
For P60 Isopleth = 1.5 **(Based on Location - See County Map)**
I_a = 1 (Based on Return Period - See Above Right)

Description	Area (ac)	C	C_a	T_c (min)	I (in/hr)	Q (cfs)	
Pre Development - 10 Year Return	0 24	0.74	100	15	1.779	0.31	= Q_{Pre}
Post Development - 10 Year Return	0.74	085	100	10	2 113	0.42	= Q_{Posl}
Bypass Flow. 10 Year Return	0.03	0.90	1.00	10	2.113	0.05	= Q_{Bypass}

'Note - Bypass flow **shown** for reference. Post developement flow includes bypass flow area lor sizing of Detention system. Bypass flow is used in siring weir box orifice diameter only.

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-0797

DRAINAGE CALCULATIONS FOR :
NGUYEN FLOWER SHOP
SANTA CRUZ COUNTY, CA
BOWMAN & WILLIAMS FILE: 23266
March 9,2006

Detention Calculations

Basis of Calculation

Based on County of Santa Cruz Draft Design Manual, Page 79

$Q_{Post} = C * C_a * I * I,' A$

$X = [(Q_{Pre} \text{ at } T_c)/(Q_{Post} \text{ at Duration Time})] * (T_c)$

$Y = 2 ' (T_c - X)$

Top = (Storm Duralion - Tc)

Bottom = (Storm Duration + T_i) - 2 * X

Storage Volume A = [(Bottom + Top)/2] * [Q_{Post} at Duration Time - Q_{Pre} at T_c] * 60

Slorage Volume B = [(Y * Q_{Pre})/2] * 60

Required Storage = Storage Volume A + Slorage Volume B

Detention Return Period =	25	Years
Delention Storm I. =	1.2	(Based on Return Period)
Detention Slorm C_a =	1.1	(Based on Return Period)

Required Detention Volume Calculations for a 25 Year Storm with a 10 Year Predevelopment Release Rate

Duration (min)	25 Year Intensity (in/hr)	Post Development Runoff (cfs)	X	Y	Top	Bottom	Storage Volume A (cf)	Storage Volume B (cf)	Required Storage (cf)
10	2.113	0.56	8.38	13.25	-5.00	8.25	24	124	148
15	1.779	0.47	9.95	10.11	0.00	10.11	48	94	142
20	1.575	0.42	11.24	7.53	5.00	12.53	55	70	125
30	1.326	0.35	13.34	3.31	15.00	18.31	39	31	70
40	1.174	0.31	15.07	-0.15	25.00	24.85	-2	-1	-4
50	1.068	0.28	16.57	-3.14	35.00	31.86	-59	-29	-88
60	0.988	0.26	17.90	-5.80	45.00	39.20	-127	-54	-182

Required Storage = **148**

Required Slorage with 1.25 Safety Factor = **185**

Design of Detention System

Number of Pipes	Pipe Diameter (in)	Trench Cross Sectional Area (SF)	Required Length (FT)
2	24	6.28	29

EXHIBIT D
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DRAINAGE CALCULATIONS FOR :
NGUYEN FLOWER SHOP
SANTA CRUZ COUNTY, CA
BOWMAN 8 WILLIAMS FILE: 23266
March 9, 2006

Weir Box Calculations

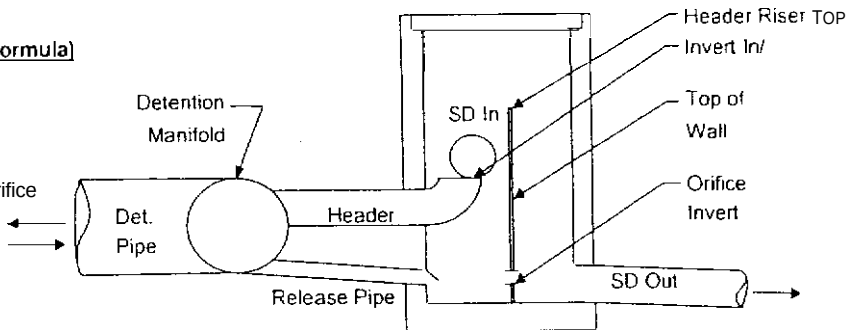
Basis of Calculation (Orifice Formula)

$Q = C_d * A * (2gh)^{1/2}$

$h = (((Q/(Cd * A))^2)/2g)$

Q = Discharge Rate Through Orifice
C_d = Discharge Coefficient
A = Area of Orifice
g = Acceleration of gravity
h = Water Depth at Orifice
a = 1/2 Orifice Opening Height

Weir Box Diagram



→ Design the Wall such that the Low Flow Orifice shall release Q_{Pre} and the Delention System is Full By Adjusting the Orifice Diameter such **that** Top **of** Wall is **at** least 0.2' above the Invert In

Weir Box Calculations

Q_{Pre} =	0.31 cfs
$Q_{Bypassed}$ =	0.05 cfs
$*Q_{Pre(Reduced\ to\ accommodate\ bypass)}$ =	0.26 cfs
Q_{Post} =	0.42 cfs
Stormdrain Pipe In =	8.00 in
Stormdrain Pipe Out =	8.00 in
Low Flow Orifice Diameter (D) =	2 50 in
Low Flow Orifice Area **(A)** =	0.03 sf
Orifice Coefficient - (Type C) (Cd) =	0.61
Head to Discharge Q_{Pre} (h) =	2.48 ft
Header Pipe **Diameter** =	8.00 **in**
Release Pipe Diameter =	5.00 in
Detention Pipe Diameter =	24 00 in
Control **Box** Grate Elevation =	90 60 ft
Stormdrain Invert In =	87 40 ft
Top of Header Pipe Elevation =	87.40 ft
Top of Detention Pipe Elevation =	87.40 ft
Bottom of Detention Pipe Elevation =	85.40 ft
Release Pipe Invert (at **Box)** Elevation =	85.30 ft
Low Flow Orifice Invert **Elevation** =	85.30 ft
Top of Wall Elevation =	87 88 ft
Stormdrain Outlet Invert Elevation =	84.80 ft

Environmental Review Inital Study
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Conclusion:

OK - Wall Height Checks

* **Note: An** area of 1115 SF bypasses the detention system. Based on **a** 10-year return period Storm this constitutes *a* flow of 0.05 CFS This flow is accounted for in the weir box calculations by subtracting the bypass now from the allowable Qpre **and** using this **value** to size the Weir box.

EXHIBIT D

TYPE OF AREA	10- YEAR RUNOFF COEFFICIENTS
Rural, **park,** forested, agricultural	0.10 - 0.30
Low residential (Single family dwellings)	0.45 - 0.60
High residential (Multiple family dwellings)	*0.65* - 0.75
Business and commercial	0.80
Industrial	0.70
Impervious	*0.90*

DRAFT

REQUIRED ANTECEDENT MOISTURE FACTORS (Ca) FOR THE RATIONAL **METHOD***

Recurrence Interval (Years)	Ca
2 to 10	1.0
25	**1.1**
50	1.2
100	1.25

Note: Application of antecedent moisture factors (Ca) **should** not result in an adjusted ***runoff*** coefficient (C) exceeding a **value** of **1**.*00*

Environmental Review Inital Study
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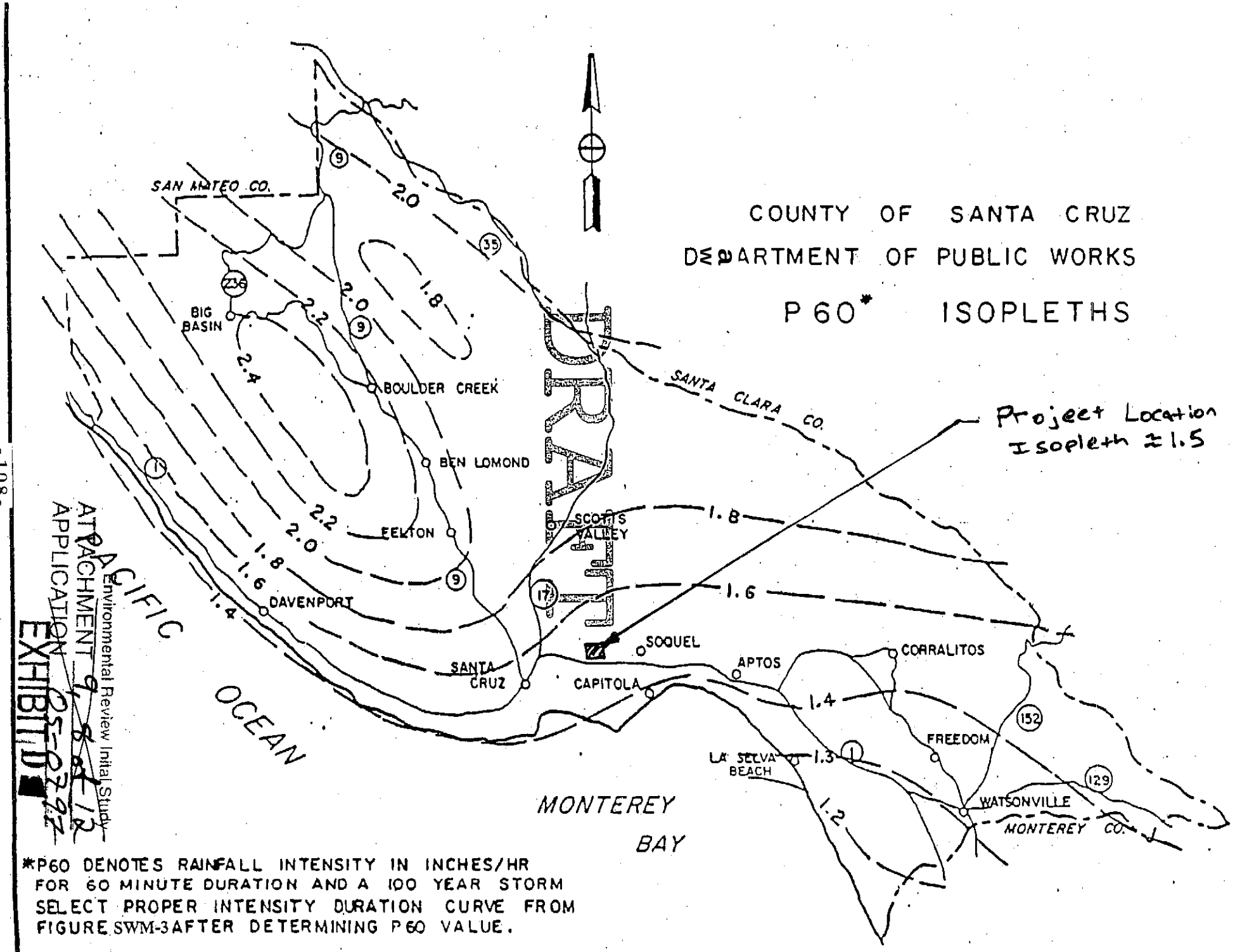
*APWA Publication "Practices in Detention of Stomwater Runoff"

EXHIBIT D



*P60 DENOTES RAINFALL INTENSITY IN INCHES/HR FOR 60 MINUTE DURATION AND A 100 YEAR STORM SELECT PROPER INTENSITY DURATION CURVE FROM FIGURE SWM-3 AFTER DETERMINING P60 VALUE.

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FIG. SWM-2

Rainfall Intensity - Duration Curves
10 Yr. Return Period

((4.29112)*(1.1952)^P60_VALUE)/(DURATION^((0.60924)*(0.78522)^P60_VALUE))

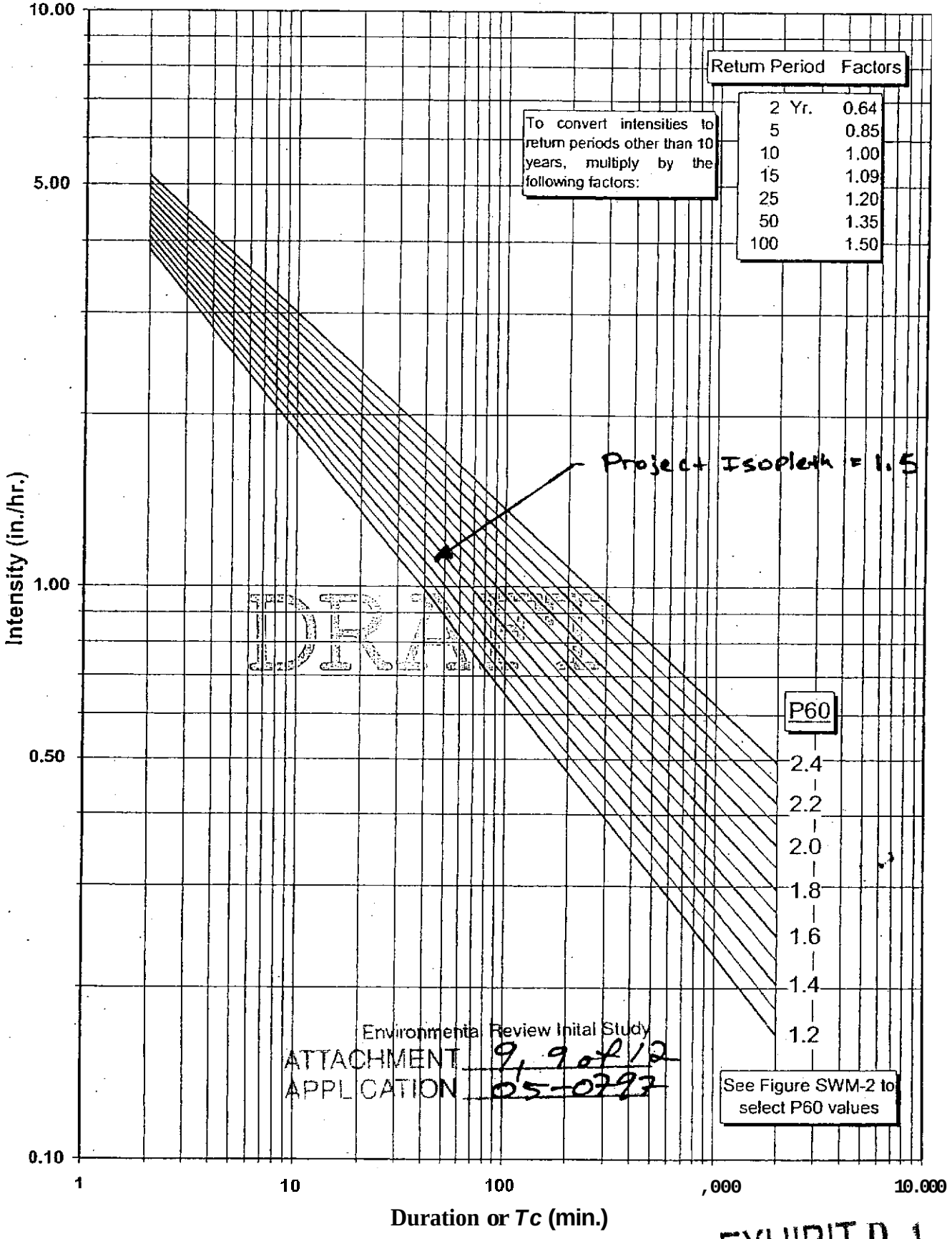

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EXHIBIT D 1

FIG. SWM-3

Rev. 11-05

NGUYEN RESIDENCE
DETENTION VOLUME CALCULATION

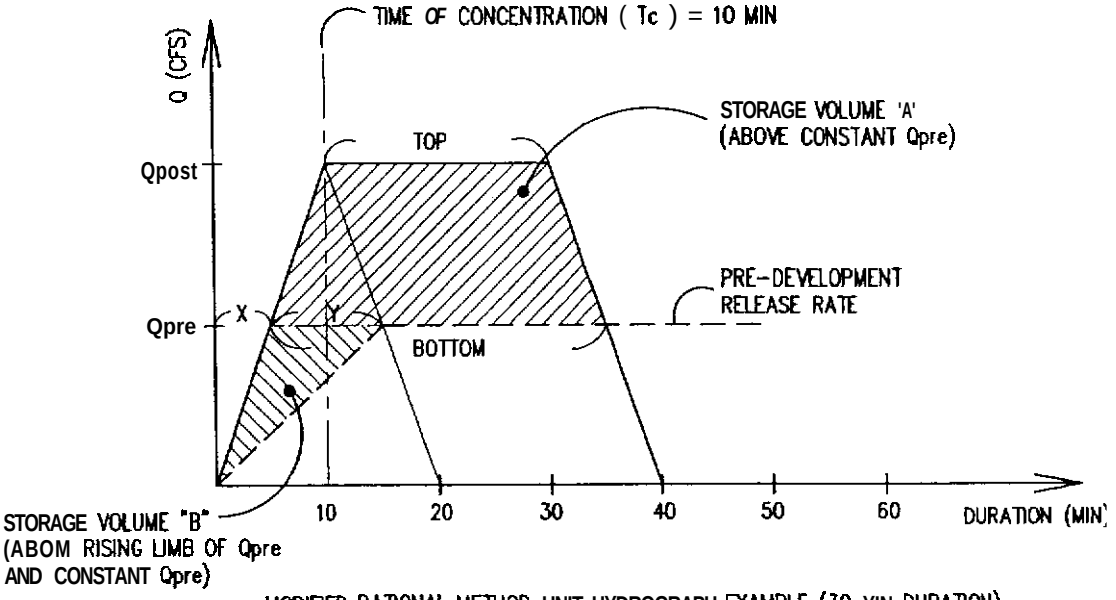
P60 = 1.50

INTENSITY I = ((4.29112)*(1.1952)^P60)/(Tc^((0.60924)*(0.78522)^P60))

T = STORM DURATION

PRE DEVELOPMENT RUNOFF $Q_{pre} = C_{pre} * Co * I * Ia * A$

POST DEVELOPMENT RUNOFF $Qpost = C_{post} * Co * I * Ia * A$



MODIFIED RATIONAL METHOD UNIT HYDROGRAPH EXAMPLE (30 YIN DURATION)

TOP = STORM DURATION - Tc

BOTTOM = (T t Tc) - ((Qpre/Q; it) * Tc) * 2

STORAGE VOLUME "A" (ABOVE CONSTANT Qpre) = (((BOTTOM + TOP)/2) * (Qpost - Qpre)) * 60

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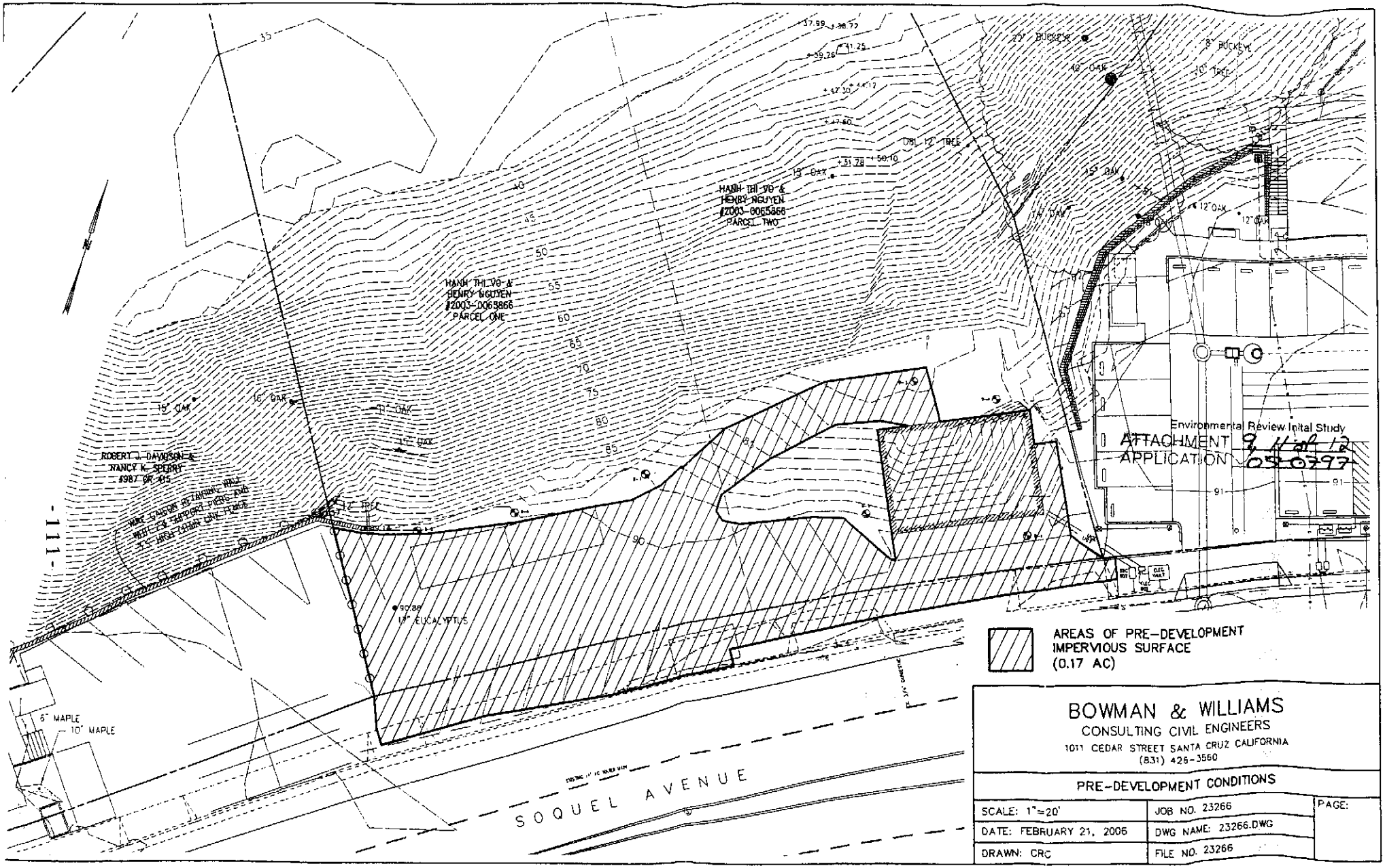
X = (Qpre/Qpost) * 10

Y = 2 * (Tc - X)

STORAGE VOLUME 'B' (BETWEEN CONSTANT Qpre AND RISING Qpre) = ((Y * Qpre)/2) * 60

EXHIBIT D



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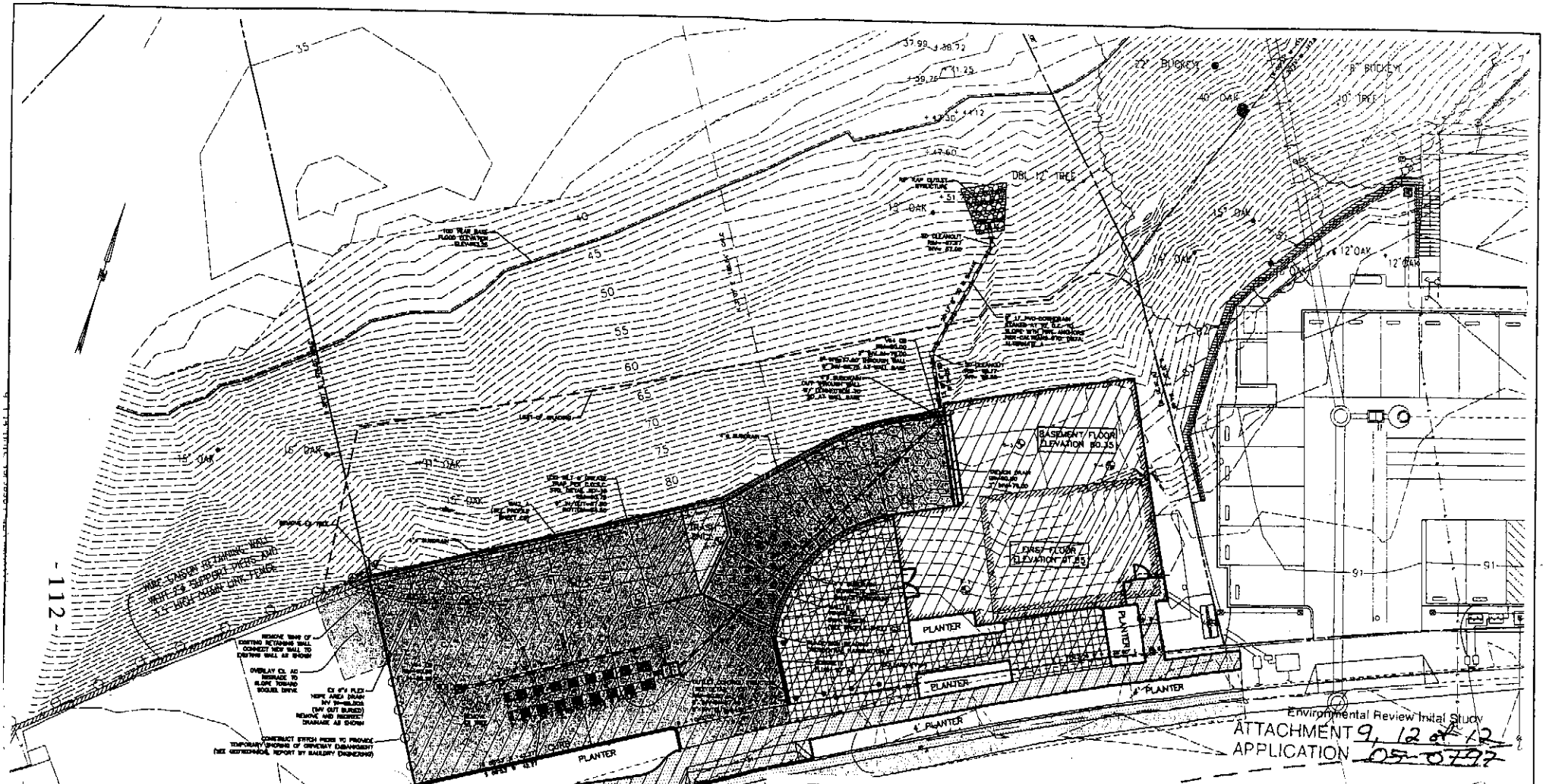
BOWMAN & WILLIAMS
CONSULTING CIVIL ENGINEERS
1011 CEDAR STREET SANTA CRUZ CALIFORNIA
(831) 426-3560

PRE-DEVELOPMENT CONDITIONS

SCALE: 1"=20'	JOB NO. 23266	PAGE:
DATE: FEBRUARY 21, 2006	DWG NAME: 23266.DWG	
DRAWN: CRC	FILE NO. 23266	



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CONSULTING CIVIL ENGINEERS
1011 CEDAR STREET SANTA CRUZ CALIFORNIA
(831) 426-3560

POST-DEVELOPMENT CONDITIONS

SCALE: 1"=20'	JOB NO. 23266	PAGE:
DATE: FEBRUARY 21, 2006	DWG NAME: 23266.DWG	
DRAWN: CRC	FILE NO. 23266	

EXHIBIT D

COUNTY OF SANTA CRUZ | Planning Department

MEMORANDUM

Application No: 05-0797

Date: December 27,2005

To: Robin Bolster-Grant, Project Planner

From: Lawrence Kasparowitz, Urban Designer

Re: Design Review for a new commercial building at 2615 Soquel Avenue, Santa Cruz

GENERAL PLAN / ZONING CODE ISSUES

Design Review Authority

13.11.040 Projects requiring design review

(e) All commercial remodels or new commercial construction

Design Review Standards

13.11.072 Site design.

Evaluation Criteria	Meets criteria in code(✔)	Does not meet criteria (✔)	Urban Designer's Evaluation
Compatible Site Design			
Location and type of access to the site	✔		
Building siting in terms of its location and orientation	✔		
Building bulk, massing and scale	✔		
Parking location and layout	✔		
Relationship to natural site features and environmental influences	✔		
Landscaping	✔		
Streetscape relationship	✔		
Street design and transit facilities	✔		
Relationship to existing structures	✔		
Natural Site Amenities and Features			
Relate to surrounding topography	✔		
Retention of natural amenities	✔		

Siting and orientation which takes advantage of natural amenities	✔		
Ridgeline protection			NIA

Safe and Functional Circulation			
Accessible to the disabled, pedestrians, bicycles and vehicles			N/A
Solar Design and Access			
Reasonable protection for adjacent properties	✔		
Reasonable protection for currently occupied buildings using a solar energy system	✔		
Noise			
Reasonable protection for adjacent properties	✔		

13.11.073 Building design.

Evaluation Criteria	Meets criteria In code (✔)	Does not meet criteria (✔)	Urban Designer's Evaluation
Compatible Building Design			
Massing of building form	✔		
Building silhouette	✔		
Spacing between buildings	✔		
Street face setbacks			N/A
Character of architecture	✔		
Building scale	✔		
Proportion and composition of projections and recesses, doors and windows, and other features	✔		
Location and treatment of entryways	✔		
Finish material, texture and color	✔		
Scale			
Scale is addressed on appropriate levels	✔		
Design elements create a sense of human scale and pedestrian	✔		
Building Articulation			
Variation in wall plane, roof line, detailing, materials and siting.	✔		

Building design provides solar access that is reasonably protected for adjacent properties...	✔		
Building walls and major window areas are oriented for passive solar and natural lighting.	✔		

Parking			
Minimize the visual impact of pavement and parked vehicles.	✔		
Parking design shall be an integral element of the site design.	✔		
Site buildings toward the front or middle portion of the lot and parking areas to where appropriate.	✔		
Lighting			
All site, building, security and landscape lighting shall be directed onto the site and away from adjacent properties.			*Suggest as Condition of Approval*
Area lighting shall be high-pressure sodium vapor, metal halide, fluorescent, or equivalent energy-efficient fixtures.			*Suggest as Condition of Approval*
All lighted parking and circulation areas shall utilize low-rise light standards or light fixtures attached to the building. Light standards to a 15 feet are allowed.			*Suggest as Condition of Approval*
Building and security lighting shall be integrated into the building design.			*Suggest as Condition of Approval*
Light sources shall not be visible form adjacent properties.			*Suggest as Condition of Approval*
Loading areas shall be designed to not interfere with circulation or parking, and to permit bucks lo fully maneuver on the property without backing from or onto a public street.			*The applicant should address loading area and timing in their application material.*
Landscape			
A minimum of one tree for each five parking spaces should be planted along each single or double row of parking spaces.			*Circumstances of th parking arrangemer would make* this *difficult.*
A minimum of one tree for each five			*Circumstances of th*

parking spaces shall be planted along rows of parking.			*parking arrangement would make this difficult.*
Trees shall be dispersed throughout the parking lot to maximize shade and visual relief.			*Circumstances of the parking arrangement would make this difficult.*
At least twenty-five percent (25%) of the trees required for parking lot screening shall be 24-inch box size when planted; all other trees shall be 15 gallon size or larger when planted.			*Circumstances of the parking arrangement would make this difficult.*
Parking Lot Design			
Driveways between commercial or industrial parcels shall be shared			N/A
Avoid locating walls and fences where they block driver sight lines when entering or exiting the site.	✔		
Minimize the number of curb cuts	✔		
Driveways shall be coordinated with existing or planned median openings.			N/A
Entry drives on commercial or industrial projects greater than 10,000 square feet should include a 5-foot minimum net landscaped median to separate incoming and out going traffic, where appropriate.			N/A
Service Vehicles/Loading Space. Loading space shall be provided as required for commercial and industrial uses.			N/A
Where an interior driveway or parking area parallels the side or rear property line, a minimum 5-foot wide net landscape strip shall be provided between the driveway and the property line.	✔		
Parking areas shall be screened form public streets using landscaping, berms, fences, walls, buildings, and other means, where appropriate.	✔		
Bicycle parking spaces shall be provided as required. They shall be appropriately located in relation to the major activity area.		✔	*A bicycle rack should be located on site.*
Reduce the visual impact and scale of interior driveways, parking and paving.	✔		

Environmental Review Inital Study
ATTACHMENT 10, 4 of 5
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EXHIBIT D

Pedestrian **Travel** Paths			
On-site pedestrian pathways shall be provided form street, sidewalk and parking areas to **the** central use area. These areas should **be** delineated from the parking areas by walkways, landscaping, changes in paving materials, narrowing of roadways. or other design techniques.	✔		
Plans for construction of **new** public facilities and remodeling of existing facilities shall incorporate both architectural barrier removal and physical building design and parking area features to **achieve** access for **the** physically disabled.	✔		
Separations between bicycle and pedestrian circulation routes shall be utilized where appropriate.			N/A

Environmental Review Inital Study
ATTACHMENT 10 5 of 5
APPLICATION 05-0797
EXHIBIT D

COUNTY OF SANTA CRUZ
INTER-OFFICE CORRESPONDENCE

DATE: January 11, 2006
TO: Robin Bolster-Grant, Planning Department, Project Planner
FROM: Melissa Allen, Planning Liaison to the Redevelopment Agency
SUBJECT: Application **05-0797,** APN 025-131-14, 15, & 16, 2615 & 2541 Soquel Avenue, Live Oak

---

The applicant is proposing to amend the General Plan land use designations for 3 parcels from Community Commercial; to rezone the parcels from C-4 to C-2; to combine parcels 025-131-14 and 025-131-16; to demolish an existing **960** square foot flower shop and construct an 1,189 square foot retail shop on the main floor with one 3-bedroom residential unit on the second floor and residential parking at the basement level; and to grade about 5,000 cubic yards of over-excavation and re-compaction and 250 cubic yards of fill. The project requires a General Plan Amendment, Rezoning, Commercial Development Permit, Riparian Exception, and an exception to the onsite driveway width standards (from 18 feet to 12 feet): Geologic Hazards Assessment, and Preliminary Grading approval. The property is located on the north side of Soquel Avenue, about 150 feet west of the intersection with 7th Avenue (2615 Soquel Avenue).

This application was considered at Engineering Review Group (ERG) meeting on January 4, 2006. The Redevelopment Agency (RDA) has the following comments on this project. RDA's primary concerns for this project include the following: adequate onsite parking to serve the uses, adequate frontage improvements with compatible street trees, and the streetscape appearance from Soquel Avenue.

1. All required parking should be provided onsite. The parking spaces should be dimensioned and numbered, with the parking assigned for the residential use clearly identified. Detailed parking calculations should also be provided on the plans to demonstrate compliance with Planning standards. The circulation and parking should be analyzed between this property and the adjacent office lot to the west. For example, does this parking plan reduce or impact the parking required on that site, and how does the circulation pattern function between the two lots? It is not clear whether "shared access" or "shared use" agreements for the circulation and parking between these two lots are in place or should be required.

2. The street trees **should** be of a species compatible with those identified for this portion of Soquel Avenue in the Urban Forestry Master Plan and with the street trees approved with the adjacent project to the east (#03-0151, Veterinarian Hospital). The Urban Forestry Master Plan (Plan) recommends using Gold Cup Oak (Quercus chrysolepis) as a street tree planted behind the sidewalks in adequate planting space (8 foot or more) along Soquel Avenue. However, if there is insufficient planting area width in this location, RDA recommends planting Southern Live *Oak* (Quercus virginiana) (as approved with 03-0151) or Cork Oak (Quercus suber) street trees to conform with the Oak tree theme and provide a continuous canopy of Oak trees as a "front façade" **for** Live *Oak* as described in the Plan. The street trees should be installed at a 24" box size, with root barriers and irrigation installed in conjunction with this project. The project should be conditioned such that it is the property owner's responsibility to permanently maintain these street trees, with replacement trees installed as needed. See attached Street Tree Criteria for use in planting skips.

3. Though the area in front of the proposed commercial building will be landscaped with several planters and flowerpots, additional permanent planting with trees should be provided in this area to better provide long-term softening of the commercial building, accommodate other possible future uses on this site, and comply with design review standards, and tree replacement. New comments may be provided when additional wall information is submitted depending upon the potential heights and visibility from Soquel Avenue. RDA recommends that additional landscaping, such as vines or other planting be used as needed to soften views of the proposed walls, trash enclosure, parking frontage, etc. from Soquel Avenue.

EXHIBIT D

Environmental Preliminary Study

ATTACHMENT 4 EXHIBIT D
APPLICATION 05-0797

4. **An** Encroachment Permit is required for any work or improvements in the Soquel Avenue public right-of-way, including for pavers, landscaping, and irrigation along the property frontage. These improvements may be required lo be removed if any future public improvements to Soquel Avenue warrant this. Public Works should be consulted regarding any additional information needed regarding the Soquel Avenue "Overlay Moratorium" as identified in the Driveway/Encroachment comments.

5. The proposed material to be used **for** the telescoping doors facing Soquel Avenue should be identified (e.g. are these glass in vinyl frames?).

6. The applicant should delineate proposed signage in conformance with planning standards

The items and issues referenced above should be evaluated as part of this application and/or addressed by conditions of approval. RDA would like to see future routings of this project if changes are proposed relevant to RDA's comments. The Redevelopment Agency appreciates this opportunity to comment. Thank you.

cc: Greg **Martin,** DPW Road Engineering
Paul Rodngues. RDA Urban Designer
Betsey Lynberg, RDA Administrator

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APPLICATION 05-0797

EXHIBIT D

Project Planner: Robin Bolster
Application No.: 05-0797
APN: 025-131-14

Date: August 21. 2006
Time: 12:31:35
Page: 1

Environmental Planning Completeness Comments

========== REVIEW ON JANUARY 3. 2006 BY KENT M EDLER ==========

1. Revise plan sheet C-2 to include top of wall and bottom of wall elevations for all proposed walls.

2. Extend all x-sections on sheet C2 to Arana Gulch

3. Add a x-section on sheet C-2 that runs from Soquel Ave to Arana Gulch that passes through the building.

4. X-sections A-A and B-B on sheet C3 show fill being placed on the downslope side of the retaining wall. Per the soils report, this fill should be keyed and benched into the bedrock layer. Another option may be to leave the lower bench and daylight the bench to the -67' countour.

5. The plans should show how drainage will be controlled at the western property line where the new wall meets the existing pier wall. There is an existing pipe at this location and the outlet needs to be identified. Addtionally there are slope failures just below this point

6. Include the base flood elevation on sheet C-2 and also on the x-sections on sheet c-3.

7. The drainage dissipator is located in the creek channel below the base flood elevation. Provide information as to what the dissipator is to be constructed of and how it will remain in place during high flows. Additionally. Bauldry Engineering will need to sign off on the location of the drainage outlet as a stable location that will not affect slope stability.

8. A sign off / plan review letter from Bauldry Engineering will be required prior to this project being deemed complete. The plan review letter needs to state that the conceptual design at-this stage meets the recommendations of the soils report.

9. Prior to resubmittal of plans, the applicant must set up a meeting with the civil engineer (Jeff Naess), the soils engineer (Brian Bauldry) and Environmental Planning staff.

Please note that additional comments may arise after a meeting between Planning staff and the design consultants.

Comments on the soils report (if any) will be sent after the meeting with the civil engineer and soils engineer.
========== UPDATED ON APRIL 11, 2006 BY JESSICA L DEGRASSI ==========

Environmental Planning Miscellaneous Comments

========== REVIEW ON JANUARY 3, 2006 BY KENT M EDLER ==========

Environmental Review Inital Study
ATTACHMENT 12, 1 of 8
APPLICATION 05-0797
EXHIBIT D

1. Winter grading will not be allowed on this site

2. The erosion control plan needs to be modified to include an operational erosion and sediment control plans that shows how erosion and sediment control will be set up prior to the wall (along the northern portion of the parking lot) being completed. A single row of silt fence is probably not adequate to prevent sediment from entering Arana Gulch. Since the material where the silt fence is proposed to be placed is loose fill, it is highly likely that the slope will erode below the silt fence. (this is what happened at the adjacent site). Consider ways to prevent scour under the silt fence an control drainage during construction. If a silt fence is used, is should be staked down with heavy stakes and/or used in conjunction with a chain link fence. Additionally, a rocked construction entrance should be added to the erosion control plans.

A Certified Professional in Erosion and Sediment Control (CPESC) must work with the civil engineer to develop the operational erosion control plan.

3. A plan review letter from the soils engineer is will be required in the building permit stage

4. On sheet C2, change the phone number on note 11 to Bauldry Engineering's phone number (the number listed is Haro, Kasunich's)

5. On sheet C2 note 15, delete "unless winter grading approval is granted from Environmental Planning."

6. Add an erosion control blanket to be placed over the 25' section of 8" SD that runs down the slope (or incorporate other measures that will prevent the trench from eroding)

7. Add a note stating that all exposed or disturbed soil on the slope must be seeded and covered with an erosion control blanket prior to October 15.

Conditions of Approval:

1. Prior to starting work, a preconstruction meeting is required. Required attendees include the general contractor, the grading contractor, the soils engineer, the CPESC. and County Environmental Planning staff (454-3168)

2. Between Oct. 15 and April 15, weekly erosion control inspections must be done by a Certified Professional in Erosion and Sediment Control (CPESC). Copies of the weekly inspections reports must be faxed to Environmental Planning staff each week (fax no 454-2131). Weekly reports will not be required after the retaining wall is completed and the parking lot is paved.

3. Grading activities must commence by July 1. If grading does not start by July 1. the start of grading must wait until the following April 15.

4. A detention facility (either a temporary system or the permanent detention system) must be installed prior to October 15. The detention system must be maintained continuously during the winter season.

EXHIBIT D
Environmental Review Inital Study
ATTACHMENT 12, 2 of 8
APPLICATION 05-0797

========== UPDATED ON APRIL 11, 2006 BY JESSICA L DEGRASSI ==========
Condition the permit to eliminate the use of the Santa Cruz Erosion Control mix as seed for the graded areas below the wall. Use a native seed for this area. Also revise landscape plan to include more native plants/shrubs along the bench below the retaining wall, in between the oak trees, as well as in the area to be disturbed by the installation of the energy dissapator structure, and the area to be cleaned of debris below the proposed structure. Please include the limits of grading on Sheet L1.

Long Range Planning Completeness Comments

========== REVIEW ON JANUARY 3, 2006 BY GLENDA L HILL ==========
The project plans must include APN 025-131-15 in its entirety and indicate the use of that property. ========== UPDATED ON APRIL 5, 2006 BY GLENDA L HILL ==========
NO COMMENT

Long Range Planning Miscellaneous Comments

========== REVIEW ON JANUARY 3, 2006 BY GLENDA L HILL ==========
This application includes a request to amend the General Plan. In accordance with SB 18. effective 3/1/05, all General Plan Amendments are subject to Tribal Consultation for the purpose of protecting cultural places. Letters to the interested tribes are being sent out. Once the tribes receive the letters, they have 90 days to contact us of their desire to consult. If so. consultation will begin and continue until resolution. No final action may be made on this application while tribal consultation is ongoing. If the tribes do not contact us of their interest, no further action is required. ========== UPDATED ON APRIL 5, 2006 BY GLENDA L HILL ==========
The tribal consultation review period is ongoing. To date, no request for consultation has been received. Policy staff will notify the project planner when the consultation period ends or if a consultation request is received.

Dpw Drainage Completeness Comments

LATEST COMMENTS HAVE **NOT YET** BEEN SENT TO PLANNER FOR THIS AGENCY

========== REVIEW ON JANUARY 3, 2006 BY ALYSON B TOM ========== Application with plans dated 12/9/05 and drainage calculations dated December 2005 has been received. Please address the following:

1) Please show flood boundaries on the plans. All construction should be outside of flood hazard areas.

2) Are all of the existing paved areas permitted as such? Please provide documentation demonstrating that these areas are permitted or were built prior to 1969. Fee and impact credit will be given for all permitted impervious areas.

3) This project is required to minimize proposed impervious areas. How is this being accomplished? Will the proposed paver areas be pervious or impervious? Can pervious paving be used in the parking aisle and/or other driveway or parking areas? Will downspouts be discharged to planting areas?

4) Does this site receive runoff from adjacent parcels? If so. how will this runoff be handled

5) It is not clear that the proposed detention facility will be able to function as designed given the area that bypasses the system. A quick check on the expected 25 year runoff from the area bypassing the systemindicates a flow rate greater than the allowable. Please confirm the proposed layout can feasibly meet the detention requirements, or update layout so that additional areas drain *to* the detention system.

6) Has the applicant considered working with the neighboring parcel owner to utilize the existing outfall to Arana Gulch?

See miscellaneous comments for issues to be addressed prior to building permit issuance.

All submittals for this project should be made through the Planning Department. For questions regarding this review Public Works Stormwater Management staff is available from 8-12 Monday through Friday.
========= UPDAIED ON APRIL 5. 2006 BY ALYSON B TOM ========= Application with calculations dated 3/9/06 and civil plans dated 3/14/06 has been recieved. Please address the following:

1) Previous comment number 1 has not been addressed. While the geotechnical investigation indicates that percolation pits are not recommended, the potential for utilizing pervious surfacing for the patio and portions of the parking area has not been addressed. Can downspouts be directed to planter areas?

2) Previous comment number 5 has not been fully addressed. Please provide a watershed map showing which on site areas will drain to the proposed detention system

Dpw Drainage *Miscellaneous* Comments

LATEST COMMENTS HAVE **NOT YET** BEEN SENT TO PLANNER FOR THIS AGENCY

========= REVIEW ON JANUARY 3, 2006 BY ALYSON B TOM ========= The following comments should be addressed prior to building permit issuance:

1) All runoff from parking and driveway areas should go through water quality treatment prior to discharge from the site. The location of the proposed silt and grease trap on plans dated 12/9/05 would not treat all required runoff. Please update.

2) If the .proposed drainage system will provide for drainage of adjacent properties. then this property should provide an easement for this use.

3) Provide detailed drainage plans and calculations for the proposed drainage system (such as outlet structure, etc.) demonstrating that the drainage system meets design criteria requirements.

Zone 5 fees will be assessed on the net increase in permitted impervious area due to this project.
========== UPDATED ON APRIL 5, 2006 BY ALYSON B TOM ========== Letter from Bowman and Williams dated 3/14/06 has been received. It is noted that a standard silt and grease trap is not preferred by the applicant .on this property. However. all runoff from parking and driveway areas will need to go through water quality treatment prior to discharge from the site. If the standard silt and grease trap will not be used, please update the plans to include alterntive treatment. If treatment is provided by structural means, a recorded maintenance agreement will be required.

A recorded maintenance agreement for the detention system will be required

Please also note that construction of the drainage related items for this project will be completed by Public Works staff.

Dpr Driveway/Encroachment Completeness Comments

========== REVIEW ON JANUARY 3, 2006 BY DEBBIE F LOCATELLI ==========

Dpw Driveway/Encroachment Miscellaneous Comments

========== REVIEW ON JANUARY 3, 2006 BY DEBBIE F LOCATELLI ==========
Driveway, curb, gutter and sidewalk shall conform to County Design Criteria Standards, details to be provided on the building application plans.
Encroachment permit required for all off-site work in the County road right-of-way. to be obtained at the building application permit process.

Representative has been advised of Overlay Moratorium for Soquel Avenue

Dpw Road Engineering Completeness Comments

========== REVIEW ON JANUARY 5. 2006 BY GREG J MARTIN ==========
A directional sign should be located between the parking area and the residential driveway indicating the driveway is 'Residential Parking Only -->'

Irrigation plans are required for the planted areas within the right-of-way. --

The entire street should be shown in plan view with existing striping. Street sections showing the entire road are required within the bus turnout loading area and across from the main entrance to the flower shop. A plan line does not exist for this section of Soquel Avenue.

The development is subject to Live Oak Transportation Improvement (TIA) fees at a rate of $400 per daily trip-end generated by the proposed use. The project plans show an additional 229 square feet of commercial sales space and a new residence. The estimated trip generation for fee purposes *is* 15 trip-ends per 1,000 gross square feet (ksf). Therefore the total trips may be calculated as 0.229 ksf of commercial sales space multiplied by 15 trip ends/ksf equals 3 trip ends being generated by the project. The residence is estimated to generate 10 trip ends. The fee is calculated as 13 trip ends multiplied by $400 per trip end equals $5,200. The

total TIA fee of $5.200 is to be split evenly between transportation improvement feeand roadside improvement fees. The conditions of approval should include that the development may receive fee credit for the bus stop improvements along the adjacent property frontage. The amount of reimbursement shall be in accordance with the unit fee amounts specified in the Unified FeeSchedule

Details regarding the wall behind the parking shall be required as part of civil engineering improvement plans as part of the building permit.

Details regarding the bus stop shelter shall be required as part of the buig permit. The bus stop shelter should comply with Santa Crur Metro's standards.

If you have any questions please call Greg Martin at 831-454-2811. ========= UPDATED ON APRIL 11, 2006 BY GREG J MARTIN =========
The entire street should be shown in plan view with existing striping and the proposed project. Street sections showing the entire road are required within the bus turnout loading area and across from the main entrance to the flower shop. A plan line does not exist for this section of Soquel Avenue.

The bus stop is located directly adjacent to a paved area on the neighboring property. Bollards shall be required to protect the shelter from being struck. If you have any questions please call Greg Martin at 831-454-2811. ========= UPDATED ON APRIL 11, 2006 BY GREG J MARTIN =========

Dpw Road Engineering Miscellaneous Comments

========= UPDATED ON JANUARY 5, 2006 BY GREG J MARTIN =========
========= UPDATED ON APRIL 11. 2006 BY GREG J MARTIN =========

Environmental Health Completeness Comments

LATEST COMMENTS HAVE **NOT YET** BEEN SENT TO PLANNER FOR THIS AGENCY

========= REVIEW ON JANUARY 10, 2006 BY JIM G SAFRANEK =========
NO COMMENT

Environmental Health Miscellaneous Comments

LATEST COMMENTS HAVE **NOT YET** BEEN SENT TO PLANNER FOR THIS AGENCY

========= REVIEW ON JANUARY 10, 2006 BY JIM G SAFRANEK =========
NO COMMENT

Environmental Review Inital Study
ATTACHMENT 12, 6 of 8
APPLICATION 05-0797
EXHIBIT D

Robin Bolster

From: Walt Seifert
Sent: Thursday, December 29,2005 4:45 PM
To: Robin Bolster
Subject: 05-0797FLOWERSHOP.DOC

Accessibility: Preliminary Project Comments for **Development** Review

Date: 12/29/05
Application Number: 05-0797
APN: 025-131-14.15,16

Dear Planner,

We have made a preliminary review of the above project for accessibility and have the following comments for you to apply to your building design:

Please have the applicant refer to the attached brochure entitled Accessibility Requirements - Building Plan [illegible] of Santa Cruz Planning Department website:
http://www.sccoplanning.com/brochures/access_plancheck.htm
This d t will be a valuable information source for the designer when i drawings for g plan check

Project Descriotion: Nguyen Flower Shop, 2615 Soquel Ave
New Construction - Residential (R-1) & Flower Shop (Merchandise, M)
5,706SF

Determination of Occupancy: Apply specific requirements per CBC code sections 11046 thru 1111B

CBC Section1 103B – Buildinq Accessibility
Accessibility to buildings or portions of buildings shall be provided for all occupancy classifications except as modified or enhanced by this chapter. Occupancy requirements in this chapter may modify general requirements, but never to the exclusion of them. Multistory buildings must provide access by ramp or elevator.

CBC 1114B.1.2 Accessible route of travel
At least one accessible route within the boundary of the site shall be provided from public transportation stops, accessible parking and accessible passenger loading zones, and public streets or sidewalks, to the accessible building entrance they serve

CBC 11298 Accessible Parkinq Required
Each lot or parking structure where parking is provided for the public as clients, guests or employees, shall provide accessible parking as required by this section.

Path of Travel Verification Form (refer to brochure)

Egress Plan - Maneuvering Clearances

Plumbing Fixture Requirements – Accessible Restrooms
Please refer to the 2001 California Plumbing Code, Table 4-1 for plumbing fixture requirements for this occupancy

Since there are not enough details on these preliminary plans to do a complete accessible plan check, there may be additional comments when applying for a building permit and responding to the Building Plan Check process.

Please contact us with any questions regarding these comments.

Environmental Review Inital Study
ATTACHMENT 12, 7 of 8
APPLICATION 05-0797
EXHIBIT D

WALT SEIFERT
Building Plans Examiner
County of Santa Cruz Planning Department
(831) 461-7453

CITY OF
SANTA CRUZ

WATER DEPARTMENT

Water Conservation Office
809 Center Street, Room 100
Santa Cruz, CA 95060
Phone: (831) 420-5230
FAX: (831) 420-5231

January 12,2006

Robin Bolster-Grant
County Planning
701 Ocean Street
Santa Cruz, **CA** 95060

SUBJECT PROPERTY: 2615-2641 Soquel Ave.
Application: #05-0797
APN #: 025-131-14,15,16

Dear Ms. Bolster Grant,

Thank you for submitting a preliminary planting plan (dated December 9, 2005) for the above project. 1 have reviewed the design and the planting appears to be consistent with the City of Santa Cruz's Water Efficient Landscape Ordinance. Three full sets of planting ***and irrigation*** plans must be submitted to the Water Department at the time of the building permit application.
I have enclosed a copy of the City's Water Efficient Landscape Ordinance and a summary for your information.

If you have any questions, please call me at (831) 420-5230

Sincerely,

Elena Freeman
Water Conservation Representative

Environmental Review Inital Study
ATTACHMENT 13, 1 of 2
APPLICATION 05-0797

cc: Mary Fisher, Water Engineering

EXHIBIT D

NEW WATER SERVICE INFORMATION FORM

Multiple APN? N AFN. **025-131-14**

Date: 1/11/2006 Revision **Date** 1 :

Revision **Date** 2 :

SANTA CRUZ MUNICIPAL UTILITIES
809 Center Street, Room 102
Santa Cruz, CA 95060
Telephone (831) 420-5210

cc: Robin Bolster- 454-2131

PROJECT ADDRESS: 2615 Soquel Ave

APPLICANT INFORMATION:

Name:	Ron Powers for Henry Nguyen
Mail Street:	1476 Bulb Ave
City/St/Zip:	Santa Cruz CA 95062-
Phone:	(831) 462-1863 Fax: 426-1679
Cell:	Ron

PROJECT DESCRIPTION:
Proposed 3628 sq h commercial building with 3 bdrm apt on 2nd floor.

SECTION 1 EXISTING MAIN AND SERVICES

Main Size/Type/Age: 14" AC 1968 Elevation zone: N

Sizes	Account #'s	Old SIO #'s	Status	Date Closed	Type
3/4"	070-0150		Active		Bus-Gen

No connection fee credit(s) for services inactive over 24 months

SECTION 2 FIREFLOWS

Hyd # 2015 Size/Type: 6" stmr Static 74 Res 64 Flow 1186 Flow w/20# Res. 2948 FF Date 08/03

Location: on Soquel @ 7th

Hyd # Size/Type: Static Res Flow Flow w/20# Res. FF Date

Location:

SECTION 3 WATER SERVICE FEES

Service Type	Service Size	Meter Size	Meter Type	# SIOs	Meter Inst	Eng Plan Review	Permit Insp	Rvw Fee	Backflow Permit Type	Backflow Permit Fee	Water System Dev	Sewer Connection	Zone Capacity
Domestic	1	5/8	Existing	1		$50					$4,571		
Dom/Fire													
Irrigation													
Business													
Fire Svc	4	5/8	Disc	1	$263		$180	$50	DCDA	$120			
Hydrant		Type											
WATER SERVICE FEE TOTALS					$263	$50	$180	$50		$120	$4,571	$	$.00

revised

Street Opening Fee $ Irr Plan Review Fee $60 Total $5,294 - Credits $ GRAND TOTAL $5,294

ADDITIONAL COMMENTS: Project is in planning stages and applicant would like to install services before County Street Overlay Project completed. Approved by Eng. Mngr. with agreement to post bonds for removal of service stubs if project is not permited within 24 months.

Plans routed to W.C. 1/11/06

SECTION 4 QUALIFICATIONS

1. Service will be furnished upon:
(1) payment of the required fees due at the time service is requested (a building permit is required), and; (2) installation of the adequately sized water services, water mains and fire hydrants as required for the project under the rules and regulations of the Santa Cruz Water Department and the appropriate Fire District and any restrictions that may be in effect at the time application for service is made.
2. Fees and charges noted above are accurate as of the date hereof and are subject to change at any time without notice to applicant.

BP# PLAN APP # 05-0797 PLANNER Robin Bolster- REVIEWED BY M. Fisher

NOTICE: This form does not in any way obligate the City. It is provided only as an estimate to assist you in your planning and as a record for the Water Department. The requirements set forth on this form may be changed or corrected at any time without prior notice. Fees collected by other agencies are not included on this form.

Environmental Review Inital Study
ATTACHMENT 2 of 2
APPLICATION 05-0797
EXHIBIT D

SANTA CRUZ COUNTY SANITATION DISTRICT

INTER-OFFICE CORRESPONDENCE

DATE: JANUARY 3,2006

TO: PLANNING DEPARTMENT: ROBIN BOLSTER-GRANT

FROM: SANTA CRUZ COUNTY SANITATION DISTRICT

SUBJECT: CONDITIONS OF SERVICE FOR THE FOLLOWING PROPOSED DEVELOPMENT

APN: 025-131-14, 15, 16 APPLICATION NO.: 05-797

PARCEL ADDRESS: 2615,2541 SOQUEL AVENUE

PROJECT DESCRIPTION: GENERAL PLAN AMENDMENT AND REZONING, COMMERCIAL DEVELOPOMENT PERMIT, COMBINE PARCEL, DEMOLISH EXISTING AND CONSTRUCT A NEW 2-STORY COMMERICAL BUILDING (LOWER) AND RESIDENTIAL (UPPER)

This notice is effective for one year from the issuance date to allow the applicant the time *to* receive tentative map, development or other discretionary pemiit approval. If after this time frame this project has not received approval from the Planning Department, a new availability letter must be obtained by the applicant. Once a tentative map is approved this letter shall apply until the tentative map approval expires.

•A complete engineered sewer plan, addressing all issues required by District staff and meeting County "Design Criteria" standards (unless a variance is allowed), is required. District approval of the proposed discretionary permit is withheld until the plan meets all requirements. The following items need to be shown on the plans:

Note on plans: "The existing sewer lateral must be properly abandoned (including inspection by District) prior to issuance of demolition permit or relocation or disconnection of structure.'' An abandonment permit (no charge) for disconnection must be obtained from the District.

•Note elevation of upstream sewer manhole rim and note on plans if backflow device is required.

Environmental Review Inital Study
ATTACHMENT 4, 1 of 2
APPLICATION 05-0797
EXHIBIT D

•The Sanitation District's conditions for service in the Commercial Development permit are:

All future change of use in tenants shall require a review by the Sanitation District for additional connection permit fees and pretreatment device requirenients.

All applicants shall provide estimated water use and additional information to assist staff in developing permit fees and pretreatment. A review of all changes in tenancy shall be required and no "over the counter" approvals shall be granted.

The District shall review all future building permits for tenant improvements.

•Water use data (actual or projected), and other information as may be required for this project, must be submitted to *the* District for review and use in fee determination and waste pretreatment requirements before sewer connection permits can be approved.

•Attach an approved copy of the sewer system plan Io the building permit submittal.

Diane Romeo
Sanitation Engineering

DR/dr

c: Applicant: Ron Powers
Powers Land Planning
1607 Ocean St. Su. B
Santa Cruz, **CA** 95060

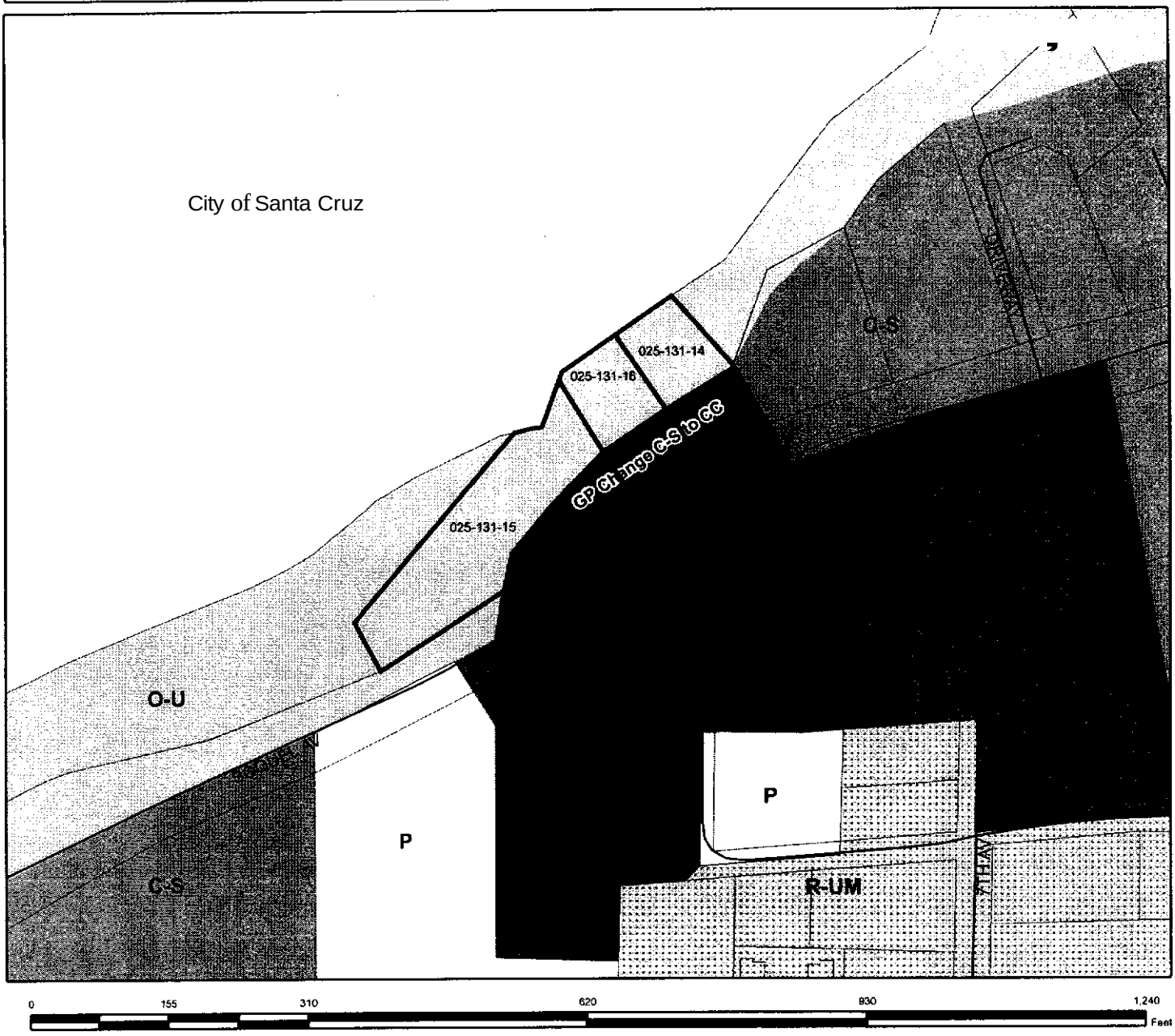
Property Owner: Henry Nguyen etal
1476 Bulb Ave.
Santa Cruz, **CA** 95062

Engineer: Joel Ricca
Bowman and Williams
1011 Cedar St.
Santa Cruz, CA 95060

Environmental Review Inital Study
ATTACHMENT 1 2 of 2
APPLICATION 05-0297

EXHIBIT D

General Plan Designation Change Map



Legend

- Subject Sites
- Streets
- Assessors Parcels
- Urban Open Space (O-U)
- Commercial-Setvice *(C-S)*
- Commercial-Community (C-C)
- Public Facilites (P)
- Residential - Urban Medium Density (R-UM)

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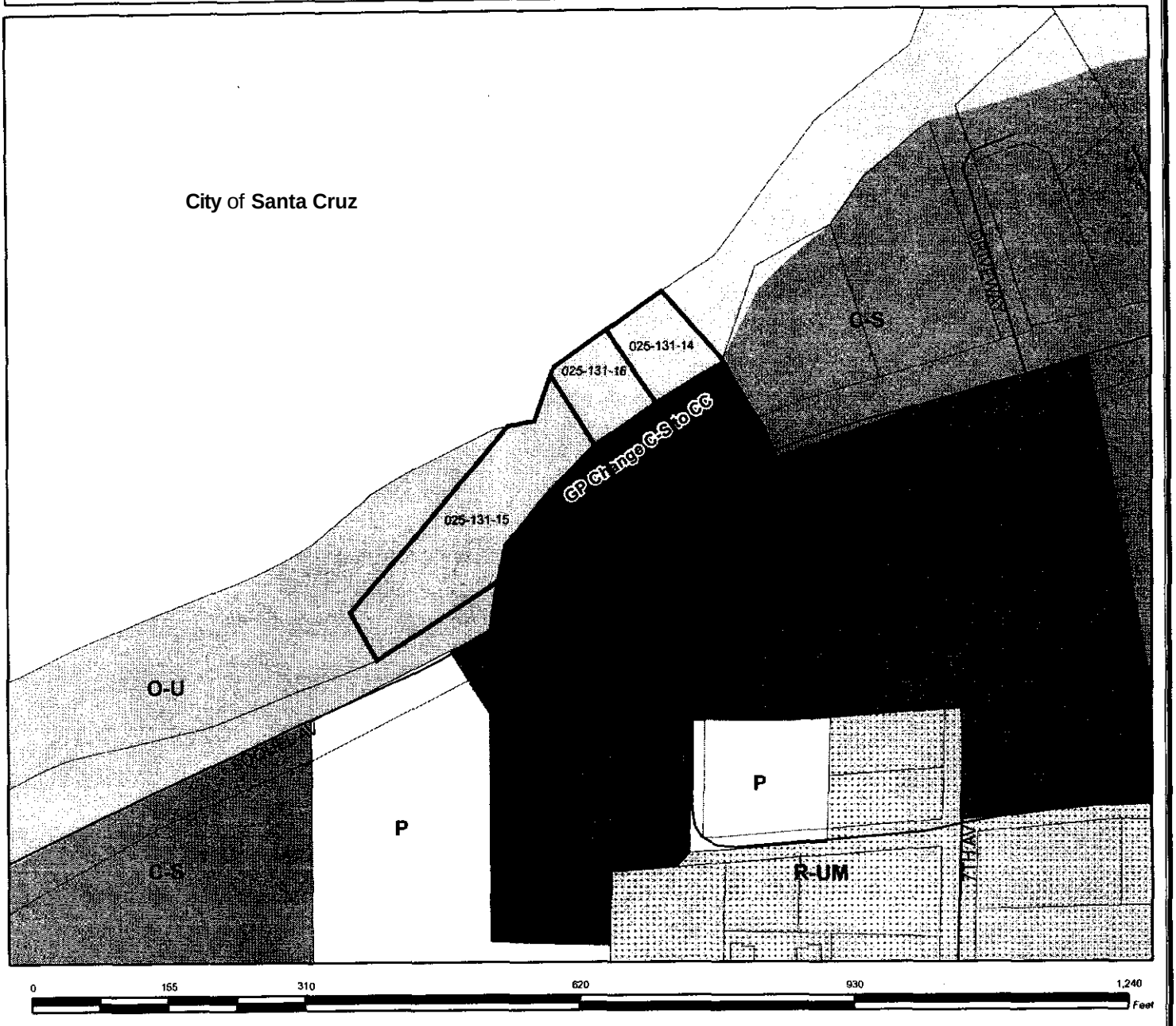
Map Created by
County of Santa Cruz
Planning Department
October 2006

EXHIBIT E

General Plan Designation Change Map



Legend

- Subject Sites
- Streets
- Assessors Parcels
- Urban Open Space (O-U)
- Commercial-Service(C-S)
- Commercial-Community (C-C)
- Public Facilites (P)
- Residential - Urban Medium Density (R-UM)

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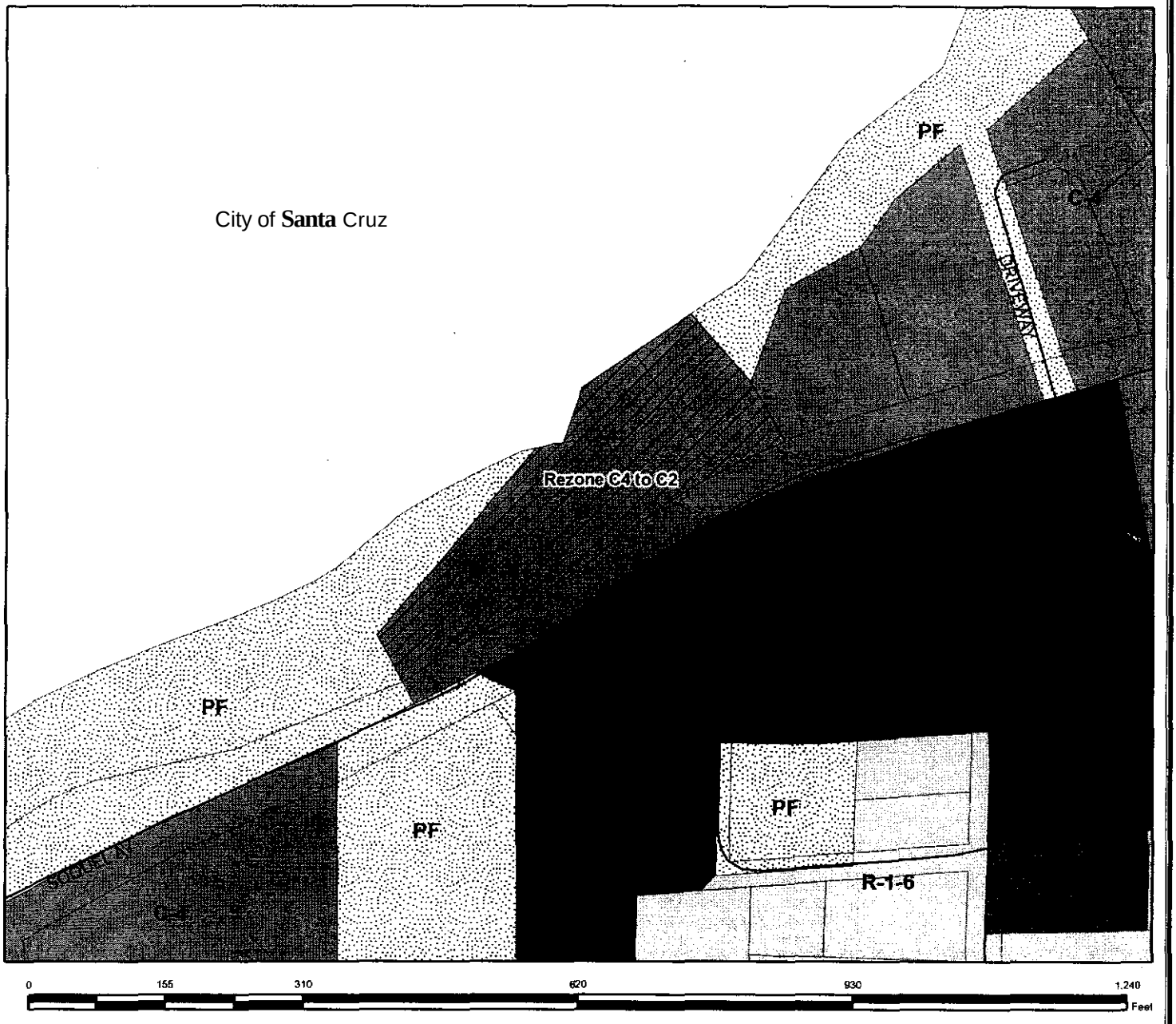
Map Created by
County of Santa Cruz
Planning Department
October 2006

EXHIBIT E

Zoning Change Map



Legend

- Parcels to be Rezoned
- Streets
- Assessors Parcels
- COMMERCIAL SERVICE (C-4)
- COMMERCIAL-COMMUNITY (C-2)
- RESIDENTIAL-MULTI FAMILY (RM)
- PUBLIC FACILITY (PF)
- RESIDENTIAL-SINGLE FAMILY (R-1)

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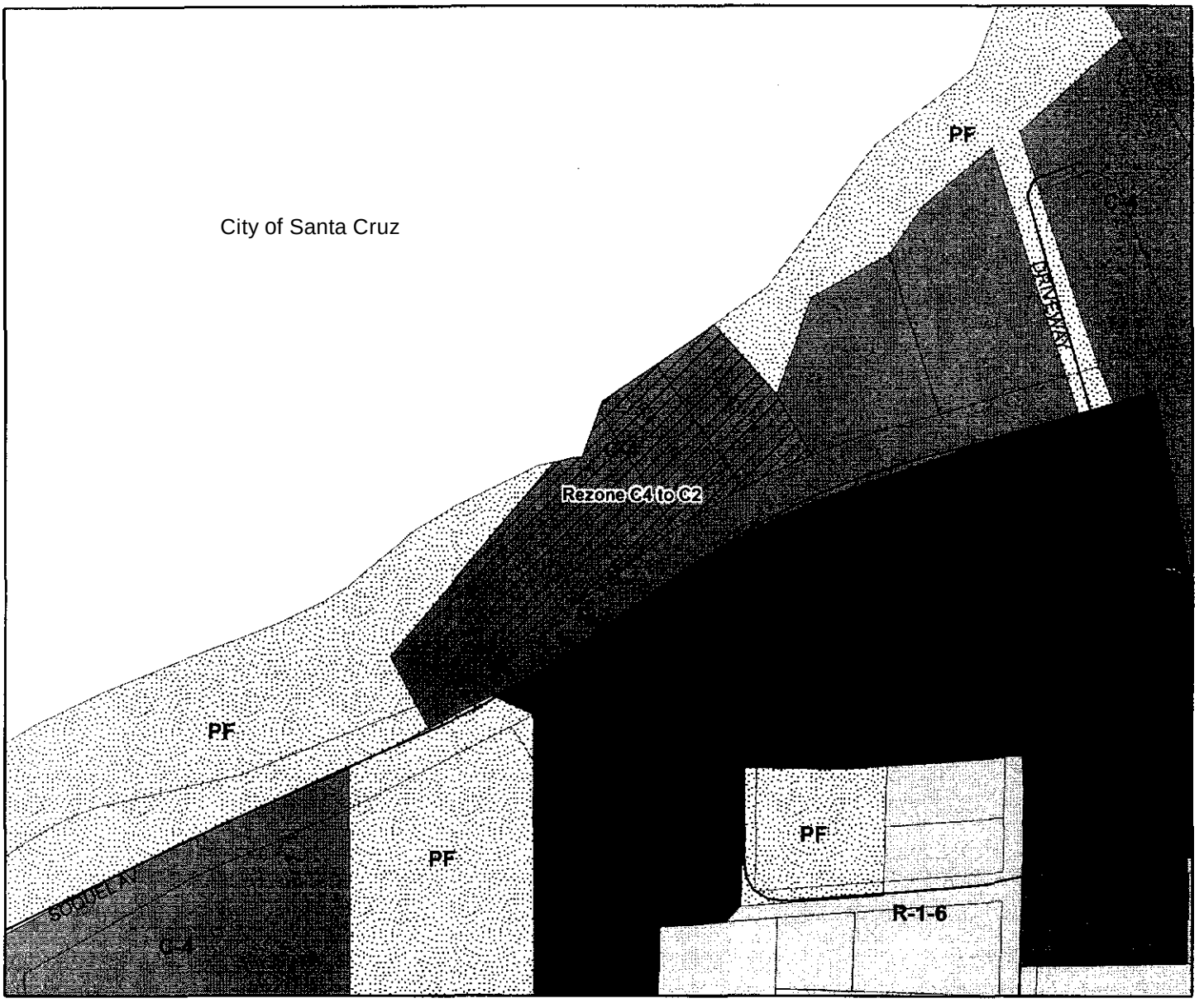
Map Created by
County of Santa Cruz
Planning Department
October 2006

EXHIBIT E

Zoning Change Map



Legend

- Parcels to be Rezoned
- Streets
- Assessors Parcels
- COMMERCIAL SERVICE (C-4)
- COMMERCIAL-COMMUNITY (C-2)
- RESIDENTIAL-MULTI FAMILY (RM)
- PUBLIC FACILITY (PF)
- RESIDENTIAL-SINGLE FAMILY (R-1)

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Map Created by
County of Santa Cruz
Planning Department
October 2006

EXHIBIT E

BEFORE THE PLANNING COMMISSION
OF THE COUNTY OF SANTA CRUZ, STATE OF CALIFORNIA

RESOLUTION NO. _____

On the motion of Commissioner
duly seconded by Commissioner
the following Resolution is adopted:

PLANNING COMMISSION RESOLUTION RECOMMENDING
AMENDMENT TO THE GENERAL PLAN AND ZONING PLAN

WHEREAS, the Board of Supervisors, on May 24, 1994, adopted the County General Plan/Local Coastal Program Land Use Plan (GP/LCP) which designated properties in specific land use designations to create an orderly pattern of development and to protect various important resources; and

WHEREAS, on December 15, 2005, an application was filed by the property owners of Assessors Parcel Numbers 025-131-14, -15 and –16 to amend the General Plan land use designation on portions of these properties from the Service Commercial/Light Industrial (C-S) designation to the Community Commercial (C-C) designation and a concurrent rezoning of the properties from the Service Commercial (C-4) district to the Community Commercial (C-2) district to facilitate the construction of a mixed use retail/residential development; and

WHEREAS, the project has undergone review by the County Environmental Coordinator who has determined that a mitigated Negative Declaration is adequate to insure that there will be no significant adverse impacts from the proposed project; and

WHEREAS, on November 8,2006, the Planning Commission held a duly noticed public hearing to consider the amendments to the General Plan and rezoning, the staff report and all testimony and evidence at the public hearing; and

WHEREAS, the Planning Commission finds that the proposed General Plan amendment from the Service Commercial/Light Industrial (C-S) designation to the Community Commercial (C-C) designation will be consistent with the policies of the General Plan, and will be consistent with the objectives and land-use designations of the adopted General Plan; and

WHEREAS, the Planning Commission finds that the concurrent rezoning of certain portions of the properties from the Service Commercial (C-4) district to the Community Commercial (C-2) district is consistent with the proposed general Plan amendment and all other provisions of the County Code.

EXHIBIT

NOW, THEREFORE, BE IT RESOLVED, that the Planning Commission recommends that the amendment to the General Plan and the rezoning to designate APNs 025-131-14, -15 and **-16** as Community Commercial be approved by the Board of Supervisors.

PASSED AND ADOPTED by the Planning Commission of the County of Santa Cruz, State of California, this _____ day of _____, 2006 by the following vote:

AYES: COMMISSIONERS
NOES: COMMISSIONERS
ABSENT: COMMISSIONERS
ABSTAIN: COMMISSIONERS

_____
Chairperson

ATTEST: _____
Mark Deming, Secretary

APPROVED AS TO FORM:

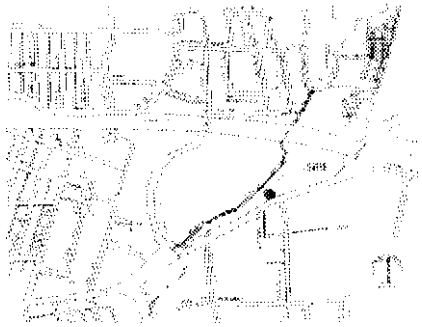
COUNTY COUNSEL

cc: County Counsel
Planning Department

FARM FRESH FLOWERS

2615 SOQUEL AVENUE, SANTA CRUZ, CA

VICINITY MAP



PROJECT TEAM

PROJECT DATA

AREA CALCULATIONS

PROJECT DATA & SITE PLAN

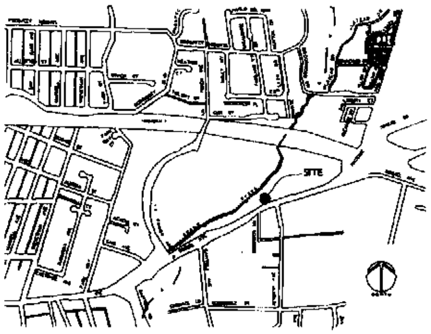
FARM FRESH FLOWERS

EXHIBIT G

FARM FRESH FLOWERS

2615 SOQUEL AVENUE, SANTA CRUZ, CA

VICINITY MAP



PROJECT TEAM

ARCHITECT:	THACHER & THOMPSON ARCHITECTS (TOM THACHER) 200 WASHINGTON STREET, SUITE 201 SANTA CRUZ, CA 95060 831 457-3939
ENGINEER:	BOWMAN AND WILLIAMS (JOEL RICCA) 1011 CEDAR STREET SANTA CRUZ, CA 95060 (831) 426-3560
TECHNICAL ENGINEER:	BAULDRY ENGINEERING BRIAN BAULDRY 147 S. MORRISSEY AVENUE SANTA CRUZ, CA 95062 (831) 457-1723
LANDSCAPE ARCHITECT:	GREG LEWIS, LANDSCAPE ARCHITECT 736 PARK WAY SANTA CRUZ, CA 95065 (831) 425-4747
PLANNING CONSULTANT:	POWERS LAND PLANNING, INC. 1607 OCEAN STREET #8 SANTA CRUZ, CA 95060 (831) 426-1663

PROJECT DATA

OWNER:	HENRY NOLTEN 1476 BULB AVENUE SANTA CRUZ, CA [illegible] (831) [illegible]	
PROJECT SITE:	2615 SOQUEL AVENUE SANTA CRUZ, CA [illegible]	
PROJECT DESCRIPTION:	DEMOLISH EXISTING 1 STORY FLOWER SHOP AND CONSTRUCT NEW 2 STORY STRUCTURE WITH BASEMENT PARKING, 1ST FLOOR FLOWER SHOP AND 2ND FLOOR APARTMENT.	
APN:	025-131-14,16	
LOT AREA:	31,344 S.F.	
BUILDING AREA:	BASEMENT	1,925 S.F.
	1ST FLOOR FLOWER SHOP	1,189 S.F.
	1ST FLOOR STORAGE/MECHANICAL ROOM	860 S.F.
	TOTAL 1ST FLOOR	2,049 S.F.
	APARTMENT ENTRY	130 S.F.
	SECOND FLOOR APARTMENT	1,692 S.F.
	TOTAL APARTMENT	1,822 S.F.
	TOTAL HEATED SPACE	3,630 S.F.
REQUIRED PARKING:	1 SPACE/200 S.F. RETAIL AREA =	6 SPACES
	1 SPACE/1000 S.F. STORAGE AREA =	1 SPACE
	APARTMENT =	2 SPACES

AREA CALCULATIONS

LOT COVERAGE CALCULATIONS

1.	ZONE DISTRICT	C-4
2.	PARCEL AREA	31,344 SF
3.	AREA OF RIGHTS OF WAY	0
4.	NET PARCEL AREA	31,344 SF
5.	COVERAGE BY STRUCTURES	2,347 SF
6.	PERCENTAGE OF PARCEL COVERAGE	7%

HEATED SPACE CALCULATIONS

1.	TOTAL HEATED SPACE	3,630 SF
2.	TOTAL UNHEATED SPACE	2,319 SF

FLOOR AREA CALCULATIONS BY TYPE OF SPACE

1.	BASEMENT OR UNDERFLOOR — IF ANY PART OF THE BASEMENT OR UNDERFLOOR IS 7'-6" OR HIGHER (AND FOR UNDERFLOOR, THERE IS AN INTERIOR STAIR AND FLOORING)	
	A. TOTAL BASEMENT OR UNDERFLOOR AREA GREATER THAN 7'-6" IN HEIGHT	
	EXISTING	0
	PROPOSED	1,925 SF
	TOTAL	1,925 SF
2.	FIRST FLOOR	
	A. AREA W/ CEILINGS < 16' IN HEIGHT	
	EXISTING	0 SF
	PROPOSED	2,089 SF
	B. AREA W/ CEILINGS 16-24' IN HEIGHT X 2	
	EXISTING	0
	PROPOSED	0
	C. AREA W/ CEILINGS >24' IN HEIGHT X 3	
	EXISTING	0
	PROPOSED	0
	D. TOTAL FIRST FLOOR AREA (A+B+C)	2,089 SF
3.	SECOND FLOOR	
	A. AREA W/ CEILINGS < 16' IN HEIGHT	
	EXISTING	0
	PROPOSED	1,822 SF
	B. AREA W/ CEILINGS 16-24' IN HEIGHT X 2	
	EXISTING	0
	PROPOSED	0
	C. AREA W/ CEILINGS >24' IN HEIGHT X 3	
	EXISTING	0
	PROPOSED	0
	D. TOTAL SECOND FLOOR AREA (A+B+C)	1,822 SF
4.	MEZZANINE	
	A. TOTAL MEZZANINE AREA	
	EXISTING	0
	PROPOSED	0
	TOTAL	0
5.	ATTIC — IF ANY PART OF THE ATTIC IS 7'-6" OR HIGHER	
	A. TOTAL ATTIC AREA > 5' IN HEIGHT	
	EXISTING	0
	PROPOSED	0
	TOTAL	0
6.	GARAGE	
	A. TOTAL GARAGE AREA	
	EXISTING	0
	PROPOSED	0
	TOTAL	0
	B. 225 SF CREDIT	0
	C. TOTAL GARAGE AREA (A-B)	0
7.	TRELLIS OR ARBOR — IF THE TOP OF THE TRELLIS OR ARBOR IS SOLID	
	A. TOTAL AREA UNDERNEATH TRELLIS OR ARBOR	
	EXISTING	0
	PROPOSED	0
	TOTAL	0
8.	UNENCLOSED COVERED AREAS — IF THERE ARE COVERED AREAS ON MORE THAN ONE SIDE OF THE BUILDING, SUBMIT ITEMS A-D FOR EACH SIDE ON A SEPARATE SHEET	
	A. TOTAL AREA BELOW EAVE, OVERHANG, PROJECTION, OR DECK > 7'-6" IN HEIGHT	
	EXISTING	0
	PROPOSED	0
	TOTAL	0
	B. AREA OF FIRST 3' OF EAVE OR 140 SF, WHICHEVER IS GREATER	
	EXISTING	0
	PROPOSED	0
	TOTAL	0
	C. REMAINING AREA (A-B)	
	EXISTING	0
	PROPOSED	0
	TOTAL	0
	D. TOTAL COVERED AREA OF SIDE — USE ONE OF THE FOLLOWING: IF LENGTH OF COVERED AREA >1/3 OF THE BUILDING LENGTH ON THAT SIDE, TOTAL COVERED AREA OF SIDE	
	EXISTING	0
	PROPOSED	0
	TOTAL	0
	IF LENGTH OF COVERED AREA <1/3 OF THE BUILDING LENGTH ON THAT SIDE, TOTAL COVERED AREA OF SIDE /1.5	
	EXISTING	0
	PROPOSED	0
	TOTAL	0
	E. TOTAL COVERED AREA OF ALL SIDES	
	EXISTING	0
	PROPOSED	0
	TOTAL	0
9.	TOTAL FLOOR AREA OF THE BUILDING — SUM OF ALL OF THE CATEGORIES ABOVE	
	EXISTING	0
	PROPOSED	1925+2089+1822=5,786 SF
	TOTAL	5,786 SF
10.	TOTAL FLOOR AREA OF ALL BUILDINGS ON PROPERTY	
	EXISTING	0
	PROPOSED	5,786 SF
	TOTAL	5,786 SF
11.	FLOOR AREA CALCULATIONS (F.A.R.)	
	EXISTING	0
	PROPOSED	18%

PROJECT DATA & SITE PLAN

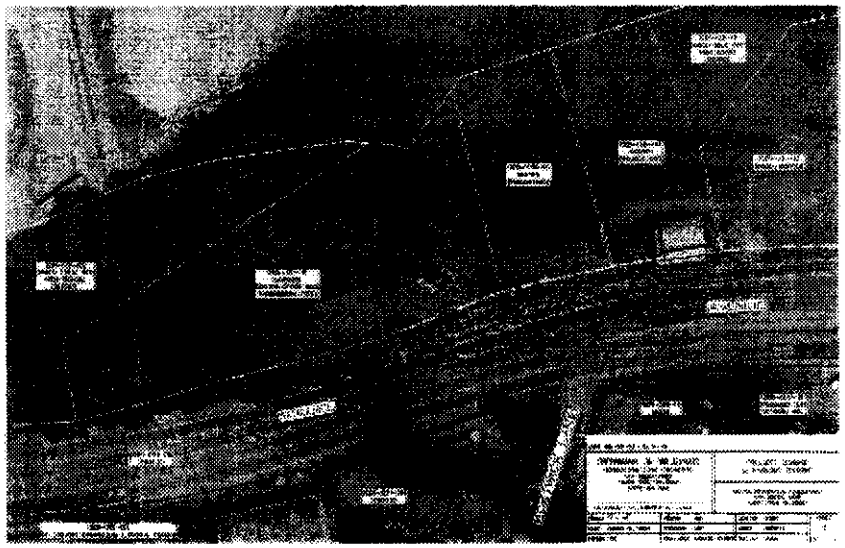
FARM FRESH FLOWERS

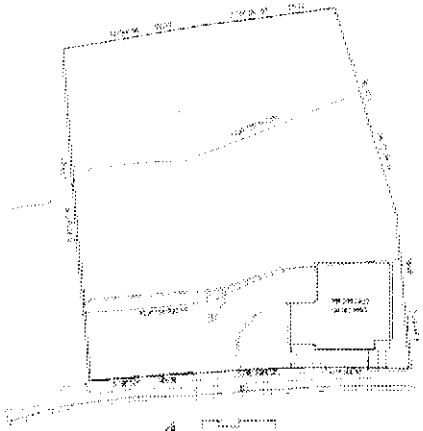
THACHER & THOMPSON ARCHITECTS

DECEMBER 9, 2005
FEB. 2, 2006
REV. MARCH 14, 2006

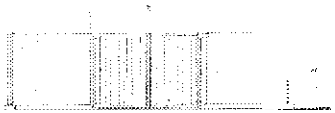
1

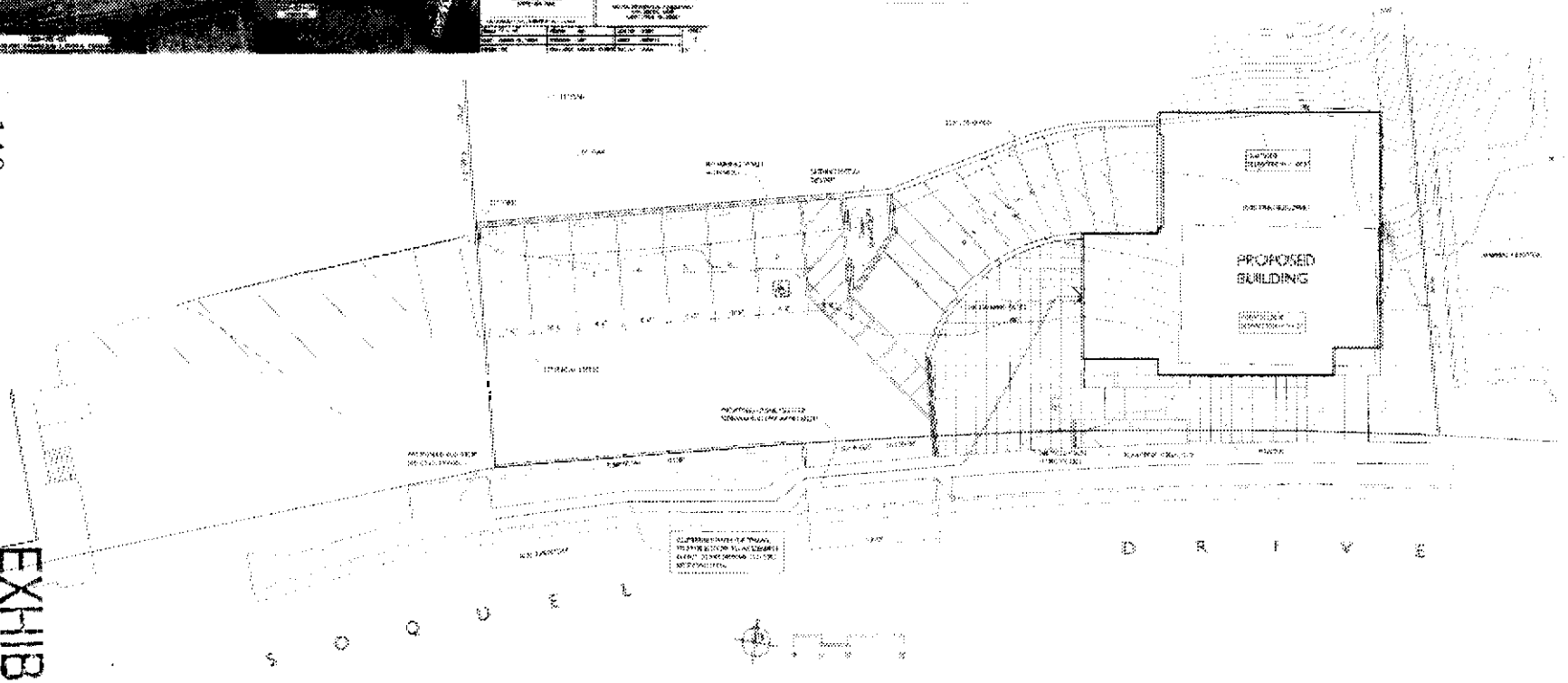
EXHIBIT G





PLOT PLAN

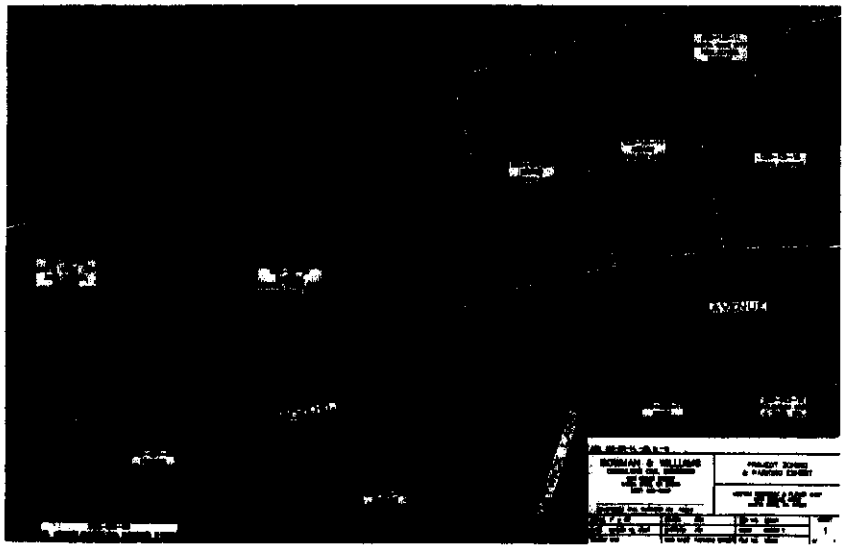


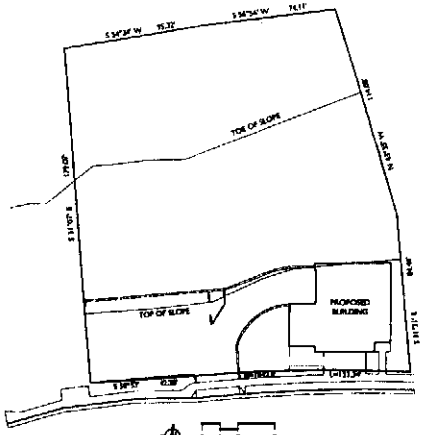


SITE PLAN

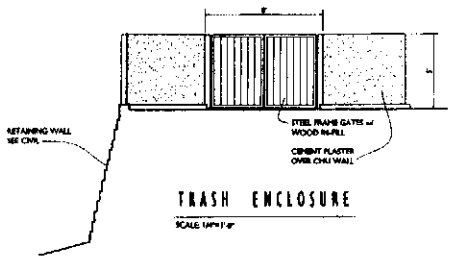
FARM FRESH FLOWERS

EXHIBIT G

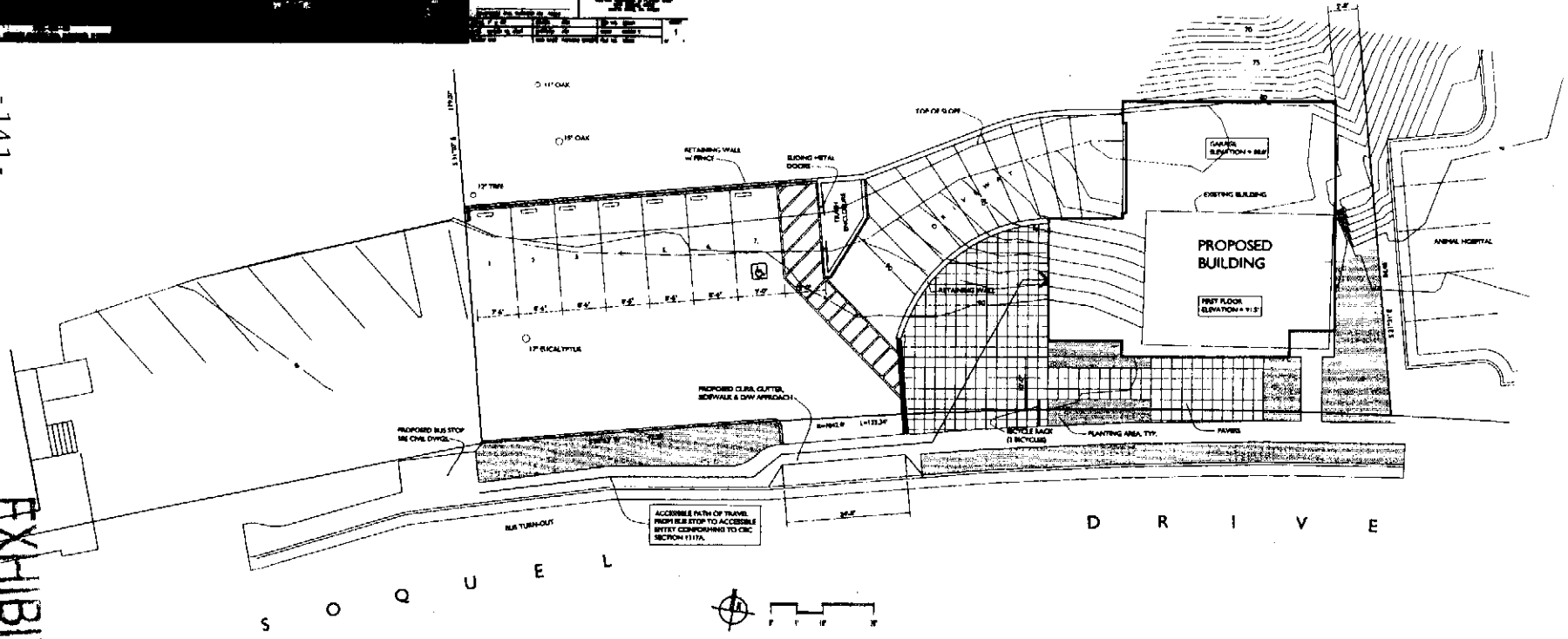




PLOT PLAN



TRASH ENCLOSURE



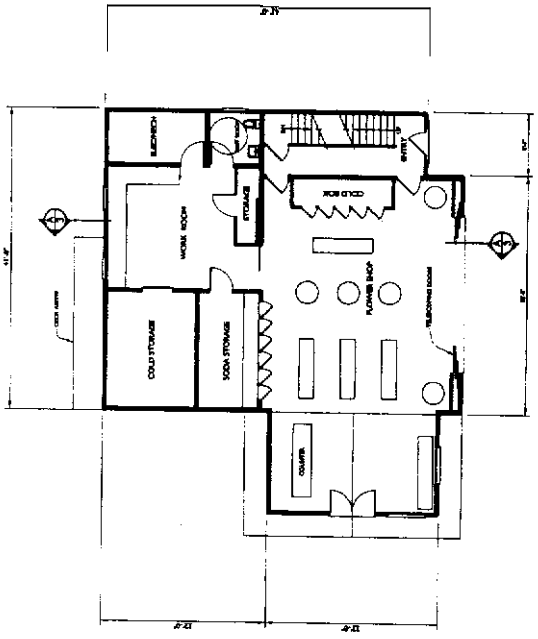
SITE PLAN

FARM FRESH FLOWERS

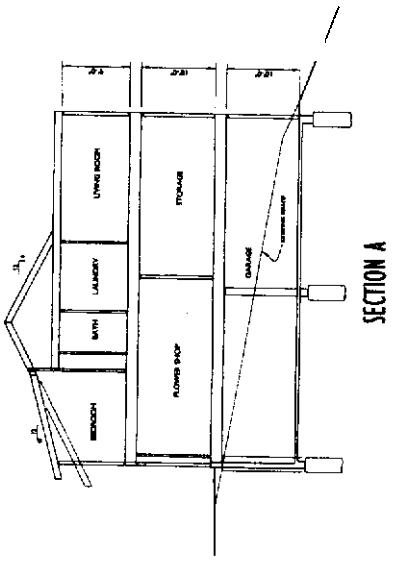
THACHER & THOMPSON ARCHITECTS

DECEMBER 9, 2005
REV. MAR 14, 2006

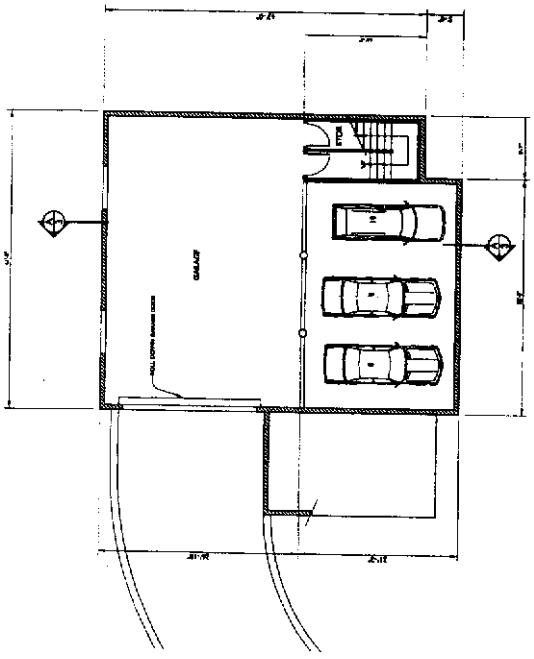
EXHIBIT G (2)



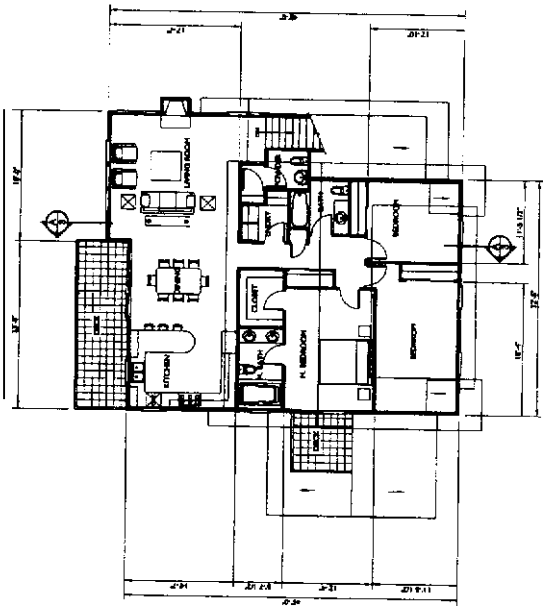
FIRST FLOOR



SECTION A



BASEMENT



SECOND FLOOR

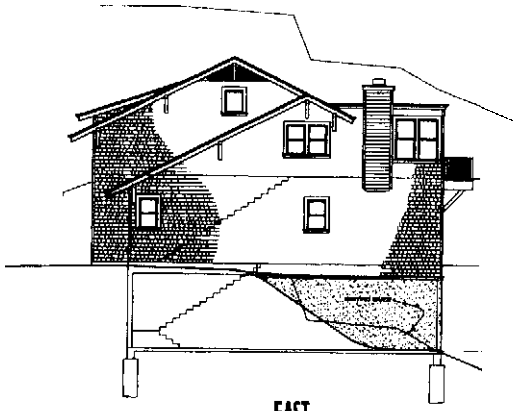
THACHER & THOMPSON ARCHITECTS

DECEMBER 9, 2005
REV. MAR 14, 2006

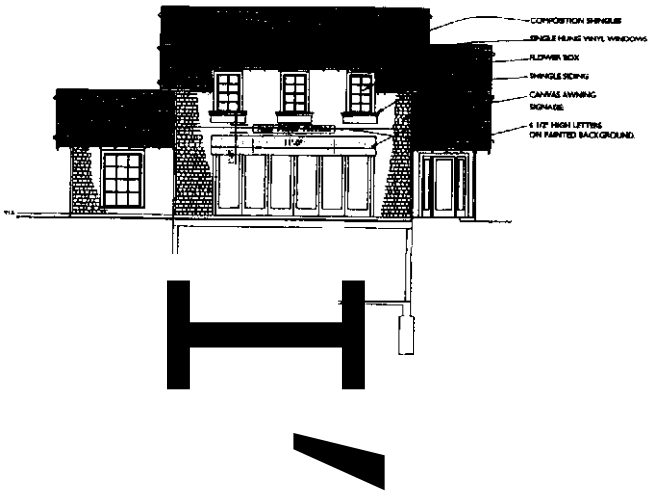
FLOOR PLANS

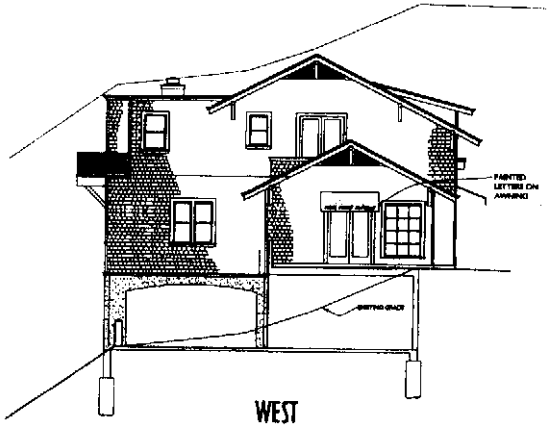
FRESH FLOWERS

EXHIBIT G



EAST





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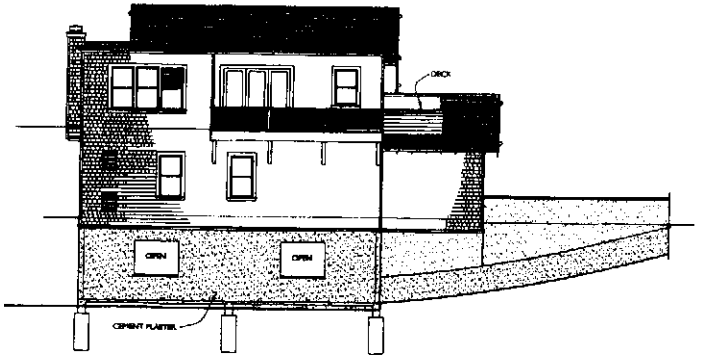


NORTH

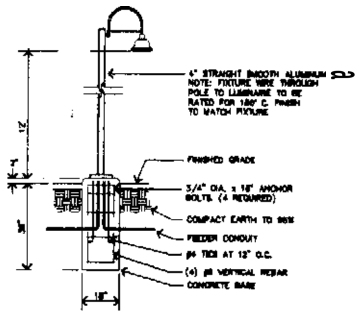
EXHIBIT G

ELEVATIONS

FARM FRESH FLOWERS

THACHER & THOMPSON ARCHITECTS

DECEMBER 9, 2005
REV. MAR 14, 2006



2 PARKING LUMINAIRE TYPE "AA"
NOT TO SCALE

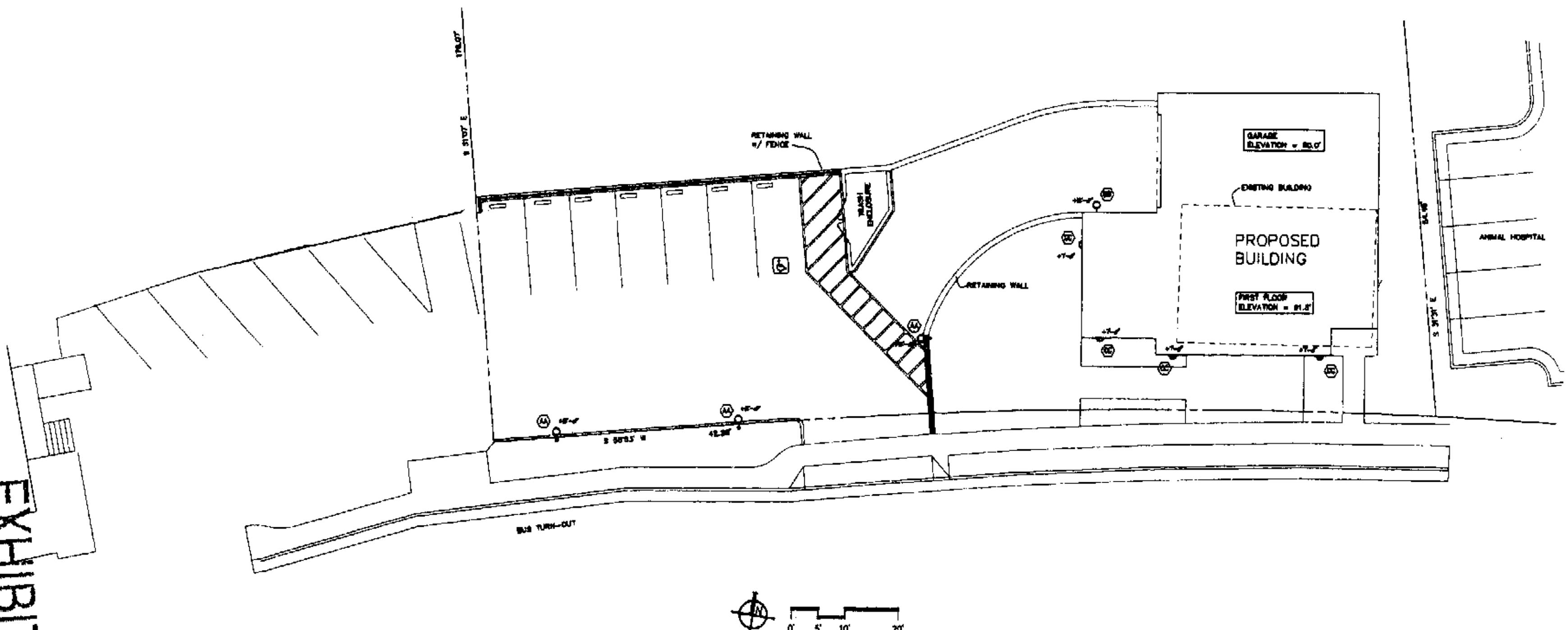
FIXTURE SCHEDULE

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
AA	[illegible] 4"SQ POLE	[illegible] FULL CUT-OFF, 12' [illegible]	(1)100W [illegible]	125
BB	[illegible]	[illegible] FULL CUT-OFF, 12' [illegible]	(1)100W [illegible]	125
CC	[illegible] 7'-6" WALL MOUNT	WALL MOUNTED FULL CUT-OFF DOWN LIGHT, 7'-6" [illegible]	(1)70W [illegible] ED-17	90

EXTERIOR LIGHTING NOTES

EXTERIOR LIGHTING SHALL MEET OR EXCEED 2005 TITLE 24 STANDARDS.

THIS PROPERTY IS A LZ3 URBAN LIGHTING AREA, PER THE 2000 US CENSUS.



LIGHTING SITE PLAN

NGUYEN FLOWER SHOP

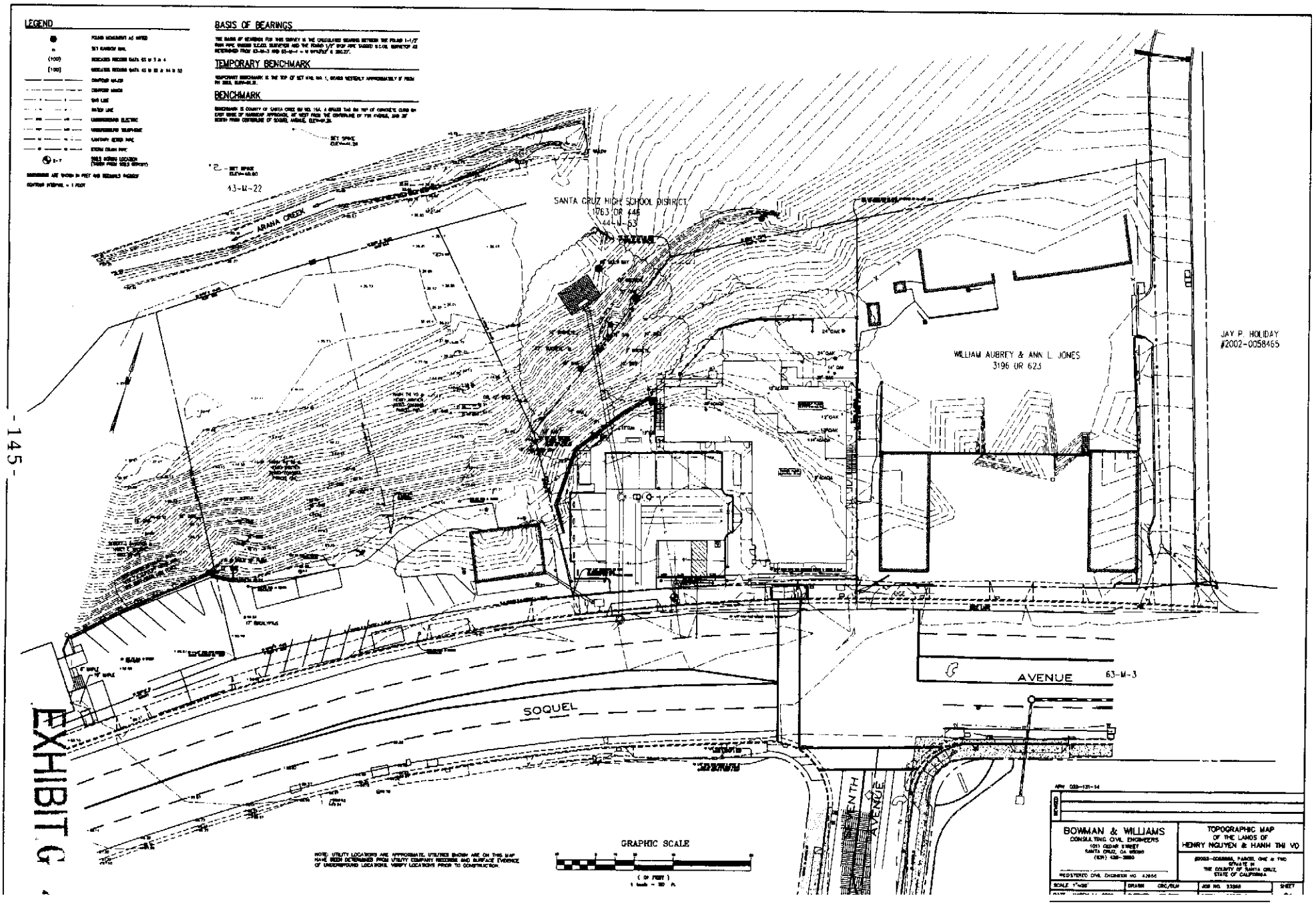
E

PrimeDesignGroup

THACHER & THOMPSON ARCHITECTS

JANUARY 30, 2006
MARCH 14, 2006

EXHIBIT G



-145-

EXHIBIT G

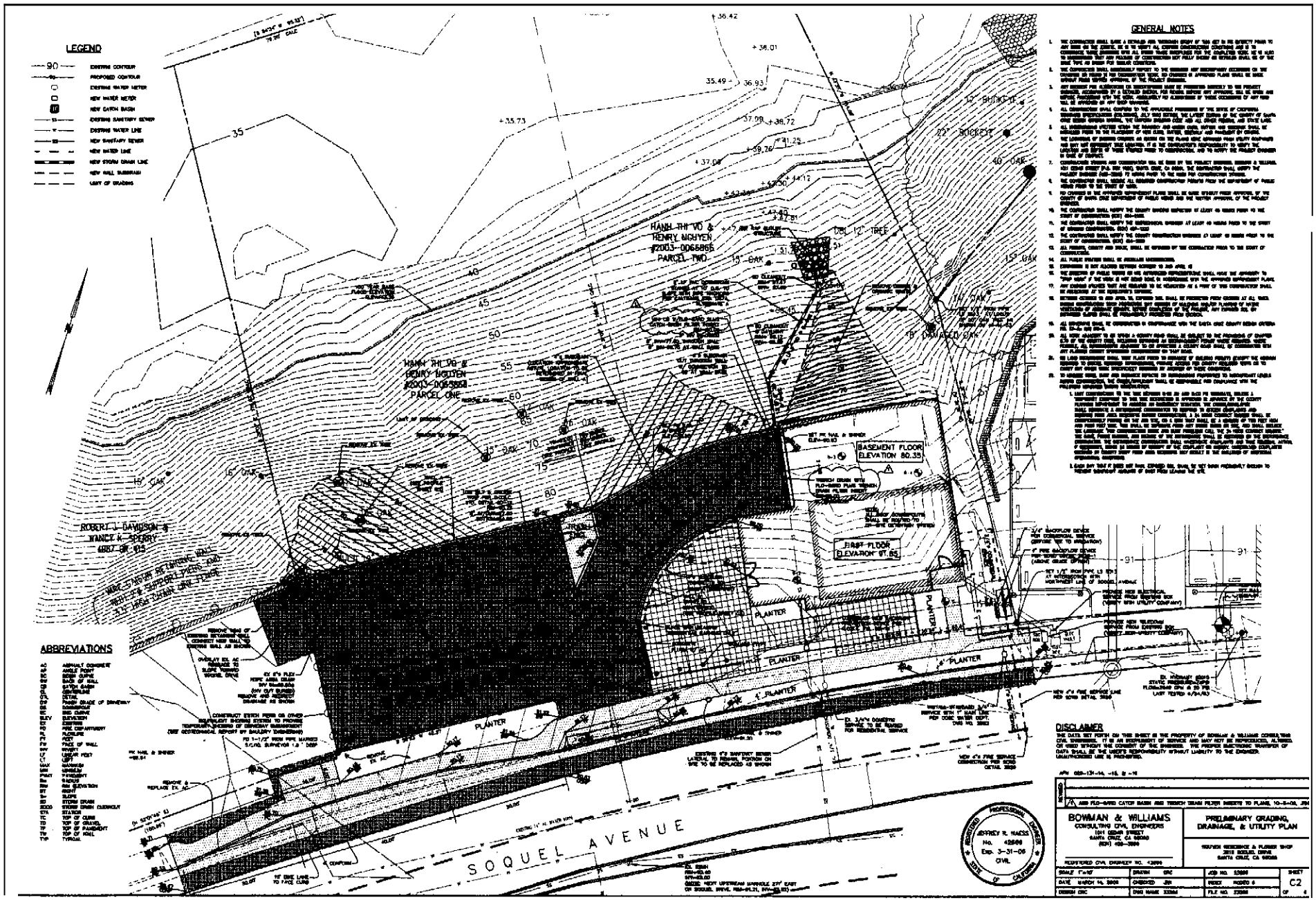
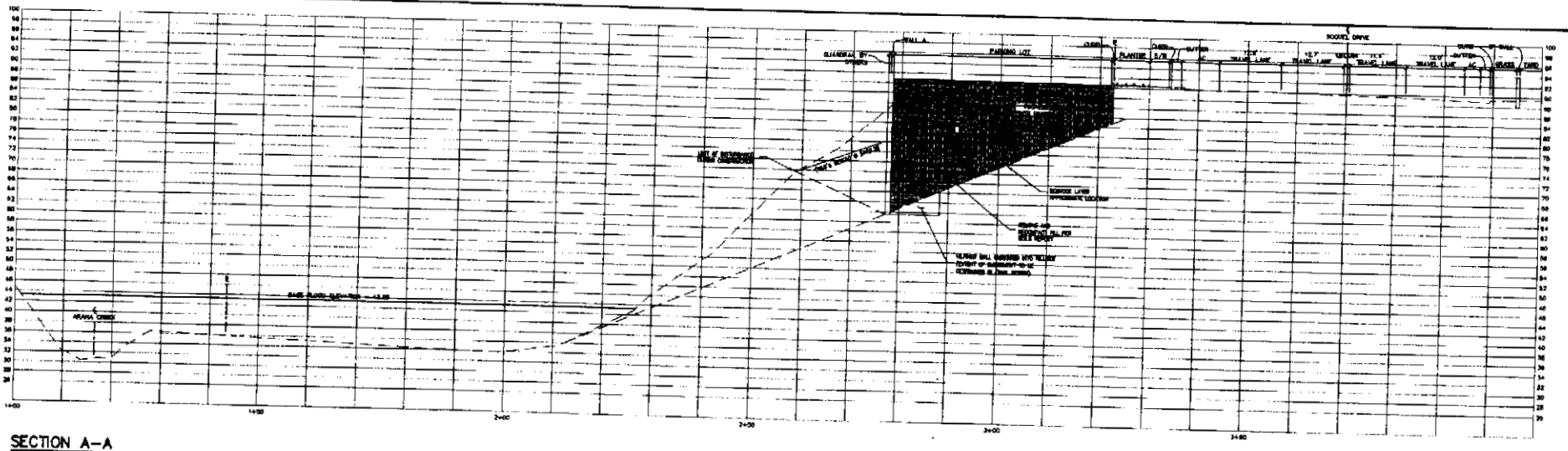
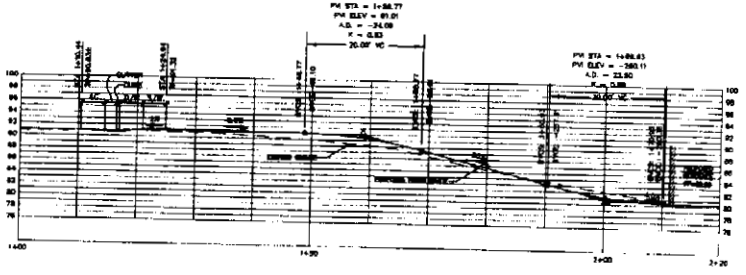

LEGEND
GENERAL NOTES
ABBREVIATIONS
HANH THI VO & HENRY NGUYEN #2003-0065865 PARCEL TWO
HANH THI VO & HENRY NGUYEN #2003-0065865 PARCEL ONE
ROBERT J. DAVIDSON & NANCE A. SPERRY 4867 OR 915
BASEMENT FLOOR ELEVATION 80.35
FIRST FLOOR ELEVATION 91.85
SOQUEL AVENUE
DISCLAIMER
BOWMAN & WILLIAMS
CONSULTING CIVIL ENGINEERS
PRELIMINARY GRADING, DRAINAGE, & UTILITY PLAN
JEFFREY R. HACSS
No. 42986
Exp. 3-31-06
CIVIL

EXHIBIT G 1



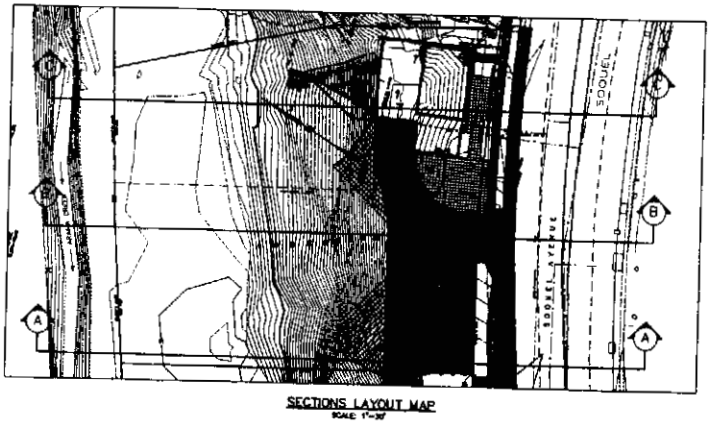
SECTION A–A

SCALE: 1"=10 H&V



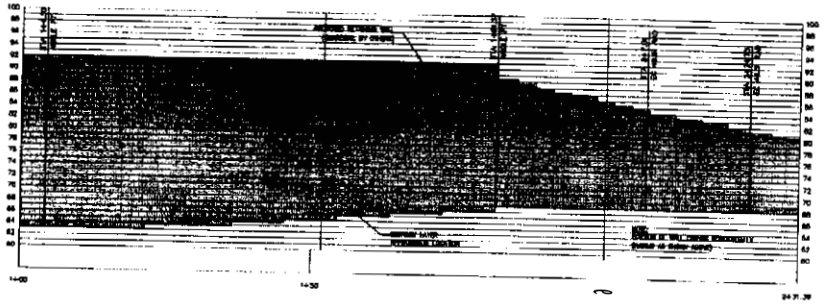
DRIVEWAY PROFILE

SCALE: 1"=10 H&V



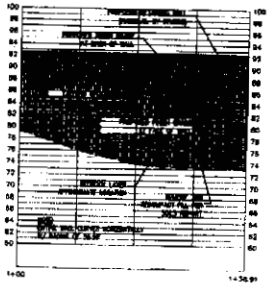
SECTIONS LAYOUT MAP

SCALE: 1"=30'



WALL A PROFILE

SCALE: 1"=10 H&V



WALL B PROFILE

DISCLAIMER

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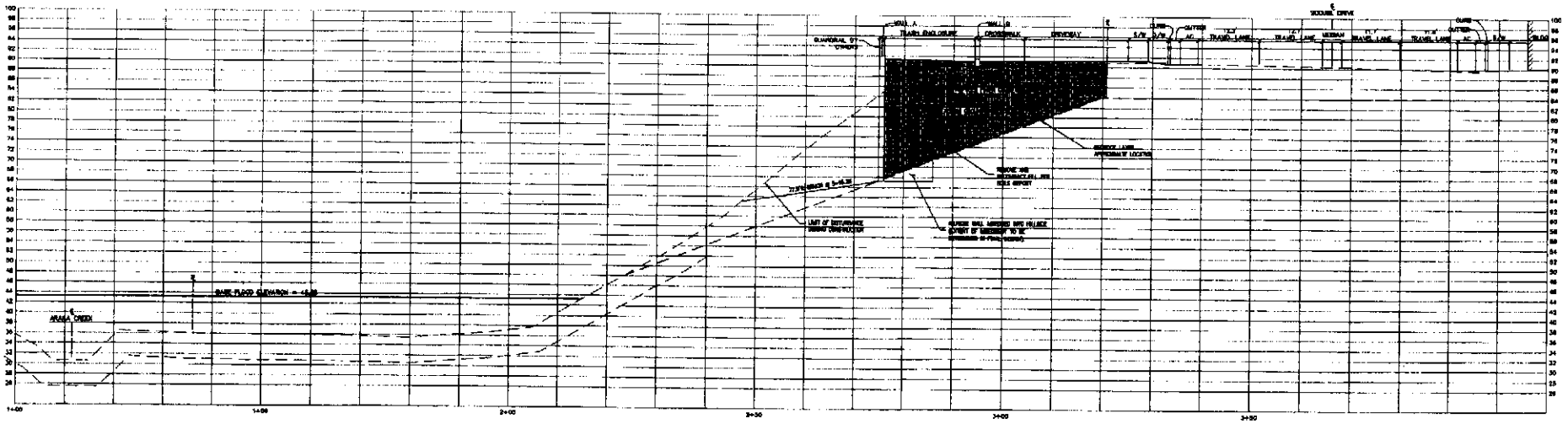
APN 028-131-14, -15, & -16

BOWMAN & WILLIAMS CONSULTING CIVIL ENGINEERS 1011 CEDAR STREET SANTA CRUZ, CA 95060 (831) 426-3560 REGISTERED CIVIL ENGINEER NO. 42688	PRELIMINARY SECTIONS, WALL PROFILES, & DETAILS HEATHER RESIDENCE & FLOWER SHOP 2515 BOQUEL DRIVE SANTA CRUZ, CA 95060

JEFFREY R. HAESSIG, No. 42688, Exp. 3-31-06, CIVIL

EXHIBIT G



SECTION B–B

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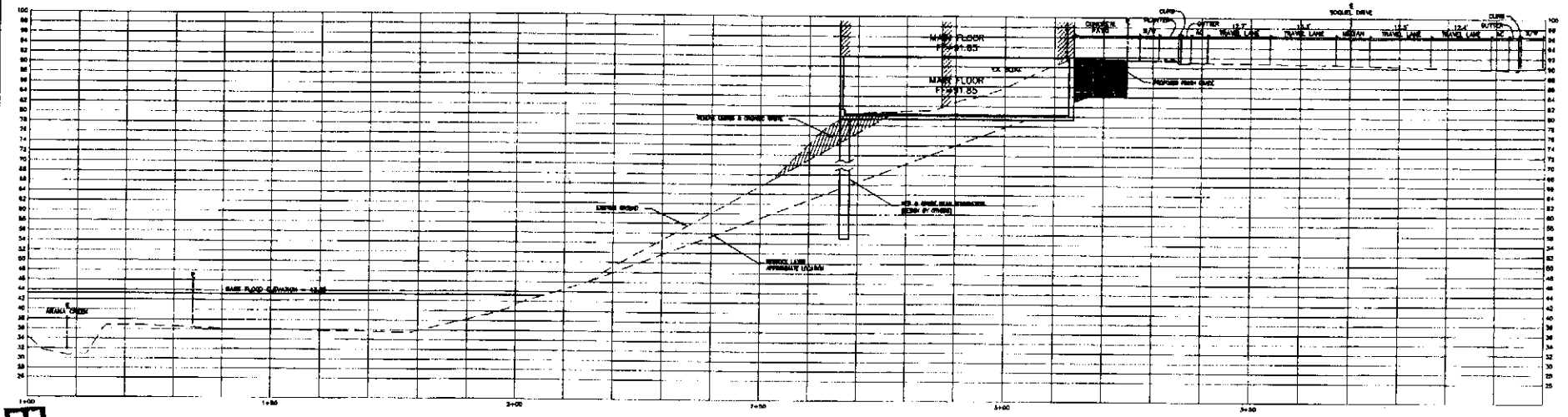

SECTION C–C

SCALE: 1"=10 H&V

EXHIBIT G

DISCLAIMER

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APN 029-121-14, -15, & -16

REVISED

BOWMAN & WILLIAMS
CONSULTING CIVIL ENGINEERS
1011 CEDAR STREET
SANTA CRUZ, CA 95060
(831) 426-3560

REGISTERED CIVIL ENGINEER NO. 42866

PRELIMINARY SECTIONS & NOTES

ROUTHIER RESIDENCE & FLORIST SHOP
3515 SOQUEL DRIVE
SANTA CRUZ, CA 95062

SCALE 1"=10'	DRAWN	CHK	JOB NO. 33388	SHEET

REGISTERED PROFESSIONAL ENGINEER
JEFFREY R. HAESS
No. 42866
Exp. 3-31-08
CIVIL
STATE OF CALIFORNIA

GRADING QUANTITIES

THE FOLLOWING ESTIMATED GRADING QUANTITIES WERE CALCULATED BASED ON THE COUNTY OF SANTA CRUZ REQUIREMENTS FOR GRADING AS OUTLINED IN CHAPTER 16.20 "GRADING" OF THE COUNTY CODE.

TOTAL REMOVE & RECOMPACT EXISTING FILL AS ENGINEERED FILL IN THE PARKING LOT AREA AND BELOW THE NEW BUILDING
= 4,100 CUBIC YARDS

TOTAL REMOVE EXISTING FILL ON THE FACE OF THE NEW RETAINING WALL
= 800 CUBIC YARDS

TOTAL FILL FOR THE NEW DRIVEWAY AND BASEMENT
= 280 CUBIC YARDS

WATER SYSTEM NOTES

ALL WATERWORKS RELATED CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, STANDARD PLANS, AND THE DIRECTIONS OF THE CITY OF SANTA CRUZ WATER DEPT.

STORM DRAIN NOTES

A MAINTENANCE AGREEMENT FOR THE ON-SITE STORM DRAINAGE SYSTEM SHALL BE SIGNED AND RECORDED AT THE TIME OF PLAN APPROVAL.

GRADING INTENT

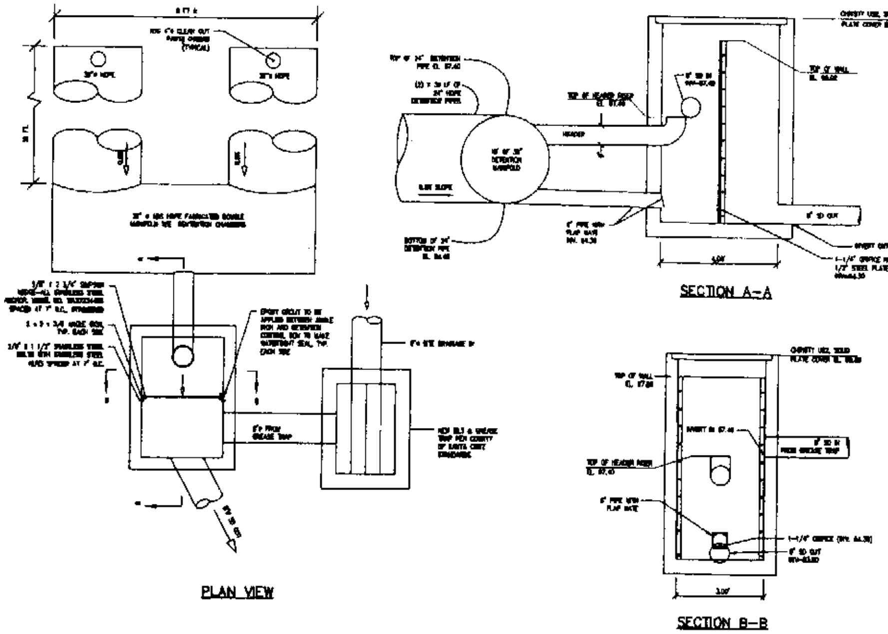
THE INTENT OF GRADING FOR THIS PROJECT IS TO CONSTRUCT A NEW BUILDING FOR USE AS A FLOWER SHOP WITH LIVING QUARTERS AND PROVIDE A PARKING LOT FOR EMPLOYEES AND PATRONS.

SANTA CRUZ COUNTY SANITATION DISTRICT NOTES

[illegible]

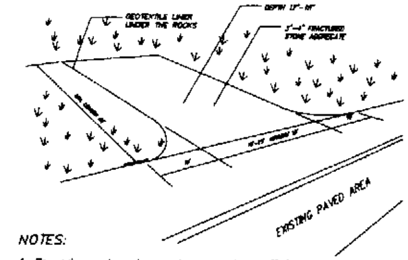
TECHNICAL SPECIFICATIONS

[illegible]



1 / C5 STORMWATER DETENTION SYSTEM & WEIR BOX

SCALE: 1/2"=1'-0"

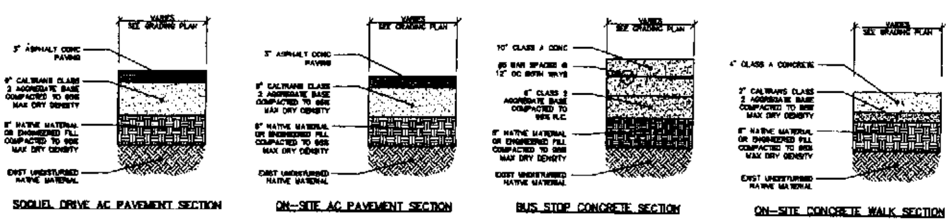


NOTES:

1. Properly grade entrance to prevent runoff from construction site. Entrance elevation should be lower than street.
2. Inspect routinely for damage and repair as needed.
3. Require that all employees, subcontractors and suppliers utilize the stabilized construction entrance.
4. Service sediment trapping devices regularly.

3 / C5 CONSTRUCTION ENTRANCE

SCALE: NTS



2 / C5 TYPICAL PAVEMENT SECTIONS

SCALE: 3/4"=1'-0"

DISCLAIMER

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APN 025-131-14, -15, & -16

REGISTERED PROFESSIONAL ENGINEER — JEFFREY R. NAESS — No. 42866 — Exp. 3-31-06 — CIVIL — STATE OF CALIFORNIA

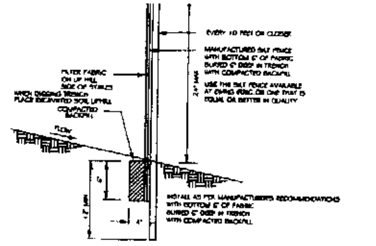
BOWMAN & WILLIAMS
CONSULTING CIVIL ENGINEERS
1011 CEDAR STREET
SANTA CRUZ, CA 95060
(831) 426-3560

REGISTERED CIVIL ENGINEER NO. 42866

PRELIMINARY NOTES & DETAILS

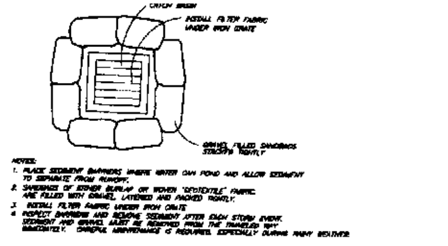
SCALE 1"=10'	DRAWN CRC	JOB NO. 23266	SHEET C5
DATE MARCH 14, 2006	CHECKED JRN	INDEX RODEO 6	
DESIGN CRC	DWG NAME 23266	FILE NO. 23266	OF 6

EXHIBIT G



SILT FENCE

SCALE: NTS



CATCH BASIN PROTECTION

SCALE: NTS

NOTES:

1. PLACE SEDIMENT BARRIERS WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2. SANDBAGS OF EITHER BURLAP OR WOVEN "GEOTEXTILE" FABRIC ARE FILLED WITH GRAVEL, LAYERED AND PACKED TIGHTLY.
3. INSTALL FILTER FABRIC UNDER IRON GRATE.
4. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY. CAREFUL MAINTENANCE IS REQUIRED, ESPECIALLY DURING RAINY WEATHER.

EROSION CONTROL MEASURES

1. THE OVERALL PURPOSE OF THIS PLAN IS TO NOT PERMIT ANY SOIL OR TURBID WATER TO LEAVE THIS SITE DURING CONSTRUCTION AND AFTERWARDS.
2. NO LAND CLEARING, GRADING, OR EXCAVATION SHALL BE DONE BETWEEN OCTOBER 15TH AND APRIL 15TH. WINTER GRADING REQUIRES A SEPARATE WINTER EROSION CONTROL PLAN APPROVED BY THE ENVIRONMENTAL PLANNING DEPT. THE OWNER IS RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING SITE EROSION CONTROL MEASURES AT ALL TIMES. UNNECESSARY GRADING OR DISTURBING SOIL SHALL BE AVOIDED.
3. SOIL EROSION IS TO BE CONTROLLED ON SITE AT ALL TIMES THROUGH MEASURES SHOWN ON THIS PLAN TO BE IMPLEMENTED BEFORE OCTOBER 15TH. OWNER IS RESPONSIBLE FOR ADDITIONAL MEASURES IF NEEDED.
4. RUNOFF FROM THE CONSTRUCTION SITE MUST NOT BE ALLOWED TO FLOW OVER ANY FILL SLOPES, BUT BE DIRECTED TOWARDS THE NEAREST DRAIN INLET.
5. CATCH BASINS SHALL BE ENCIRCLED BY A SILT BARRIER ON ALL FOUR SIDES. USE GRAVEL FILLED SANDBAGS. INSTALL FILTER FABRIC UNDER INLET GRATE.
6. SILT FENCE BARRIERS SHALL BE CONSTRUCTED BEFORE SOIL DISTURBANCE BEGINS ALONG THE BOTTOM OF ALL GRADED SLOPES AND AREAS WHERE EXISTING VEGETATION IS REMOVED.
7. AFTER THE NORTH SLOPE FINISH GRADE IS ACHIEVED IT IS TO BE HYDROSEEDED AS FOLLOWS:

   FESTUCA RUBRA @ 10 LBS. PER ACRE

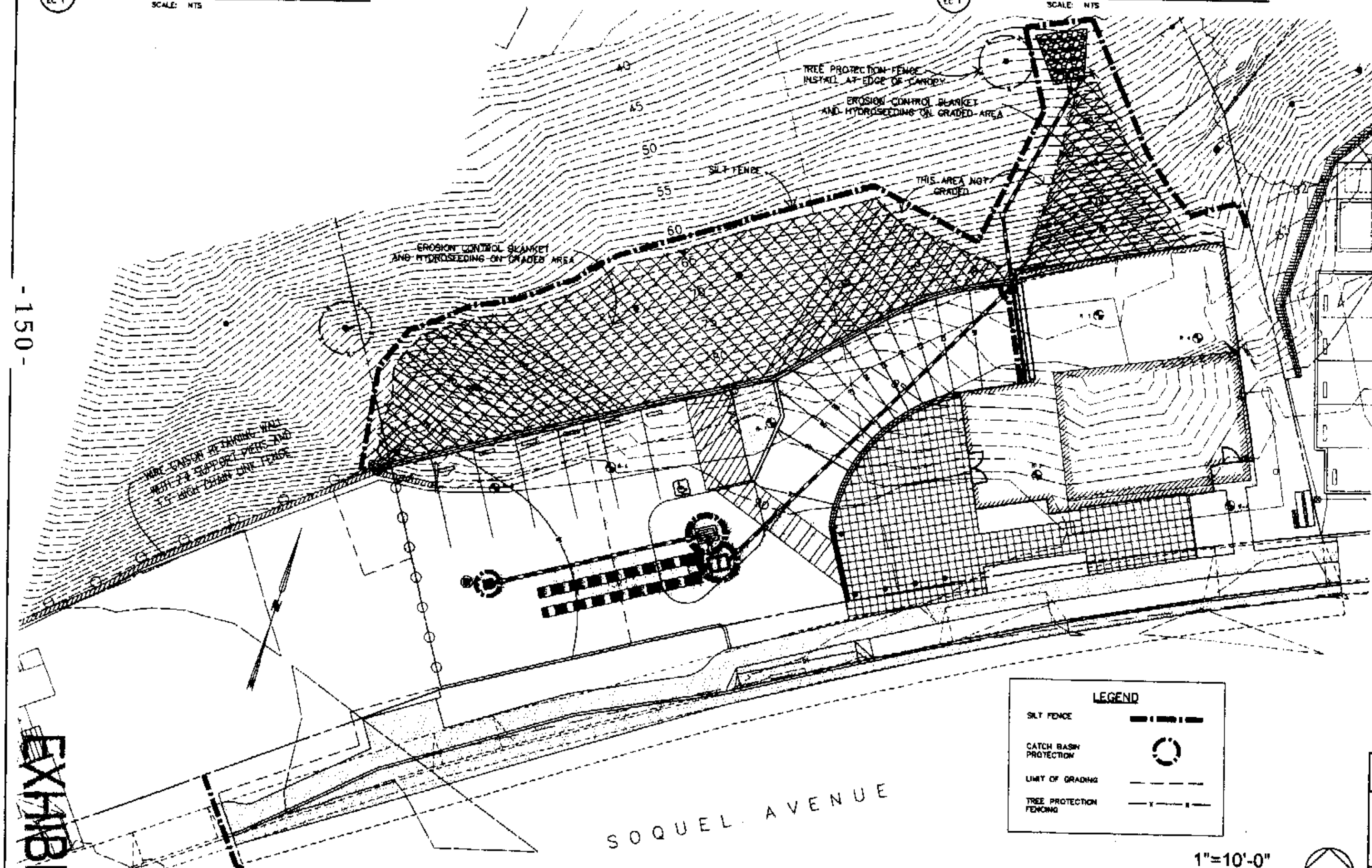
   ELYMUS GLAUCUS @ 10 LBS. PER ACRE

   BROMUS CARINATUS @ 10 LBS. PER ACRE
   TOTAL SEED IS 30 LBS. PER ACRE

   200 LBS. PER ACRE APEX BLUE 14–14–14 FERTILIZER
   80 LBS. PER ACRE MYCORRHIZAL FUNGI
   4000 LBS. PER ACRE BONDED FIBER MATRIX
   100 LBS. PER ACRE M BINDER TACKIFIER
8. INSTALL NORTH AMERICAN GREEN C–350 TURF REINFORCED BLANKET OVER THE HYDROSEEDED SLOPES WITH RUNS UP AND DOWN THE SLOPE AS PER THE MANUFACTURER'S SPECS. WITH THE TURF REINFORCED BLANKET ANCHORED TO THE BOTTOM OF THE RETAINING WALL. ANCHOR THE BLANKET TO THE SLOPE WITH 8 INCH, 8 GAUGE STEEL STAPLES AT 18 INCHES ON CENTER ON SEAMS AND PERIMETER AND 24 INCHES ON CENTER THROUGHOUT (APPROX. 300 STAPLES PER 1000 SQ.FT.)
9. ALL EXCAVATED MATERIAL NOT SUITABLE FOR FILL OR REUSE SHALL BE REMOVED TO AN APPROVED DISPOSAL SITE.
10. ANY MATERIAL STOCKPILED ON–SITE SHALL BE COVERED WITH PLASTIC, ESPECIALLY DURING THE WINTER MONTHS OR DURING PERIODS OF RAIN.
11. INSTALL TREES, SHRUBS, AND IRRIGATION ON SLOPES AS PER PLANTING AND IRRIGATION PLANS BY THE LANDSCAPE ARCHITECT.
12. 48 HOUR NOTICE SHALL BE GIVEN TO ENVIRONMENTAL PLANNING AT 454–[illegible] PRIOR TO COMMENCING WORK, AND UPON COMPLETION OF GRADING AND EROSION CONTROL.
13. MAINTENANCE OF PLANTING, IRRIGATION, SILT FENCE, EROSION CONTROL FABRIC, AND ALL OTHER EROSION CONTROL FEATURES IS TO BE ONGOING FOREVER AND TAKE PLACE AT LEAST EVERY 3 MONTHS DURING THE YEAR ESPECIALLY JUST BEFORE THE RAINY SEASON OF EACH YEAR. MAINTENANCE IS TO INCLUDE REPLACING ANY PLANTS THAT HAVE DIED, RESEEDING ANY BARE AREAS, CHECKING THE IRRIGATION FOR LEAKS OR NEEDED ADJUSTMENTS, AND REMOVING WEEDS (ESPECIALLY AT BASE OF SHRUBS AND TREES). MAINTENANCE DURING THE FIRST RAINY SEASON SHOULD BE DONE AT LEAST WEEKLY FOR THE FIRST MONTH, EVERY 2 WEEKS AFTER THAT AND AT THE BEGINNING AND END OF ANY MAJOR STORMS.

TREE PROTECTION NOTES

1. CONSTRUCT A 5 FOOT HIGH BARRIER OF METAL FENCE POSTS AND POULTRY NETTING OR CONSTRUCTION FENCING AROUND ALL TREES WHERE INDICATED ON THIS PLAN AT THE DRIP LINES OF TREES PRIOR TO THE PRECONSTRUCTION MEETING AND THE START OF GRADING. INSTALL HAY BALES END TO END OUTSIDE THE TREE PROTECTION FENCING. SECURE THE HAY BALES TO THE SOIL WITH METAL STAKES THROUGH THE BALES AND AT LEAST 12 TO 18 INCHES INTO THE SOIL. THE TEMPORARY FENCING SHALL BE MAINTAINED IN GOOD CONDITION UNTIL THE FINAL INSPECTION.
2. PROTECT UPPER FOLIAGE FROM DAMAGE BY CONSTRUCTION EQUIPMENT. DO NOT ALLOW EQUIPMENT OR BUILDING MATERIALS TO BE STACKED OR STORED UNDER THE CANOPY OF ANY TREE TO REMAIN. DO NOT PARK VEHICLES UNDER THE DRIP LINE OF THE TREES.
3. ANY TRENCHING, DIGGING, OR GRADING UNDER TREE CANOPIES SHALL BE DONE UNDER THE SUPERVISION AND WITH THE APPROVAL OF A CERTIFIED, CONSULTING ARBORIST. THE WORK SHALL BE DONE BY HAND IN ORDER TO PREVENT DAMAGE TO ROOTS. ROOTS THAT REQUIRE REMOVAL SHALL BE CUT CLEANLY WITH HAND TOOLS. USE WHITE LATEX PAINT ON CUTS GREATER THAN 3" IN DIAMETER.
4. SURFACE RUNOFF SHALL BE CONTROLLED IN SUCH A WAY THAT IT DOES NOT COLLECT OR POND UNDER ANY TREE CANOPY.
5. PRUNING SHALL BE DONE UNDER THE SUPERVISION OF A CERTIFIED, CONSULTING ARBORIST.



Ward Hastings
Certified Professional Erosion and Sediment Control Specialist
168, CPESC, INC
Hastings Landscape Inc.
6013 Thurber Lane
Santa Cruz, CA 95065
ph/fax (831) 476-5886
hlcs@cruzio.com

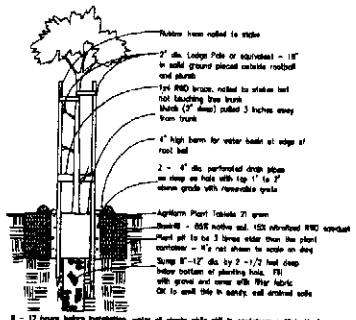
EROSION CONTROL PLAN

NGUYEN RESIDENCE & FLOWER SHOP, SANTA CRUZ, CA

SCALE 1"=10'-0" | DATE | DESIGN | DRAWN | CHECKED | JOB NO. | FILE NO.

SHEET EC 1 OF 1

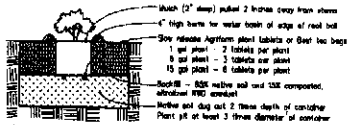
EXHIBIT G



1) 8 - 12 hours before installation, water all plants while still in containers sufficiently to thoroughly wet root balls
2) Dig hole as deep as rootball and 3 times wider than the diameter of the container the plants were delivered in.
3) Scrape holes in the side of the plant pit - 2 holes per sq. ft. of wall surface
4) Remove rootball carefully from container with support from below. Sever any circling roots (3/16"dia. or greater) with sharp knife. Do not pull roots apart. The severing of large roots will encourage new roots at the cuts. Install enough backfill under root ball on top of rootball ends up 2" above grade of surrounding soil when it settles. Install some of fertilizer packets under root ball.
5) Fill empty rootball with backfill mix to 1/2 its height and pack soil so you fill with shovel handle or tool being careful not to disturb root ball
6) Put Agriform Plant Tablet fertilizer at the level adjacent to rootball and at bottom of hole (8 tablets per 15 gal. or 5 tablets per 1 inch of caliper width. Fill the remainder of the hole with backfill and pack it.
7) Water tree thoroughly by filling the basin and allowing the water to percolate in, doing this 3 times or more until root ball and backfill is wet
8) Install stakes such that the stakes and the tree ties won't damage the tree and the stakes won't rub against each other. Cut off tops of stakes if necessary to lower before branches that would be rubbed by stakes. Install stakes so they are straight up and don't lean in to each other

Tree Planting

No Scale



1) 8 - 12 hours before installation, water all plants while still in containers sufficiently to thoroughly wet root balls
2) Dig the plant hole at least 3 times the dia. and 2 times the depth of the plant container
3) Replace this material in bottom half of hole and mix on it. The level of it should be such that when the plant is installed and settled it will be slightly above grade of existing soil. Fill hole with water.
4) Remove rootball carefully from container by tapping out, not pulling out by the stem. Heavily rootbound soils in 3 vertical cuts and bottom to 1/2" deep, or by cutting roots of 1/2" or larger with shears. Do not pull roots apart.
5) Invest fertilizer packets under rootball of plant. Set rootball on prepared surface and fill hole to 1/2 the depth, tamping well around rootball. Fill hole with water
6) Fill the remainder of the hole with backfill and pack it but do not tamp rootball
7) Make the water basin
8) Water again thoroughly within 1 hour of planting by filling the basin and allowing the water to percolate in, doing this 3 times or more until root ball and backfill is wet
9) Install mulch

Shrub Planting

No Scale

Landscape Notes

1) See sheet L.3 and L.4 for details and specifications
2) Use 3 inch deep mulch in all planting areas. Provide owner with different mulch samples and prices including Premium Redwood Chips from Vision Recycling at the Santa Cruz County Refuse Site in Watsonville, Earthgro shredded redwood bark may be the best top dress mulch to hold to steep slope areas. No bark mulch is required on rear slope that has erosion control blanket.
3) Install plants for all plant circles shown on the plan even if they aren't labeled. Call for clarification. For bidding purposes, if no one is available to answer questions, assume that any plant circle scaled less than 6' wide is a gal. size and any circle scaled larger is 24" box size
4) The plan is schematic. Don't install plants too close to edges of paving or buildings. Be sure plants are not blocking sprinkler spray successively. Keep valves and cycles couplers away from trees.
5) See specs concerning soil amendments and fertilizer. For bidding purposes until the soil fertility test is done, add 6 cubic yards of nitrolized redwood sawdust and 15 pounds of 12-12-12 fertilizer mixed into the top 8" to 6" of soil after ripping soil to 12" deep except under existing tree or on steep slopes.
6) There are 15 replacement Oak trees being planted for 9 existing ash trees that are being removed due to construction grading and activities.

Plant Legend

KEY	SIZE	BOTANICAL NAME	COMMON NAME
QV	24" box	Quercus virginiana	Southern Live Oak
		Install with root barriers as per County Street Tree Detail	
QA	5	Quercus agrifolia - replacement trees on rear slope	
PJ	5	Pittosporum nigricans	
PN	5	Pittosporum rehderianum	Tall Hedge
RI	5	Rosa Iceberg - shrub	Iceberg White Rose
RF	2 or 5	Rosa FLOWER CARPET PINK	Landscape Rose
PY	5	Phormium Yellow Wave or Maori Maiden (bright colored, medium size flax	
RC	5	Rhaphiolepis Clara	India Hawthorne
LM	5	Lantana montevidensis	Purple Lantana
N	5	Nandina compacta	Heavenly Bamboo
LA	5	Lavandula angustifolia	English Lavender
GROUND COVERS			
T	1	Tulbaghia violacea	Society Garlic
V	1	Tulbaghia Violacea Silver Lace	Society Garlic
A	1	Agapanthus Peter Pan	Lily of the Nile
H	1	Hemerocallis Lirio Miss Buttafire	Yellow Daylily
G	1	Geranium Wargrave Pink or Cambridge	
P	1	Penstemon Midnight or Garnet	Red Thrift
E	1	Erigeron karvinskianus	Santa Barbara Daisy
PLANTS ON SLOPE			
S	1	Rubus ursinus	Native Blackberry
R	1	Rhamnus californica	CA Coffeeberry
C	1	Ribes sanguineum	Pink Flowering Currant
W	cutting collected from site	Salix	Native Willow

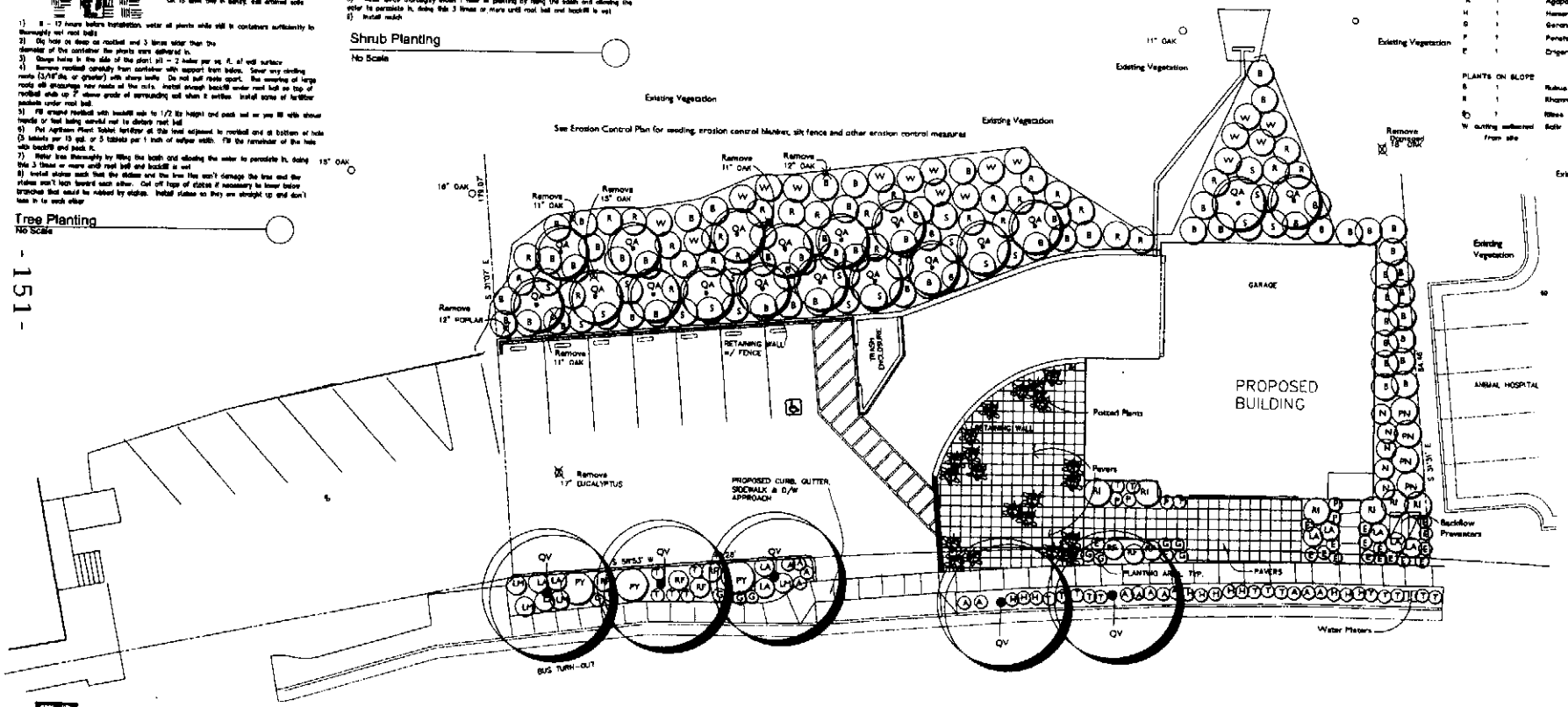


EXHIBIT G 4

Irrigation Legend

KEY	MANUF.	MANUF. #	DESCRIPTION
	Hunter	PC-Base	X station irrigation controller wall mount with multiple programming, cycle start, and extender program Install Hunter Wireless Rain-Clik rain shut off sensor and Flow-Clik connected to controller
	Hunter	PGV-151A	1" rotorite colored angle valve below grade in valve box Install 3/4" Ames Y Filter and Bermingar PRBM pressure regulator with adaptor to drip tube in separate valve box - for drip circuits
	Hunter	PGV-101A	1" rotorite colored angle valve below grade in valve box for bubbler circuits Install only one valve per valve box. Mark lid with corrector station
	Hunter	I-40 ADV	Spray driven rotor shrub head with check valve on riser Use 2.8 LA nozzle for quarter or less pattern 75' to 90' 16 GPM = 50 psi Use 3.5 LA for half pattern 39' to 77' 21 GPM = 35 psi Install 6 inches high on riser with rubber collar advanced with drip tubing
	Rainbird	SMG-RC	3/4" quick coupler with locking cover and 2 piece body - provide one valve key and one hose swivel hook in valve box
	Febco	825Y	Reduced pressure backflow preventor - install as per City and Water Dept. Approval and Details - Install thread blanket and provide option for stainless steel cage
	Rainbird	1400	5 GPM pressure compensating bubbler at top of vertical deep watering tube - adjust to 1 GPM Use Rainbird SBB-RBB root watering system tube with swing joint, grate, bubbler, and shut valve Install 2 per tree
	Rainbird	1406	35 GPM flood bubbler with 6ch 80 PVC double swing joint - one bubbler per shrub
			Install water manual isolation valves the same size as the pressure line, install grade in valve boxes in major paving crossings on the different portions of the site can be backflowed for repairs while allowing irrigation water to the rest of the site. Field locations as-built.
			1/2" PE drip tubing with compression fittings - see drip notes
		3/4"	Nonpressure line - Sch 40 PVC 3/4" unless noted for larger size - 12" of cover
		1"	
			Pressure line - CL315 PVC 1-1/4" unless noted for smaller size on plan ass 18" deep (24" deep under A.C. paving)
			At each paving crossing of the pressure line, install a 3ch 40 PVC 1-1/4" pressure line in 3" sleeve, or extra 1-1/4" Sch 40 PVC line in 3" sleeve, and a 1" gray PVC conduit for control wire.
			Where over 4 net pressure line crosses paving, use 1" Sch 40 PVC line in 3" sleeve Also install an extra 1" Sch 40 PVC line in sleeve. Cap and mark pipes not used. Sleeves are required for water lines. They should be taller as large as the pipe inside them i.e. Use a 4" sleeve for a 3" line
		3/4"	Nonpressure line - Sch 40 PVC 3/4" unless noted for larger
		1"	Note - sleeves to top of grade on new slopes with meter 2 inches Temporary irrigation system on north slope

Landscape Irrigation Concept

This is a small commercial flower shop project.
There is no lawn.
All irrigation is drip and bubblers.
All plants are low and weather water use.

There are on separate circuits.
3" deep top dress mulch will be installed
The new slopes has both spray and drip system
that will be temporary until the planting is established

Hydrozone Summary and Estimated Water Use

Zone 1	Bubbler, Trees, med. water, sun	Valves A,C	5 GPM	60 eq.ft.	
Zone 2	Bubbler, shrub, med. water, sun	Valve B,D	16 GPM	408 eq.ft.	
Zone 3	Drip, med. water, sun	Valves E	2.1 GPM	375 eq.ft.	
Zone 4	Drip, low water, sun, newer slope	Valve F	4.6 GPM	2170 eq.ft.	
Max. Applied Water Allowance					
36.67 ET x .8 x 3031 sq.ft. x .62 x .00134 = 73.6 CCF					
Est. Applied Water Allowance from Hydrozone					
Method and Irrig. Schedule = 46.8 CCF					

Irrigation Notes

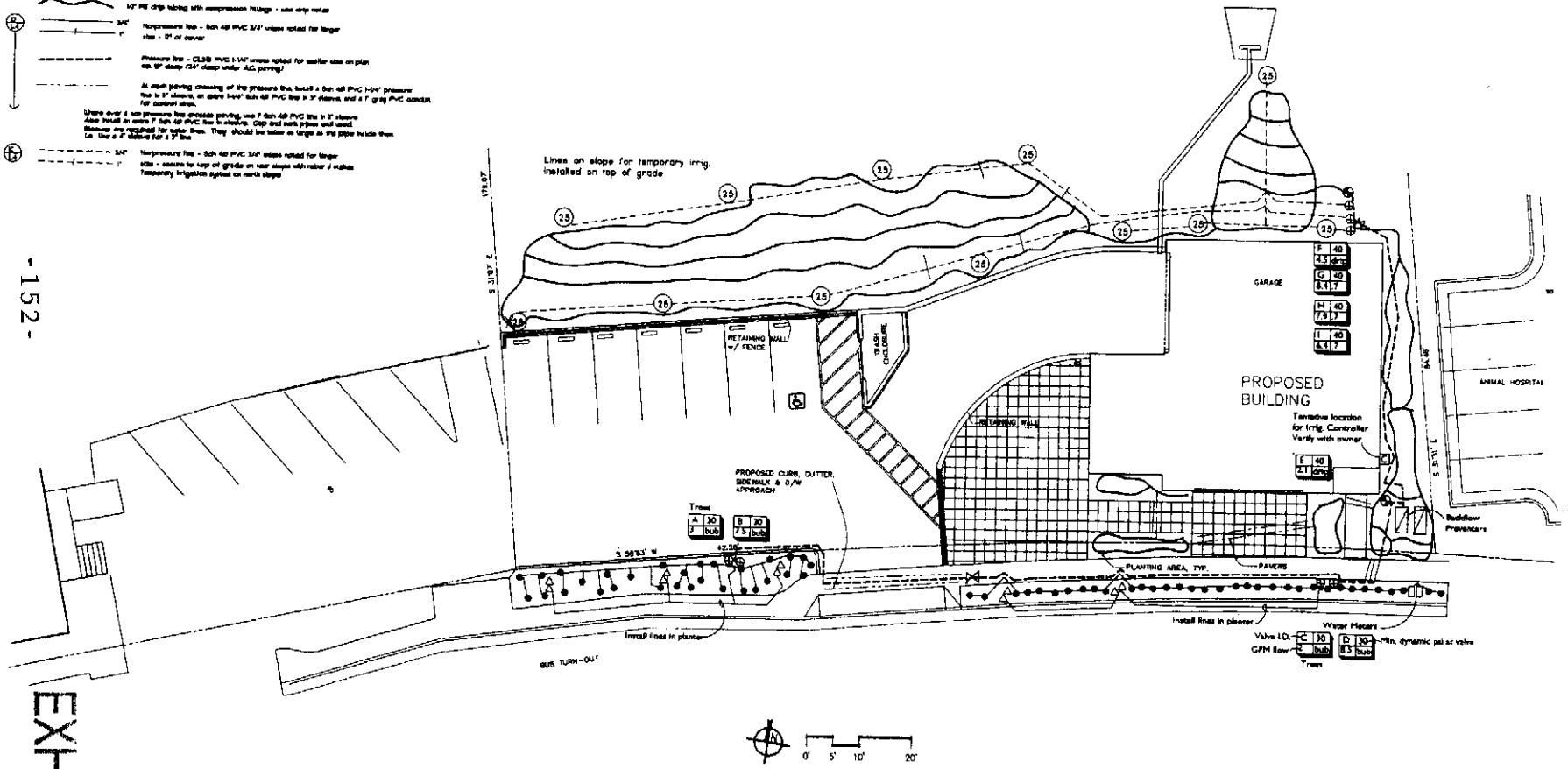
1) See sheet L1 and L4 for specifications and details
2) This system is designed to operate with minimum 50 GPM at minimum 45# psi at the point of connection. If the condition is not met contact the Landscape Architect for possible redesign. If pressure exceeds 75 psi at point of connection install a Wilkins adjust. pressure regulator. Santa Cruz Water Dept. says there is 72 psi in the street in this area.
3) Contractor tape should be installed with any pressure lines not buried in the same trench with electrical wires and with any lines of any kind under paving not in a trench with control wires.
4) Electric controllers should be set to water between 6:00 PM and 10:00 AM to avoid watering during times of higher wind or temperature and programmed with repeat cycles to avoid runoff. This is not as important for drip that is not effected by the wind, but irrigation schedule according to plants water needs.
5) Train 2 weeks constant when those the controller to the far end of each leg and to the furthest hose bib, starting up on each valve with seven zone site along the way so valves would be noticed if necessary in the hours.
6) The routing of sprinkler lines is schematic on the plan. Do not put valves over slopes to trees. Keep 8" to 18" away if possible. Do not put pressure lines under trees. Install lines in planting areas prepared of under paving whenever possible.
7) As required by the County Drainage Irrigation Schedules and Water Use estimates have been done for an average year. They are El-Vinil forest.
8) The irrigation system on the rear slopes is temporary. The spray system should only be needed until the grass is established (at latest up for first 6 to 8 consistent rain and so the grass establishment before the rain if installed before the rains start. It can also be used if grass needs to be reseeded during a dry period. The drip system will provide irrigation the first few years as necessary until the native shrubs and trees can survive on just winter rainfall. The drip system will probably be used after the grass is established and the spray system is not operational as much. As the shrubs get bigger they will knock the spray and use better with drip).
9) Install a Hunter Wireless Rain-Clik sensor to stop irrigation during times of rain.
Also install a Hunter Flow-Clik sensor to stop irrigation if a pipe breaks.

Drip Irrigation Notes

1) Secure longer 1/2" drip tubing 1" below grade with 1" or 2" U-shaped staples 3 feet on center or closer so that the tubing can be found easily but does not show. If the mulch gets brushed away. Cover tubing with soil and mulch and install manual flush valves at ends of tubing and mark them so they can be found easily.
2) Use longer tubing loops to provide for minimize length of smaller 1/4" tubing.
3) Secure emitters on 1/2" tubing at plant root balls. When necessary run short lengths of 1/4" tubing from emitters to plant root balls. Install staples on 1/4" tubing at 5' on center and cover tubing with 1" of soil plus mulch.
4) As the plant and plant rootball increase in size, the locations of the emitters may need to be adjusted so they are evenly spaced over the rootball.
5) Install pressure compensating emitters (with similar difference in flow between 10 psi and 45 psi) on each plant on rows built (not right as shown). Use Agrifim PC Plus (pressure compensating emitters). Use the ones that 1/4 tubing can be connected to. Other emitters may have a higher discharge rate at startup requiring longer pipe sizes.

Emitter schedule:
Tree 1 GPH emitters at small shrubs (ceanothus) shrub
Three 1 GPH emitters at medium shrubs
Six 1 GPH emitters at large shrubs
Eight 1 GPH emitters at large trees root balls
Add additional 1 GPH emitters (2) on 2 foot x 2 foot grid in planting area under future tree canopy.
With shrubs that have multiple emitters, put some over root ball (not right on stem) and some out under future canopy. Space emitters evenly in root zone area.

For plants on rear slope install three 1 GPH emitters at
6 gal. size tree and one 1 GPH emitters at each 1 gal. tree shrub



0' 5' 10' 20'

IRRIGTION PLAN

NGUYEN FLOWER SHOP

Revised 9/28/06

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FAX 426-1507

THACHER & THOMPSON ARCHITECTS

MARCH 15, 2006

L2

EXHIBIT G

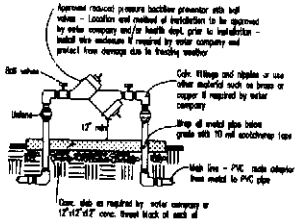
Nguyen Flower Shop
Soquel Ave. close to 7th Ave., Santa Cruz, CA

L3

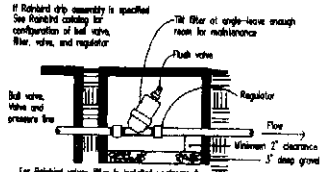
GREGORY LEWIS LANDSCAPE ARCHITECT
#2176

1/8"=1'-0"

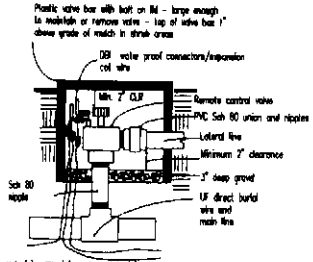
EXHIBIT G



Reduced Pressure Backflow Preventor
No Scale
A



Filter/Regulator
No Scale
B

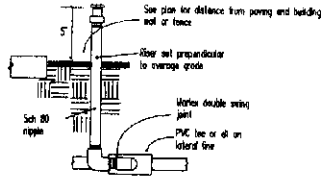


Remote Control Valve
No Scale
C

D

E

F



Shrub Bubbler Detail
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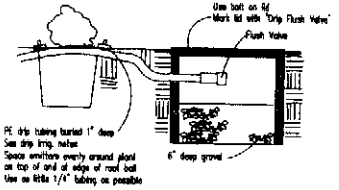

Drip Emitter and Flush Valve
No Scale
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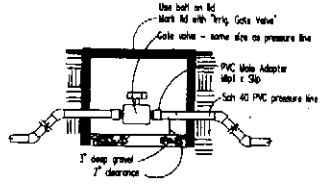

Manual Gate Valve
No Scale
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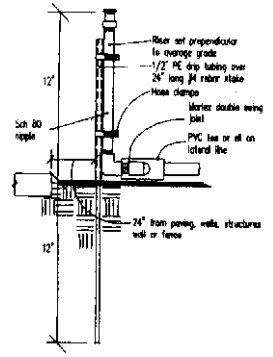
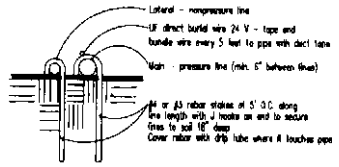


Spray Head on Riser Detail
No Scale
J



Irrig. Lines on top of Soil on Rear Slope
No Scale
K

EXHIBIT G 1

LANDSCAPE PLAN

NGUYEN FLOWER SHOP

Revised 9/26/06

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THACHER & THOMPSON ARCHITECTS

MARCH 15, 2006

L4

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HYDROLOGY AND STORMWATER DETENTION CALCULATIONS

Prepared For
Henry Nguyen

Nguyen Flower Shop
2615 Soquel Drive
Santa Cruz, CA 95065

APN No 025-131.14
Application No. 03-0151
B&W File No 23266

March 9, 2006
Revised: September 25, 2006

BASIS OF DESIGN:

1. County of Santa Cruz Design Criteria
2. ASCE Manual of Engineering Practice No. 37

EXHIBIT H

1.0 INTRODUCTION

Mr. Nguyen proposes to construct site improvements and commercially develop his existing flower shop on APN 025-131-14. The addition will consist of a new commercial/ residential building, as well as the expansion of the existing driveway and additional grading for landscaped areas. Project improvements encompass an area of approximately *0.25* acres. The runoff for the project area will be routed into a detention system to he conshucted as part of this project. Flow and Detention calculations are provided in this report.

2.0 METHOD OF ANALYSIS

- The Rational Formula (show below) is used to estimate peak runoff rates,

  $$Q = C_a C i_a i A$$

  Where:

  Q= Estimated Peak Runoff from site (cfs)
  C_a= Antecedent Moisture Factor (Unitless)
  C= Runoff Coefficient (Unitless)
  i_a= Rainfall Intensity Adjustment Factor (Unitless)
  i= Rainfall Intensity (in/hr)
  A= Area of Site (Acres)

- Storage is calculated using The Modified Rational Unit Hydrograph obtained from the ASCE Manual on Engineering Practice No. 37, (See attached Figure: "Detention Volume Calculations").

  - The detention volumes for the 25-year event are determined hy using the 10 year estimated pre development peak runoff rate as the allowable release rate.

- Precipitation data/runoff coefficients are obtained from the Santa Cruz County Design Criteria Manual. Precipitation intensity is based upon the P60 Isopleth for Santa Cruz County *(see* attached map).

3.0 SYSTEM EVALUATION

- Included in this report are *spreadsheets* for the 10 year return period showing the estimated peak runoff rates from the site for current and post development conditions, as well as the estimated required 25 year return storage volume for the additional runoff due to development. 10 year return was used for this project, as runoff from this project is eventually routed to Arana Creek having a 10 year downstream capacity at La Fonda Drive.

- The time of concentration (tc) used to determine the allowable runoffrate and detention volume is assumed to he 15 minutes for pre development conditions and 10 minutes for post development conditions.

- The runoff values shown in the spreadsheets are calculated using the Rational Formula. For pre development conditions, C is calculated to he 0.35. For post development conditions, C is calculated to be 0.85. Values for C are found in The County of Santa Cruz Design Criteria, a copy of these values *is* attached to this report.

- Antecedent Moisture factors (C_a) for the Rational formula are found in The County of Santa Cruz Design Criteria, a copy of these values is attached to this report. C_a *is* 1.0 for the 2, 5, and IO-year *events*, and C_a is 1.1 for the 25-year event.

EXHIBIT H

- The rainfall intensities are taken from the LDF curve, which is anached to this report. These intensities are for the 10-year event.

- Storage volumes shown in the spreadsheets are calculated using the Modified Rational Unit Hydrograph. **A** copy of this method is attached for reference. **A** factor of safety of 1.25 is applied to the estimated volume to ensure adequate storage is achieved and to allow for possible future connections to the system.

4.0 SUMMARY

The table below shows summaries of estimated peak flows and required storage volumes for the project.

DRAINAGE AND DETENTION SUMMARY FOR 10 YEAR RETURN PERIOD	
DRAINAGE ITEM	**QUANTITY**
PRE DEVELOPMENT FLOW (CFS) (Tc=15 MIN)	0.15
POST DEVELOPMENT FLOW (CFS) (Tc=10 MIN)	0.42
TOTAL STORAGE REQUIREMENT (CF) - 25 YEAR RETURN	505

5.0 CONCLUSIONS

The total storage requirement for the site is *505* cubic feet. The proposed detention system uses two 36' Long 36" diameter HDPE pipes and bas a maximum capacity of 509 CF. This satisfies the storage requirement to the site. The storage will be regulated with a weir box to ensure Qpre for a 10 year storm is released from the system; calculations for the weir box are included in the report. The driveway leading to the garage of the proposed residence will bypass the project detention system. To ensure the release of Qpre from the site, the estimated flow from the driveway area is subtracted from the Qpre used to sue the weir box. From the Weir Box, the outflow discharges through the driveway retaining wall to a rip rap outlet located approximately 112 feet from the bank of Arana Creek. The location of the outlet was chosen in the field by Bowman and Williams and Bauldry Engineering based on most even terrain available above the 100 year flood level.

It *is* our opinion that the proposed mitigation for the proposed improvements satisfies County requirements and will not cause adverse downstream effects.

EXHIBIT H 4

DRAINAGE CALCULATIONS FOR :
NGUYEN FLOWER SHOP
SANTA CRUZ COUNTY, CA
BOWMAN & WILLIAMS FILE: 23266
September **25,2006**

Flow Rate Calculations

Weighted C Calculations for Pre Development (Existing) Surfaces

Area Description	ea (ft	ea (AC)	C	A*C
Landscaping/Undevelo	9350	0.21	0.30	0.0643
Impervious Surfaces	910	0.02	0.90	0.0188
Total:		0.24		0.08
Weighted C=		0.35		

Weighted C Calculations for Post Development Surfaces

Area Description	Area (ft2)	Area (AC)	C	A*C
Landscaping/Undeveloped	880	0.02	0.30	0.01
Impervious Surfaces	9380	0.22	0.90	0.19
Total:		0.24		0.20
Weighted C=		0.85		

Data for Driveway Area Bypassing Detention System

Area Description	Area (ft2)	Area (AC)	C	AC
Post Development - All Impervious	1115	0.03	0.90	0.02

Notation
Q_{Post} = Post Development Flow Rate For Entire Project Area
Q_{Pre} = Pre Development (Existing) Flow Rate For Entire Project Area
Q_{Bypass} = Post Devleopment Flow Bypassing Project Detention System

Return Period	I_a
2	0.64
5	0.85
10	1.00
15	1.09
25	1.20
50	1.35
100	1.50

Basis of Calculation
$I = ((4.29112)*(1.1952^{P60}))/(t_c^{((0.60924)*(0.78522^{P60}))})*I_a$
$Q_{Rdet} \leq Q_{Pre}$
Detention Volume = $Q_{Post} - Q_{Pre}$

Intensity for Storm
Return Period = 10 Years
For P60 Isopleth = 1.5 (Based on Location - See County Map)
I = 1 (Based on Return Period - See Above Right)

Description	Runoff Flow Calculations: Area (ac)	C	C_a	T_c (min)	I (in/hr)	Q (cfs)	
Pre Development - 10 Year Return	0.24	0.35	1.00	15	1.779	0.15	= Q_{Pre}
Post Development - 10 Year Return	0.24	0.85	1.00	10	2.113	0.42	= Q_{Post}
Bypass Flow - 10 Year Return	0.03	0.90	1.00	10	**2.113**	***0.05***	= Q_{Bypass}

'Note - Bypass Row **shown** for reference. Post developement flow includes bypass flow area for sizing of Detention system. Bypass flow is used in sizing weir box orifice diameter only.

EXHIBIT H

DRAINAGE CALCULATIONS FOR :
NGUYEN FLOWER SHOP
SANTA CRUZ COUNTY, CA
BOWMAN & WILLIAMS FILE: 23266
September 25,2006

Detention Calculations

Basis of Calculation

Based on County of Santa Cruz Draft Design Manual, Page 79

$Q_{Post} = C * C_a * I * I_a * A$

X = [(Q_{Pre} at T_c)/(Q_{Post} at Duration Time)] * (T_c)

Y = 2 * (T_c - X)

Top = (Storm Duration - Tc)

Bottom = (Storm Duration + T_c) - 2 * X

Storage Volume A = [(Bottom + Top)/2] * [Q_{Post} at Duration Time - Q_{Pre} at T_c] * 60

Storage Volume B = [(Y * Q_{Pre})/2] * ***60***

Required Storage = Storage Volume A + Storage Volume B

Detention Return Period =	25	Years
Detention Storm I_a =	1.2	(Based on Return Period)
Detention Storm C_a =	1.1	(Based on Return Period)

Required Detention Volume Calculations for a 25 Year Storm with a 10 Year Predevelopment Release Rate

Duration (min)	25 Year Intensity (in/hr)	Post Development Runoff (cfs)	X	Y	Top	Bottom	Storage Volume A (cf)	Storage Volume B (cf)	Required Storage (cf)
10	2.113	0.56	3.98	22.03	-5.00	17.03	148	98	246
15	1.779	0.47	4.73	20.54	0.00	20.54	198	91	289
20	1.575	0.42	5.34	19.31	5.00	24.31	235	86	321
30	1.326	0.35	6.35	17.31	15.00	32.31	286	77	363
40	1.174	0.31	7.17	15.66	25.00	40.66	318	70	388
50	1.068	0.28	7.88	14.24	35.00	49.24	338	63	401
60	0.988	0.26	8.51	12.97	45.00	57.97	348	58	406

Required Storage = **406**

Required Storage with 1.25 Safety Factor = **505**

Design of Detention System			
Number of Pipes	Pipe Diameter (in)	Pipe Cross Sectional Area (SF)	Required Length (FT)
2	36	14.14	36

EXHIBIT H

DRAINAGE CALCULATIONS FOR :
NGUYEN FLOWER SHOP
SANTA CRUZ COUNTY, CA
BOWMAN & WILLIAMS FILE: 23266
September 25,2006

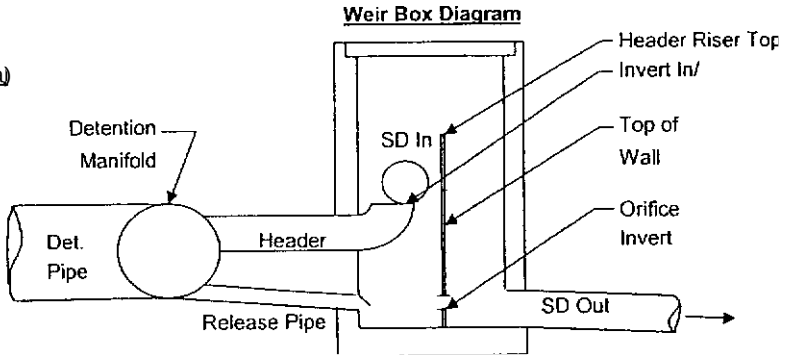
Weir **Box** Calculations

Basis of Calculation (Orifice Formula)

$Q = C_d * A * (2gh)^{1/2}$
$h = (((Q/(Cd * A))^2)/2g)$

Q = Discharge Rate Through Orifice
C_d = Discharge Coefficient
A = Area of Orifice
g =Acceleration of gravity
h = Water Depth at Orifice
a = 1/2 Orifice Opening Height

Weir Box Diagram



→ Design the Wail such that the **Low** Flow Orifice shall release Q_{Pre} and the Detention System is Full By Adjusting the Orifice Diameter such that Tap of Wall is at least 0.2' above the Invert In

Weir Box Calculations

Q_{Pre} =	0.15 cfs
$Q_{Bypassed}$ =	0.05 cfs
*$Q_{Pre(Reduced\ to\ accommodate\ bypass)}$ =	0.10 cfs
Q_{Post} =	0.42 cfs
Stormdrain Pipe In =	8.00 in
Stormdrain Pipe Out =	8.00 in
Low Flow Orifice Diameter (D) =	1.25 in
Low Flow Orifice Area (A) =	0.01 sf
Orifice Coefficient - (Type C) (Cd) =	0.61
Head to Discharge Q_{Pre} (h) =	5.67 ft
Header Pipe Diameter =	8.00 in
Release Pipe Diameter =	6.00 in
Detention Pipe Diameter =	36.00 in
Control Box Grate Elevation =	90.80 ft
Stormdrain Invert In =	87.40 ft
Top of Header Pipe Elevation =	87.40 ft
Top of Detention Pipe Elevation =	87.40 ft
Bottom of Detention Pipe Elevation =	84.40 ft
Release Pipe Invert (at Box) Elevation =	84.30 ft
Low Flow Orifice Invert Elevation =	84.30 ft
Top of Wall Elevation =	90.02 ft
Stormdrain Outlet Invert Elevation =	83.80 ft

Conclusion:

OK - Wall Height Checks

* Note: An area of 1115 SF bypasses the detention system. Based on a 10-year return period storm. this constitutes a Row of 0.05 CFS. This Row is accounted for in the weir box calculations by subtracting the bypass Row from the allowable Qpre and using this value to size the weir box.

EXHIBIT H

TYPE OF AREA	) YEAR RUNOFF COEFFICIENTS
Rural, park, forested, agricultural	0.10 - 0.30
Low residential (Single family dwellings)	0.45 - 0.60
High residential (Multiple family dwellings)	0.65 - 0.75
Business and commercial	0.80
Industrial	0.70
Impervious	0.90

REQUIRED ANTECEDENT MOISTURE FACTORS (Ca) FOR THE RATIONAL METHOD*

Recurrence Interval (Years)	Ca
2 to 10	1.0
25	1.1
50	1.2
100	1.25

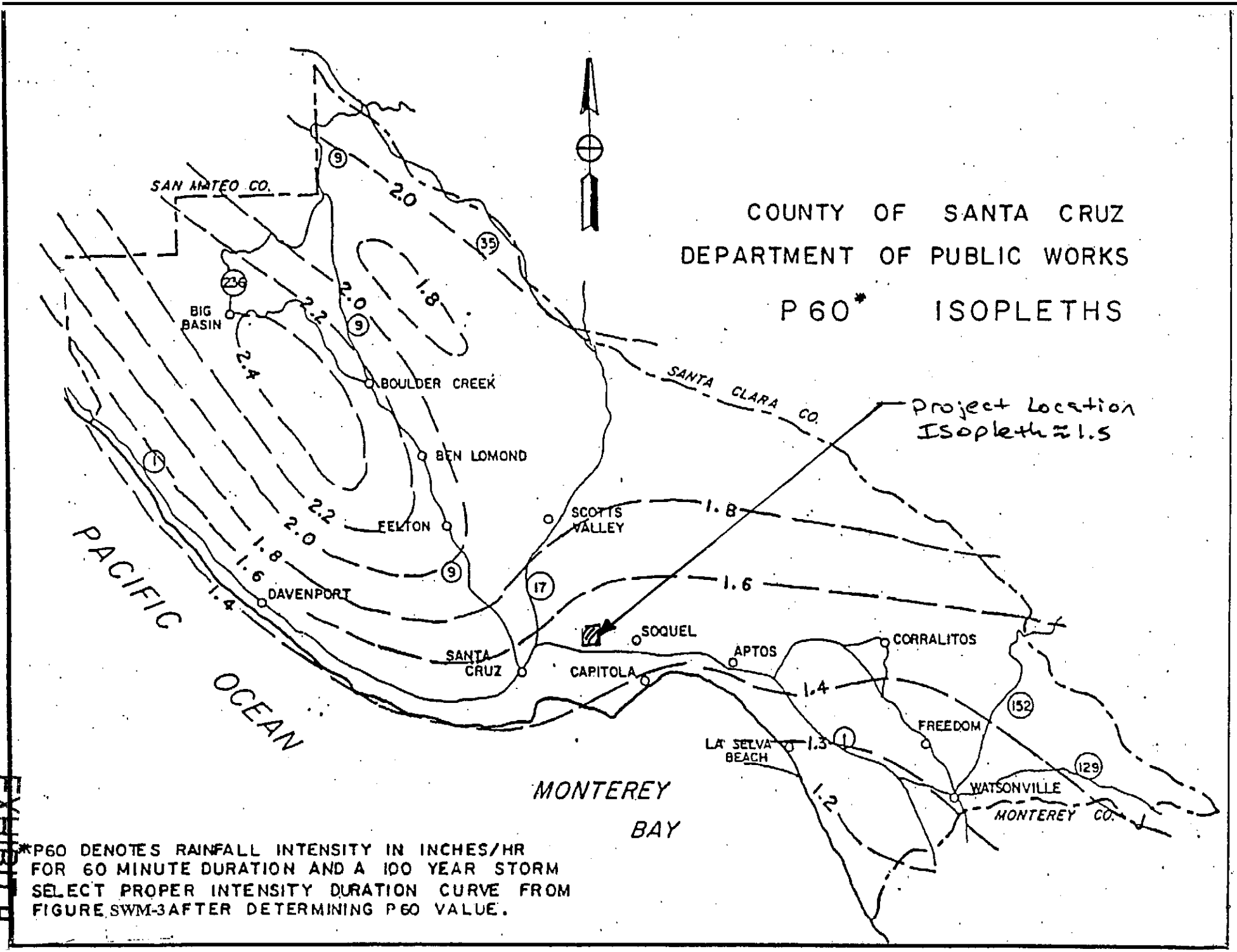
Note: Application of antecedent moisture factors (Ca) should not result in an adjusted runoff coefficient (C) exceeding a value of 1.00

*APWA Publication "Practices in Detention of Stomwater Runoff'

Rev. 11-05

FIG. SWM-1

EXHIBIT H

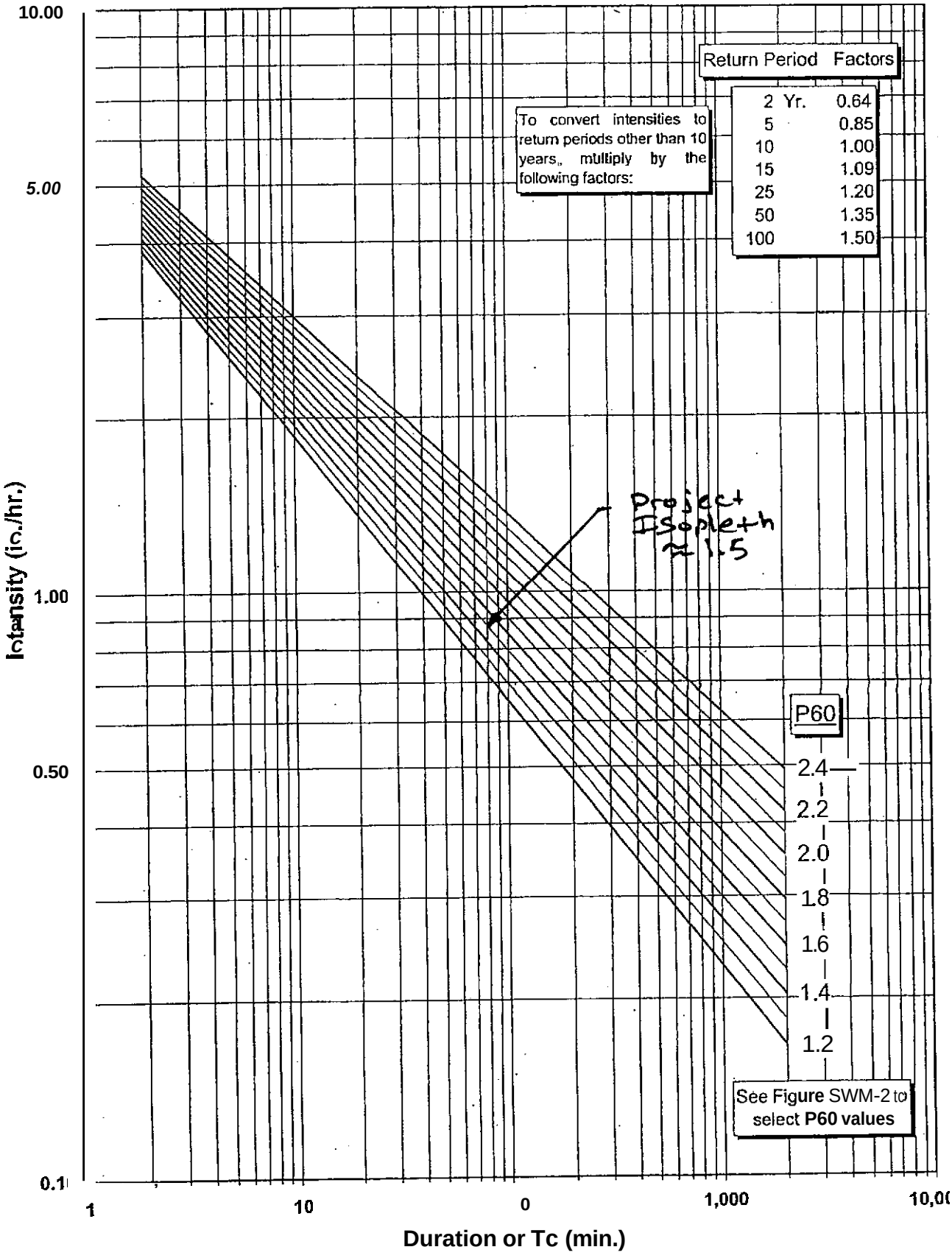


*P60 DENOTES RAINFALL INTENSITY IN INCHES/HR FOR 60 MINUTE DURATION AND A 100 YEAR STORM SELECT PROPER INTENSITY DURATION CURVE FROM FIGURE SWM-3 AFTER DETERMINING P60 VALUE.

EXHIBIT H
FIG. SWM-2

Rainfall Intensity - Duration Curves
10 Yr. Return Period

((4.29112)*(1.1952)^P60_VALUE)/(DURATION^((0.60924)*(0.78522)^P60_VALUE))



Rev. 11-05

FIG. SWM-3

EXHIBIT H

NGUYEN RESIDENCE
DETENTION VOLUME CALCULATION

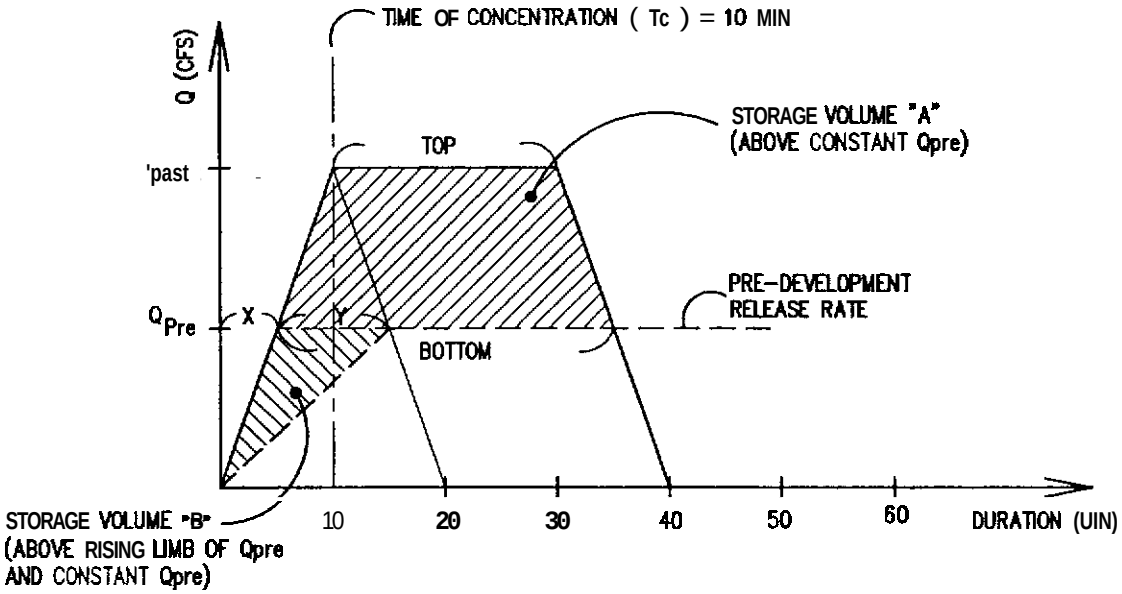
P60 = 1.50

INTENSITY I = ((4.29112)*(1.1952)^P60)/(Tc^((0.60924)*(0.78522)^P60))

T = STORM DURATION

PRE DEVELOPMENT RUNOFF Q_{pre} = Cpre * Ca * I *ia* A

POST DEVELOPMENT RUNOFF Q_{post} = C_{post} * Ca * I *ia* A



MODIFIED RATIONAL METHOD UNIT HYDROGRAPH EXAMPLE (30 MIN DURATION)

TOP = STORM DURATION - Tc

BOTTOM = (T t Tc) - ((Qpre/Qpost) * Tc) * 2

STORAGE VOLUME 'A' (ABOVE CONSTANT Qpre) = (((BOTTOM t TOP)/2) * (Qpost - Qpre)) * 60

X = (Qpre/Qpost) * 10

Y = 2 * (Tc - X)

STORAGE VOLUME "B" (SEMEN *CONSTANT* Qpre AND RISING Ope) = ((Y * Qpre)/2) * 60

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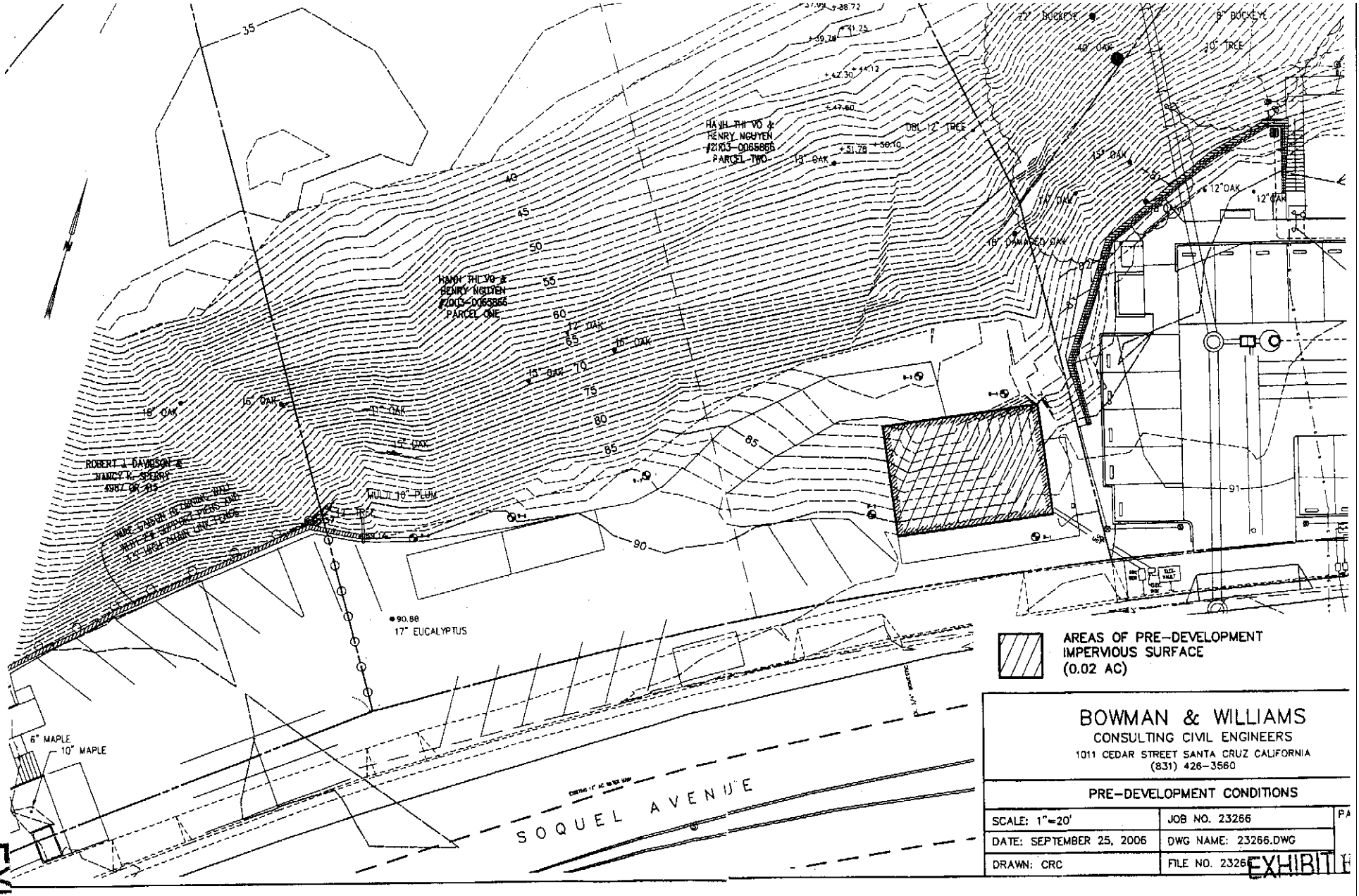
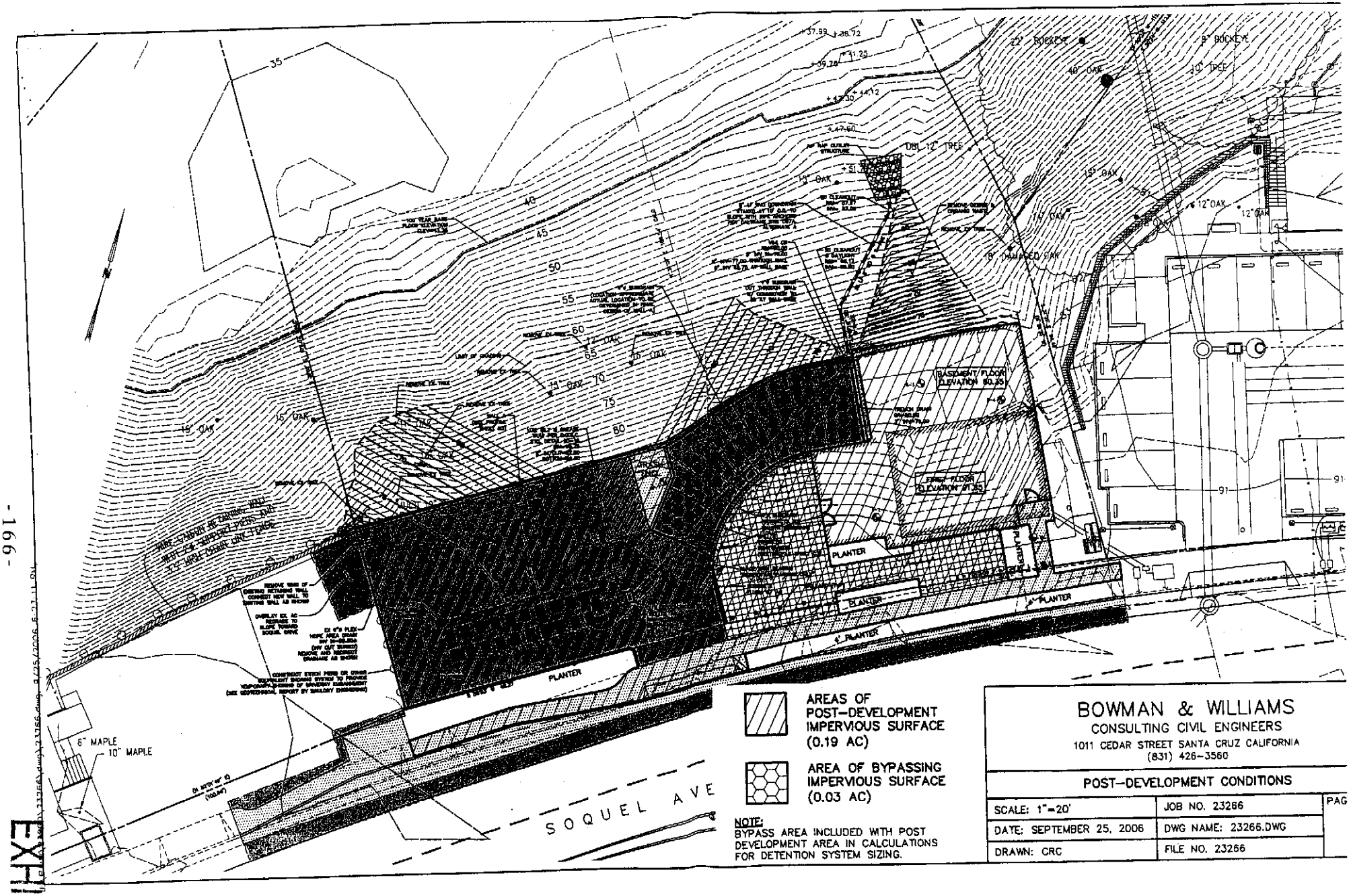

HANH THI VO &
HENRY NGUYEN
#2003-0065866
PARCEL ONE
HANH THI VO &
HENRY NGUYEN
#2003-0065866
PARCEL TWO
ROBERT L DAVIDSON &
NANCY K. SPERRY
498/ OR 415
MULTI 10" PLUM
90.88
17" EUCALYPTUS
6" MAPLE
10" MAPLE
SOQUEL AVENUE
AREAS OF PRE-DEVELOPMENT
IMPERVIOUS SURFACE
(0.02 AC)
BOWMAN & WILLIAMS
CONSULTING CIVIL ENGINEERS
1011 CEDAR STREET SANTA CRUZ CALIFORNIA
(831) 426-3560
PRE-DEVELOPMENT CONDITIONS
SCALE: 1"=20'
JOB NO. 23266
DATE: SEPTEMBER 25, 2006
DWG NAME: 23266.DWG
DRAWN: CRC
FILE NO. 23266
EXHIBIT H

EXHIBIT H



BOWMAN & WILLIAMS
CONSULTING CIVIL ENGINEERS
1011 CEDAR STREET SANTA CRUZ CALIFORNIA
(831) 426-3560

POST-DEVELOPMENT CONDITIONS

SCALE: 1"=20'	JOB NO. 23266	PAG
DATE: SEPTEMBER 25, 2006	DWG NAME: 23266.DWG	
DRAWN: CRC	FILE NO. 23266	

EXHIBIT H

Irrigation Schedule -Nguyen Flower Shop - Soquel Ave.. Santa Cruz 9/27/2006
Gregory Lewis - Landscape Architect #2176 831/425-4747

HYDRO ZONE NO. (b)	VALVES c'	HYDRO ZONE DESC.	Min.	MONTH	(CCF) Per Mo	WEEK	Days Per Week	CYC.	Cycle
Jan					1.46				
1	A,C	Bub,med,sun trees	5		0.06	2	1	1	2
2	B,D	Bub,med,sun,shrub	16		0.40	4	1	1	4
3	E	Drip,med,sun	2.1		0.37	30	1	1	29
4	F	Drip,low,sun,oaks	4.5		0.99	37	1	1	37
5			0		0.00	0	1	1	0
6			0		0.00	0	1	1	0
				Total	1.82				
Feb					1.76				
1	A,C	Bub,med,sun trees	5		0.07	3	1	1	2
2	B,D	Bub,med,sun,shrub	16		0.48	6	1	1	5
3	E	Drip,med,sun	2.1		0.44	39	1	1	39
4	F	Drip,low,sun,oaks	4.5		1.19	49	1	1	49
5			0		0.00	0	2	1	0
6			0		0.00	0	1	1	0
				Total	2.19				
March					2.56				
1	A,C	Bub,med,sun trees	5		0.11	4	1	1	3
2	B,D	Bub,med,sun,shrub	16		0.70	8	2	1	4
3	E	Drip,med,sun	2.1		0.64	57	2	1	28
4	F	Drip,low,sun,oaks	4.5		1.73	72	2	1	35
5			0		0.00	0	2	1	0
6			0		0.00	0	2	1	0
				Total	3.18				
Apr.					3.54				
1	A,C	Bub,med,sun trees	5		0.15	5	2	1	2
2	B,D	Bub,med,sun,shrub	16		0.97	11	2	1	5
3	E	Drip,med,sun	2.1		0.89	79	2	1	39
4	F	Drip,low,sun,oaks	4.5		2.39	99	2	1	49
5			0		0.00	0	2	2	0
6			0		0.00	0	2	1	0
				Total	4.40				
May					4.27				
1	A,C	Bub,med,sun trees	5		0.18	7	2	1	3
2	B,D	Bub,med,sun,shrub	16		1.17	14	2	1	6
3	E	Drip,med,sun	2.1		1.07	96	2	2	23
4	F	Drip,low,sun,oaks	4.5		2.88	120	2	2	29
5			0		0.00	0	2	2	0
6			0		0.00	0	2	1	0
				Total	5.31				
June					4.37				
1	A,C	Bub,med,sun trees	5		0.18	7	2	1	3
2	B,D	Bub,med,sun,shrub	16		1.20	14	2	2	3
3	E	Drip,med,sun	2.1		1.10	98	2	2	24
4	F	Drip,low,sun,oaks	4.5		2.95	123	2	2	30
5			0		0.00	0	2	2	0
6			0		0.00	0	2	1	0
				Total	5.43				

EXHIBIT H

IrrigationSchedule -**Nguyen Flower** Shop - **Soquel** Ave., **Santa Cruz** 9/27/2006
Gregory Lewis - Landscape Architect **#2176** 831/425-4747

HYDRO ZONE NO. (b)	VALVES c'	HYDRO ZONE DESC.	Gal. Per Min.	E.T PER MONTH	WATER USE (CCF) Per Mo	TOTAL TIME MIN PER WEEK	Days Per Week	NO. OF CYC. Per Day	Minutes Per Cycle
July				4.76					
1	A,C	Bub,med,sun trees	5		0.20	7	2	1	3
2	B,D	Bub,med,sun,shrub	16		1.31	15	2	1	7
3	E	Drip,med,sun	2.1		1.20	107	2	2	26
4	F	Drip,low,sun,oaks	4.5		3.21	134	2	2	33
5			0		0.00	0	2	2	0
6			0		0.00	0	2	2	0
				Total	5.92				
1	A,C	Bub,med,sun trees	5		0.18	7	2	1	3
2	B,D	Bub,med,sun,shrub	16		1.21	14	2	1	7
3	E	Drip,med,sun	2.1		1.10	98	2	2	24
4	F								
5			0		0.00	0	2	2	0
6			0		0.00	0	2	2	0
				Total	5.46				
Sept.				3.78					
1	A,C	Bub,med,sun trees	5		0.16	6	1	1	5
2	B,D	Bub,med,sun,shrub	16		1.04	12	2	1	6
3	E	Drip,med,sun	2.1		0.95	85	2	2	21
4	F	Drip,low,sun,oaks	4.5		2.55	106	2	2	26
5			0		0.00	0	2	2	0
6			0		0.00	0	2	2	0
				Total	4.70				
Oct.				2.81					
1	A,C	Bub,med,sun trees	5		0.12	4	1	1	4
2	B,D	Bub,med,sun,shrub	16		0.77	9	2	1	4
3	E	Drip,med,sun	2.1		0.71	63	2	1	31
4	F	Drip,low,sun,oaks	4.5		1.90	79	2	1	39
5			0		0.00	0	2	2	0
6			0		0.00	0	2	1	0
				Total	3.49				
Nov.				1.65					
1	A,C	Bub,med,sun trees	5		0.07	3	1	1	2
2	B,D	Bub,med,sun,shrub	16		0.45	5	1	1	5
3	E	Drip,med,sun	2.1		0.42	37	1	1	36
4	F	Drip,low,sun,oaks	4.5		1.11	46	1	1	46
5			0		0.00	0	2	2	0
6			0		0.00	0	2	1	0
				Total	2.05				
Dec.				1.22					
1	A,C	Bub,med,sun trees	5		0.05	2	1	1	1
2	B,D	Bub,med,sun,shrub	16		0.34	4	1	1	3
3	E	Drip,med,sun	2.1		0.31	27	1	1	27
4	F	Drip,low,sun,oaks	4.5		0.82	34	1	1	34
5			0		0.00	0	2	1	0
6			0		0.00	0	1	1	0
				Total	1.52				
			Annual	Total	45.5				

Attention: These schedules are based on evapotranspiration rates for an average year (that rarely actually happens). The water needs of the plants will usually be less or greater than this due to the actual weather and rainfall. Therefore irrigation schedules should be figured out by the maintenance people (or others skilled at this) that are based on the actual weather and evapotranspiration rates and site conditions.

EXHIBIT H