

# COUNTY OF SANTA CRUZ

PLANNING DEPARTMENT 701 OCEAN STREET, 4<sup>TH</sup> 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: Ron Powers of Powers Land Planning, for Ernest & Ruth Antolini

## APPLICATION NO .: 07-0212

## APN: 026-031-32, -36

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.
- <u>Environmental Impact Report</u> (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 Matt Johnston, Environmental Coordinator at (831) 454-3201, 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: September 17, 2008

## **Cathy Graves**

Staff Planner

Phone: 454-3141

Date: August 12, 2008

NAME:Brickyard PlazaAPPLICATION:07-0212A.P.N:026-031-32, 46

# **NEGATIVE DECLARATION MITIGATIONS**

- A. In order to mitigate cumulative traffic impacts, Roadway and Roadside Improvement Area fees will be paid as a fair share cumulative impact mitigation to fund the long term improvements needed to mitigate the cumulative future traffic impacts and maintain acceptable levels of service in the vicinity, as identified in the Traffic Impact Analysis Update, prepared by Higgins and Associates (January 18,2008).
- B. In order to mitigate noise impacts to the neighboring schoolyard across Bostwick Lane, conditions of approval for this project shall include measures that prohibited outdoor noise generating uses and that require indoor noise generating uses allowed in the zone district to only occur within buildings with exterior doors closed.



Application Number: 07-0212

Date: August 11, 2008 Staff Planner: Cathy Graves

## I. OVERVIEW AND ENVIRONMENTAL DETERMINATION

**APPLICANT:** Powers Land Planning, Ron **APN**: 026-031-32, 46 Powers

OWNER: Ernest & Ruth Antolini, Trustees SUPERVISORAL DISTRICT: First

**LOCATION**: The property is located on the south side of Soquel Drive, approximately 450 feet east from 7<sup>th</sup> Avenue, at 2776 and 2806 Soquel Avenue.

**SUMMARY PROJECT DESCRIPTION:** A proposal to demolish an existing commercial building; construct three new commercial buildings of 6316, 6216, and 14,497 square feet; excavate approximately 1294 c.y. of earth and fill approximately 495 c.y., for a total of 799 c.y. of export; and to construct associated site improvements to include parking and landscaping.

## 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.

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

County of Santa Cruz Planning Department 701 Ocean Street, 4<sup>th</sup> Floor, Santa Cruz CA 95060

## DISCRETIONARY APPROVAL(S) BEING CONSIDERED

General Plan Amendment	Preliminary Grading Approval
Land Division	Riparian Exception
Rezoning	<ul> <li>Other: Amendments to prior</li> <li>Development Permits</li> </ul>
Development Permit     Coastal Development Permit	

## NON-LOCAL APPROVALS

Other agencies that must issue permits or authorizations:

**Regional Water Quality Control Board** 

## 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.

Aug 11, 2008

For: Claudia Slater Environmental Coordinator

### II. BACKGROUND INFORMATION

#### **EXISTING SITE CONDITIONS**

## ENVIRONMENTAL RESOURCES AND CONSTRAINTS

Groundwater Supply: n/a Water Supply Watershed: n/a

Groundwater Recharge: n/a Timber or Mineral: n/a Agricultural Resource: n/a

**Biologically Sensitive Habitat:** n/a **Fire Hazard:** n/a **Floodplain:** n/a **Erosion:** Erodable soils on site **Landslide:** n/a

### SERVICES

**Fire Protection**: Central Fire Protection **School District**: Santa Cruz High and Elementary **Sewage Disposal**: County Sanitation

#### PLANNING POLICIES

Zone District:Commercial Service (C-4)General Plan:Service Commercial (C-S)Urban Services Line:Coastal Zone:Inside

Liquefaction: Minimal potential Fault Zone: San Andreas fault located 8 miles northeast Scenic Corridor: n/a Historic: n/a Archaeology: Not within mapped area Noise Constraint: n/a

Electric Power Lines: Solar Access: Good Solar Orientation: North/south Hazardous Materials: n/a

Drainage District: Zone 5 Project Access: Soquel Drive and Bostwick Lane Water Supply: City of Santa Cruz

Special Designation: None

\_\_\_ Outside \_\_\_\_Outside

#### **PROJECT SETTING AND BACKGROUND:**

The proposed project, demolition of an existing commercial building and construction of three new commercial buildings, would be located on the south side of Soquel Drive. The parcel was formerly the site of a masonry supply sales business that included a large storage yard and is predominately paved. The masonry supply yard has been removed. Other elements of the proposal include construction of associated parking, access and landscaping.

The project site is adjacent to conforming service commercial uses to the north, west and east, and Green Acres elementary school is located directly south of the proposed project. Zoning in the surrounding area is Commercial Service (C-4) with the school property zoned Public Facility (PF). There are community commercial uses and zoning (C-2) located approximately 225 feet west of the subject property on Soquel Avenue. The subject parcels have a General Plan designation of Commercial Service (C-S) and other surrounding General Plan designations are consistent with the zoning.

The parcel where the new commercial buildings are proposed is generally flat and vegetation on the site consists primarily of minimal landscape trees and shrubs associated with the existing commercial development. Four liriodendron trees are proposed to be removed as they have not performed well on this site, presumably due to arid conditions and lack of fertile soils. The nearest watercourse and associated riparian area is Arana Gulch, located approximately 500 feet to the north of the parcels.

Primary access to the proposed project would be from Soquel Drive with secondary access from Bostwick Lane.

#### **DETAILED PROJECT DESCRIPTION:**

The applicant proposes to demolish an existing commercial building and construct three new buildings of 6,316; 9,216 and 14,497 square feet on two existing parcels located at 2776 and 2808 Soquel Avenue, where three commercial buildings currently exist. Two of the existing buildings are proposed to be retained as part of the overall development. The occupancy of the existing buildings includes Santa Cruz Electronics in the building nearest Soquel Avenue, Brake Supply and Antolini Masonry Supplies in the rear building, and Bay Plumbing in the western-most building. The Bay Plumbing building is proposed to be removed. The rear portion of the properties was previously used for masonry supply storage, but that use has been relocated.

The site is relatively flat, and grading is proposed to remove loose fill and to create positive drainage flow. Approximately 1,294 cubic yards of excavation and 495 cubic yards of embankment is proposed, for a net export of 799 cubic yards. The majority of the site is currently covered by buildings and minimal landscaping, and the remainder of the site is covered by pavement or compacted soil in the area formerly occupied by the masonry supply storage. The existing site drains to the center and discharges to the west, to a 24" reinforced concrete pipe (RCP) that connects to the Soquel Avenue storm drain system. This flow will be maintained and enhanced through minimal grading to improve stormwater flow and through the installation of additional catch basins and the use of Best Management Practices (BMP's) to provide filtration and infiltration of site area, 2.4 acres of the site will be drained into a gravel filtration/infiltration trench located beneath the porous pavement parking area located in the middle of the site, on the western parcel boundary. This system provides storage of 2,779 cubic feet of runoff, which is greater than the volume required for a 10-year detention system.

Parking is provided for a total of 110 vehicles, which exceeds the County's requirement of 101 spaces based on the service commercial use and the size of the buildings. It is estimated that the additional commercial space would generate 313 new daily vehicle trips, of which 35 would occur during the AM peak hour and 32 would occur during the PM peak hour. Traffic analysis prepared by Higgins and Associates found that there would be no significant impacts on the intersections studied, for the existing conditions and for the existing conditions plus the proposed project. The cumulative Level of Service would decline from D to F at the Soquel Drive/Soquel Avenue intersection and from C to F at the Seventh Avenue/Soquel Avenue intersection. There are, however, currently improvements in signal synchronization underway which are expected to improve existing conditions in the area, including maintaining LOS C at the Seventh Avenue/Soquel Avenue intersection. These improvements are anticipated to be completed by the end of 2008, prior to building permit final for the proposed project. The applicant will be required to pay Roadway and Roadside Improvement Area fees which will be used to fund the long term improvements needed to mitigate cumulative traffic impacts.

Additional landscaping is also proposed adjacent to parking areas, at the front of new and existing buildings, and along the Soquel Avenue and Bostwick Lane street frontages. Four liriodendron trees are proposed to be removed as they have not performed well on this site, presumably due to arid conditions and lack of fertile soils. New trees are proposed to be a combination of 15 gallon and 23-inch box size and a total of 36 trees would be installed. In the parking area, 25% of the trees would be 24inch box size as would all of the street trees.

Environmental Review Initial Study Page 7		Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable	
III. <u>EN</u>	<u>IVIR(</u>	ONMENTAL REVIEW CHECKLIST				
<u>A. Ge</u> Does t	olog the p	<b>y and Soils</b> roject have the potential to:		·		
1.	Expo pote risk invo	ose people or structures to ntial adverse effects, including the of material loss, injury, or death lving:				
	<b>A</b> .	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?			<b>~</b>	
	В.	Seismic ground shaking?	<u></u>		<b>~</b>	. <u> </u>

C. Seismic-related ground failure, including liquefaction?

D. Landslides?

All of Santa Cruz County is subject to some hazard from earthquakes. However, the project site is not located within or adjacent to a county or State mapped fault zone. The nearest fault zone, the San Andreas is located approximately 8 miles northeast of the project site. A geotechnical investigation for the proposed project was performed by James C. Reynolds and Associates, dated March January 21, 1986 with an update by Dees and Associates, dated July 6, 2006 (Attachment 3). The report concluded that the site is suitable for the proposed development provided the recommendations presented in the reports are implemented during grading and construction. The soils investigation, based on the soils consistency and location of the groundwater table, determined the potential for liquefaction to be minimal. The geotechnical investigation has been reviewed and accepted by County Environmental Planning Staff (Attachment 4). Because the site is gently sloping, landsliding is not expected to post a threat to the proposed development.

Significant Or Potentially Significant Impact Less than Significant with Mîtigation Incorporation

Less than Significant Or No Impact

Not Applicable

2. Subject people or improvements to damage from soil instability as a result of on- or off-site landslide, lateral spreading, to subsidence, liquefaction, or structural collapse?

The geotechnical reports cited above did not identify a significant potential for damage caused by any of these hazards. The soils report indicated that the site is underlain by loose clayey sand over stiff to very still sandy clay. The surface soils are non-expansive and not subject to liquefaction, and the site is essentially flat, so landsliding does not post a threat to development. Foundation design will be required to be consistent with the recommendations in the soils reports.

3. Develop land with a slope exceeding 30%?

There are no slopes that exceed 30% on the property.

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

Some potential for erosion exists during the construction phase of the project, however, this potential is minimal because the site is relatively flat and standard erosion controls are a required condition of the project. Prior to approval of a grading or building permit, the project must have an approved Erosion Control Plan, which will specify detailed erosion and sedimentation control measures. The plan will include provisions for disturbed areas to be planted with ground cover and to be maintained to minimize surface erosion.

 Be located on expansive soil, as defined in section 1802.3.2 of the California Building Code(2007), creating substantial risks to property?

The geotechnical report for the project did not identify any elevated risk associated with expansive soils. Results of laboratory testing conducted by the geotechnical engineer indicate that the soils on site are generally of low expansivity.

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?

Significant Or Potentially Significant Impact Less than Significant with S Mitigation Incorporation

Less than Significant Or No Impact

Not Applicable

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 sanitation improvements within the district as a Condition of Approval for the project.

7. Result in coastal cliff erosion?

## B. Hydrology, Water Supply and Water Quality

Does the project have the potential to:

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

According to the Federal Emergency Management Agency (FEMA) National Flood Insurance Rate Map, dated March 2, 2006, no portion of the project site lies within a 100-year flood hazard area.

 Place development within the floodway resulting in impedance or redirection of flood flows?

According to the Federal Emergency Management Agency (FEMA) National Flood Insurance Rate Map, dated March 2, 2006, no portion of the project site lies within a 100-year flood hazard area.

- 3. Be inundated by a seiche or tsunami?
- 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?

The project will obtain water from the city of Santa Cruz Municipal Utilities 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 project (Attachment 5). The project is not located in a mapped groundwater recharge area.

Significant Or Potentially Significant Impact

Less than Significant Less than with Significant Mitigation Incorporation No Impact

Or

Not Applicable

4

5. Degrade a public or private water supply? (Including the contribution of urban contaminants, nutrient enrichments, or other agricultural chemicals or seawater intrusion).

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 driveways 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. Two silt and grease traps and a filtration/infiltration trench are proposed as part of the project, and a plan for maintenance will be required to reduce this impact to a less than significant level. Potential siltation from the proposed project will be mitigated through implementation of erosion control measures.

6. Degrade septic system functioning?

There is no indication that existing 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?

The proposed project is not located near any watercourses, and will not alter the existing overall drainage pattern of the site. The nearest watercourse is Arana Gulch, which is located approximately 500 feet north of the project site. Because the site is mostly impervious in it's current condition, the additional runoff generated will be minimal and will continue to discharge to the west, to a 24" reinforced concrete pipe (RCP) that connects to the Soquel Avenue storm drain system. Department of Public Works Drainage Section staff has reviewed and approved the proposed drainage plan.

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?

A Drainage Study prepared by Ifland Engineers, dated October, 2007, has been reviewed for potential drainage impacts (Attachment 6) and accepted by the Department of Public Works (DPW) Stormwater Management Section staff (Attachment 7). The proposed system has been sized and designed based on both

Significant Or Potentially Significant lmnact

Less than Significant Less than Significant Mitigation Or No Impact Incorporation

with

Not Applicable

the minimal net increase in impervious surfaces and the existing impervious surfaces for the existing commercial buildings draining to the system. The existing site drains to the center and discharges to the west, to a 24" reinforced concrete pipe (RCP) that connects to the Soquel Avenue storm drain system. This flow will be maintained and enhanced through minimal grading to improve stormwater flow and through the installation of additional catch basins and the use of Best Management Practices (BMP's) to provide filtration and infiltration of site runoff as well as water quality treatment of discharging runoff. Of the 2.6 acre total site area, 2.4 acres of the site will be drained into a gravel filtration/infiltration trench located beneath the porous pavement parking area located in the middle of the site, on the western parcel boundary. This system provides storage of 2,779 cubic feet of runoff, which is greater than the volume required for a 10-year detention system. In addition, discharge from the site is restricted to 10-year pre-development release rate in order to further promote filtration and infiltration in the system by storing runoff. Restricting discharge will be achieved by means of a catch basin with a flow restrictor orifice.

Pretreatment for water entering the County drainage system will occur at several locations on site. Prior to entering the gravel trench, runoff will be treated by the use of Runoff from areas that are not routed to the gravel trench will a silt and grease trap. be treated by a silt and grease trap prior to release onto the Bostwick Lane gutter.

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

The proposed system has been sized and designed based on both the net increase in impervious surfaces and the existing impervious surfaces for the existing commercial buildings draining to the system. The runoff rate from the property will be a 10-year pre-development release rate, minimizing storm water runoff that could contribute to flooding or erosion.

10. Otherwise substantially degrade water supply or quality?

Two silt and grease traps and a filtration/infiltration trench have been included in the proposal to minimize the effects of urban pollutants. A maintenance plan for all water treatment facilities, including the impervious paving detention system will be required.

Significant	
Or	
Potentially	
Significant	
Impact	i

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?

According to the California Natural Diversity Data Base (CNDDB), maintained by the California Department of Fish and Game, there are no known special status plant or animal species in the site vicinity, and there were no special status species observed in the project area.

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

There are no mapped or designated sensitive biotic communities on or adjacent to the project site.

 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?

The proposed project does not involve any activities that would interfere with the movements or migrations of fish or wildlife, or impede use of a known wildlife nursery site.

 Produce nighttime lighting that will illuminate animal habitats?

The subject property is located in an urbanized area and is surrounded by existing commercial development that currently generates nighttime lighting. There are no sensitive animal habitats within or adjacent to the project site. The nearest riparian corridor is that associated with Arana Gulch, which is approximately 500 feet north of the project site, on the north side of Soquel Avenue adjacent to Highway 1.

Or	
Potentially	
Significant	
Impact	

Significant

Less than Significant Less than with Significant Mitigation Incorporation No Impact

 $\mathbf{Or}$ 

Not Applicable

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

Refer to C-1 and C-2 above.

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)?

The project will not conflict with any local policies or ordinances.

7. Conflict with the provisions of an adopted Habitat Conservation Plan, Biotic Conservation Easement, or other approved local, regional, or state habitat conservation plan?

## D. Energy and Natural Resources

Does the project have the potential to:

1. Affect or be affected by land designated as "Timber Resources" by the General Plan?

The project is not adjacent to land designated as Timber Resource.

2. Affect or be affected by lands currently utilized for agriculture, or designated in the General Plan for agricultural use?

The project site is not currently being used for agriculture and no agricultural uses are proposed for the site or surrounding vicinity.

3. Encourage activities that result in the use of large amounts of fuel, water, or energy, or use of these in a wasteful manner?

Significant	ress man
Or	Significant
Potentially	with
Significant	Mitigation
Impact	Incorporatio

Less than Significant Or No Impact

Not Applicable

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

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.

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?

The project site is not located along a County designated scenic road or within 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?

The existing visual setting includes several commercial service establishments to the north, east and west and a public elementary school to the south. The proposed project will complement the service commercial buildings. The proposed project will actually improve the existing visual character in the area. Little change in topography is proposed and the additional landscaping proposed will be of benefit to the area.

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

The project will create an incremental increase in night lighting. However, this increase will be small, and will be similar in character to the lighting associated with the surrounding existing uses.

Significant	
Or	
Potentially	
Significant	
Impact	

Less than Significant with Mitigation Incorporation

Less than Significant Or No Impact

Not Applicable

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

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?

The existing structures on the property are not designated as historic resources on any federal, State or local inventory.

2. Cause an adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines 15064.5?

No archeological resources have been identified in the project area. Pursuant to County Code Section 16.40.040, if at any time in the preparation for or process of excavating 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?

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?

¥

Significant Or Potentially Significant Impact Less than Significant with Mitigation Incorporation

Less than Significant Or No Impact

Not Applicable

There are no unique paleontological resources or features on or adjacent to the site that would be destroyed or modified by the project

#### 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?

The applicant has proposed a Master Occupancy Program that would not allow any uses that utilize hazardous materials as a Level 1 change of use. The uses allowed in the zone district, which could potentially be approved with additional review, may include service commercial businesses that use or sell materials that may be considered hazardous as defined by County Environmental Health Services. If such materials require regulation, the operator will be required, as part of any discretionary permit, to obtain a Hazardous Materials Management Permit from County Environmental Health Services, and to prepare and implement a Hazardous Materials Management Plan.

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?

The project site is included on the July 15, 2008 list of hazardous sites in Santa Cruz County compiled pursuant to the specified code, as a site for which mitigation was completed in 1988.

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

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

#### 5. Create a potential fire hazard?

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

 Release bio-engineered organisms or chemicals into the air outside of project buildings?

#### H. Transportation/Traffic

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)?

It is estimated that the additional commercial space would generate 313 new daily vehicle trips, of which 35 would occur during the AM peak hour and 32 would occur during the PM peak hour. Traffic analysis prepared by Higgins and Associates, dated January 18, 2008, (Attachment 8) found that there would be no significant impacts on the intersections studied, for the existing conditions and for the existing conditions plus the proposed project. The cumulative future Level of Service would decline from D to F at the Soquel Drive/Soquel Avenue intersection and from C to F at the Seventh Avenue/Soquel Avenue intersection. There are, however, currently improvements in signal synchronization underway which are expected to improve existing conditions in the area, including maintaining LOS C at the Seventh Avenue/Soquel Avenue intersection. These improvements are anticipated to be completed by the end of 2008, prior to building permit final for the proposed project. The traffic analysis has been reviewed and accepted by the Department of Public Works, Road Engineering staff (Attachment 7).

The applicant will be required to pay Roadway and Roadside Improvement Area fees which will be used to fund the long term improvements needed to mitigate cumulative future traffic impacts.

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



Significant Or Potentially Significant Impact

Significant Less than Significant Mitigation Or Incorporation No Impact

Less than

with

Not Applicable

The project meets the code requirements for the required number of parking spaces and therefore new parking demand will be accommodated on site. Parking is provided for a total of 110 vehicles, which exceeds the County's requirement of 101 spaces based on the service commercial use and the size of the building.

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

The proposed project will be conditioned to comply with current road requirements to prevent potential hazards to motorists, bicyclists, and/or pedestrians. The traffic analysis prepared by Higgins and Associates (Attachment 8) included a sight distance analysis of the intersection of Bostwick Lane and 7<sup>th</sup> Avenue that identified a restricted line of sight looking from Bostwick Lane south on 7<sup>th</sup> Avenue, due to vegetation on the south side of 7<sup>th</sup> Avenue. The existing sight distance at this location was determined to be 375 feet to the north (right turns) and 190 feet to the south (left turns).

Ideally, based on a design speed of 30 miles per hour, the intersection corner sight distance would be 330 feet in both directions. CalTrans does allow the minimum corner sight distance to be reduced to the stopping sight distance when restrictive conditions, such as high costs associated with right-of-way acquisition, building removal, extensive excavation or environmental impacts exist. Based on the design speed of 30 miles per hour, the minimum corner sight distance of 196 should be provided looking both north and south from Bostwick Lane, using the restrictive condition sight distance criteria. The County Redevelopment Agency is currently developing plans for improvements to 7<sup>th</sup> Avenue, in the vicinity of the intersection with Bostwick Lane. As part of the improvements, trees and other landscaping that may affect site distance will be trimmed or removed, as applicable, such that adequate site distance will be maintained.

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?

Traffic analysis prepared by Higgins and Associates, dated January 18, 2008, (Attachment 8) found that there would be no significant impacts on the intersections studied, for the existing conditions and for the existing conditions plus the proposed project. The cumulative future Level of Service would decline from D to F at the Soquel Drive/Soquel Avenue intersection and from C to F at the Seventh Avenue/Soquel Avenue intersection. The County of Santa Cruz has established LOS C as the minimum acceptable for overall intersection operations. However, LOS D can

Significant Or Potentially Significant Impact

Significant Less than Significant Or Mitigation No Impact Incorporation

Less than

with

Not Applicable

be considered acceptable where costs, right-of-way acquisitions, or environmental impacts of maintaining the standards are excessive and capacity enhancements are infeasible. There are, however, currently improvements in signal synchronization underway which are expected to improve existing conditions in the area, including maintaining LOS C at the Seventh Avenue/Soquel Avenue intersection. These improvements are anticipated to be completed by the end of 2008, prior to building permit final for the proposed project, such that there will be no impact for the existing conditions plus the proposed project.

The applicant will be required to pay Roadway and Roadside Improvement Area fees which will be used to fund the long term improvements needed to mitigate cumulative future traffic impacts and maintain acceptable levels of service in the vicinity.

#### 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?

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.

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

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. Based on the existing uses and the uses allowed in the zone district, it is unlikely that these limits will be exceeded by future tenants. There is, however, an elementary school located directly south of the project site, across Bostwick Lane, which could be considered a sensitive site as it relates to noise impacts. Conditions of approval will be included to prohibit outdoor noise-generating uses and to require that any indoor noise generating uses allowed in the zone district (such as auto repair) only occur within buildings with exterior doors closed.

3. Generate a temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Significant Or Potentially Significant Impact Less than Significant Less than with Significant Mitigation Or Incorporation No Impact

Not Applicable

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?

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 the modest amount of new traffic that will be generated by the project there is no indication that new emissions of VOCs or NOx will exceed Monterey 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 short-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?

The project will not conflict with or obstruct implementation of the regional air quality plan. See J-1 above.

- 3. Expose sensitive receptors to substantial pollutant concentrations? \_\_\_\_\_ \_\_\_\_
- 4. Create objectionable odors affecting a substantial number of people?

° Or	
Detendeller	
Potentially	
Significant	
Impaci	

Significant

Less than Significant I with S Mitigation Incorporation I

Less than Significant Or No Impact Ap

Not Applicable

#### 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?
b. Police protection?
c. Schools?
d. Parks or other recreational activities?
e. Other public facilities; including

the maintenance of roads?

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 and school and transportation fees to be paid by the applicant will be used to offset the incremental increase in demand for school facilities and public roads.

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?

A Drainage Study prepared by Ifland Engineers, dated October, 2007, has been reviewed for potential drainage impacts and accepted by the Department of Public Works (DPW) Stormwater Management Section staff (Attachment 6). The proposed system has been sized and designed based on both the minimal net increase in impervious surfaces and the existing impervious surfaces for the existing commercial

Significant Or Potentially Significant Impact Less than Significant Less than with Significant Mitigation Or Incorporation No Impact

Not Applicable

buildings draining to the system. The existing site drains to the center and discharges to the west, to a 24" reinforced concrete pipe (RCP) that connects to the Soquel Avenue storm drain system. This flow will be maintained and enhanced through minimal grading to improve stormwater flow and through the installation of additional catch basins, and no new off-site drainage facilities are required or proposed.

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?

The project will connect to an existing municipal water supply. The City of Santa Cruz Water Department has determined that adequate supplies are available to serve the project (Attachment 5).

Municipal sewer service is available to serve the project, as reflected in the attached letter from the Santa Cruz County Sanitation District (Attachment 9).

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

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?

The water mains serving the project site provide adequate flows and pressure for fire suppression. Additionally, the local fire agency or California Department of Forestry, as appropriate, has reviewed and approved the project plans, assuring conformity with fire protection standards that include minimum requirements for water supply for fire protection.

6. Result in inadequate access for fire protection?

The project's road access meets County standards and has been approved by the local fire agency.

Significant	Less than
Or	Significant
Potentially	with
Significant	Mitigation
Impact	Incorporation

Less than Significant Or No Impact

Less than Significant

Not Applicable

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

The project will make an incremental contribution to the reduced capacity of regional landfills. However, this contribution will be relatively small and will be of similar magnitude to that created by existing land uses around the project.

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

# L. Land Use, Population, and Housing

Does the project have the potential to:

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

The proposed project does not conflict with any policies adopted for the purpose of avoiding or mitigating an environmental effect.

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

The proposed project does not conflict with any regulations adopted for the purpose of avoiding or mitigating an environmental effect.

3. Physically divide an established community?

The project will not include any element that will physically divide an established community.

Have a potentially significant growth 4. inducing effect, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Significant Or Potentially Significant Impact

Less than Significant Or Incorporation No Impact

Less than

Significant

with

Mitigation

Not Applicable

The proposed project is designed at the density and intensity of development allowed by the General Plan and zoning designations 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?

The proposed project will neither remove housing or provide any new housing.

#### M. Non-Local Approvals

Does the project require approval of federal, state, or regional agencies?

#### 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?
- 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)
- 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)?
- 4. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Yes 🖌	No
Yes	No
Yes	No 🖌
Yes	No
Yes	No 🗸

#### TECHNICAL REVIEW CHECKLIST

	REQUIRED	COMPLETED*	<u>N/A</u>
Agricultural Policy Advisory Commission (APAC) Review			<u> </u>
Archaeological Review			<u> </u>
Biotic Report/Assessment			<u> </u>
Geologic Hazards Assessment (GHA)			<u> </u>
Geologic Report			<u> </u>
Geotechnical (Soils) Report		July 6, 2006	
Riparian Pre-Site	<u> </u>		<u> </u>
Septic Lot Check			<b>_</b>
Other:			
Drainage Study Traffic Impact Analysis		January, 2008 January 18, 2008	

#### Attachments:

1. Vicinity Map, Map of Zoning Districts, Map of General Plan Designations, Assessors Parcel Map

- Architectural Plans prepared by William Bagnall Architect, Inc, dated 1/9/2007; Preliminary Improvement Plans prepared by Ifland Engineers dated 11/28/2008; Landscape Plan prepared by Greg Lewis Landscape Architect, dated 1/31/08.
- 3. Geotechnical Investigation (Conclusions and Recommendations) prepared by Dees & Associates, dated 7/6/2006 and letter regarding foundation construction dated 3/6/2007.
- 4. Geotechnical Review Letter prepared by Carolyn Banti Civil Engineer, dated 10/31/07.
- 5. Letter from City of Santa Cruz Water Department, dated 11/9/07.
- 6. Drainage calculations (Summary) prepared by Ifland Engineers, dated 1/08.
- 7. Discretionary Application Comments, printed 8/4/08
- 8. Traffic Impact Analysis prepared by Higgins and Associates, dated 10/8/07 and 1/18/08.
- 9. Memo from Santa Cruz County Sanitation District, dated 8/13/2008.











....






















































Dees & Associates, Inc. Geotechnical Engineers 501 Mission Street, Suite BA, Santa Cruz, CA 95060

Phone: 831 427-1770 Fax: 831 427-1794 Email: dna@dslextreme.com

Project No.SCR-0174

March 6, 2007 Revised March 7, 2008

MR. JEFF ANTOLINI 427 La Fonda Santa Cruz, California 95060

Subject: Compaction Below Foundations

Reference: Proposed Buildings 4 and 5 2776 Soquel Avenue APN 011-032-39 Santa Cruz County, California

Dear Mr. Antolini:

Our report recommended compacting the top 2.5 feet of soil within 2 feet of Building 5 located in the northwest corner of the site. Building 5 will be constructed along the property line. Where foundations lie adjacent to property lines the recommend 2 feet overbuild recommended for redensification of the foundation soils may be eliminated. This will reduce the bearing capacity of the soil, therefore, foundations located along the property line should be designed using a reduced bearing capacity of 1,500 psf.

The foundation for Building 4 can either penetrate the upper 3 feet of loose soil or the top 3 feet of soil can be compacted in the same manner as Building 5 to allow for conventional foundations. If foundations penetrate the loose soil, the top 8 inches of the subgrade should be compacted to 90 percent to provide a firm base for slab support.

If you have any questions, please call our office.

Very truly yours,

DEES & ASSOCIATES, INC.

Rebecca L. Dees Geotechnical Engineer G.E. 2623

Copies:

1 to Addressee 1 to Powers Land Planning, Inc.

Environmental Review Initial Study ATTACHMENT 3. 14-16 APPLICATION 07-02.12



Dees & Associates, Inc. Geotechnical Engineers 501 Mission Street, Suite 8A, Santa Cruz, CA 95060

Phone: 831 427-1770 Fax: 831 427-1794 Email: dna@dslextreme.com

March 6, 2007

MR. JEFF ANTOLINI 427 La Fonda Santa Cruz, California 95060

Subject: Compaction Below Foundations

Reference: Proposed Buildings 4 and 5 2776 Soquel Avenue APN 011-032-39 Santa Cruz County, California

Dear Mr. Antolini:

Buildings 4 and 5 will be constructed along the property line at the site. Where foundations lie adjacent to property lines the recommend 2 feet overbuild recommended for re-densification of the foundation soils may be eliminated. This will reduce the bearing capacity of the soil, therefore, foundations located along the property lines should be designed using a reduced bearing capacity of 1,500 psf.

If you have any questions, please call our office.

Very truly yours,

DEES & ASSOCIATES, INC.

Rebecca L. Dees Geotechnical Engineer G.E. 2623

Copies:

1 to Powers Land Planning, Inc.

ATTACHMENT 3. 2.4.16 APPLICATION 07-0212



Project No.SCR-0174



# **Dees & Associates**

Geotechnical Engineers

501 Mission Street, Suite 8A Santa Cruz, CA 95060

Phone (831) 427-1770 Fax (831) 427-1794

July 6, 2006

Project No. SCR-0174

MR. JEFF ANTOLINI 427 La Fonda Santa Cruz, California 95060

Subject: Geotechnical Investigation Review and Update

Reference: Proposed Commercial Buildings 2776 Soquel Avenue, Santa Cruz Santa Cruz County, California

Dear Mr. Antolini:

As requested, this letter provides updated geotechnical recommendations for the commercial warehouse/office buildings proposed at the referenced site. A Soil Investigation was prepared for the site in January 1986 by James C. Reynolds & Associates, Project No. 85112-S60-F6. Their report included seven exploratory borings and recommendations for site development. The Reynolds report is over ten years old and the County of Santa Cruz requires an updated geotechnical investigation for reports over three years old.

The purpose of our investigation was to review the previous soil report prepared for the site, perform engineering analysis and determine if the recommendations of the Reynolds report are still valid for the proposed site improvements. Our specific scope of our work was as follows: 1) a site reconnaissance to observe the existing site conditions and discuss the project with Jeff Antolini, 2) review data in our files regarding the site and vicinity, 3) review the Geotechnical Investigation prepared by James C. Reynolds & Associates, Project No. 85112-S60-F6, dated January 21, 1886, 4) review the preliminary site plan indicating the location of existing and proposed improvements, 5) engineering analysis and 6) preparation of this report.

## Site and Project Description

The site is located on the southeast side of Soquel Avenue about 250 feet east of 7<sup>th</sup> Avenue. The fairly level site is developed with three mixed-use commercial buildings. The buildings are currently used for warehouse, retail and office space. We understand three new mixed-use buildings are proposed for the site. The buildings will be constructed in two phases. The first phase will be to construct a new two-story warehouse/office building in the southwest corner of the site. Phase two will include construction of two more warehouse/office buildings in the southeast and northwest corners. One of the existing structures will be removed to accommodate the Phase 2 improvements.

Environmental Review Initial Study ATTACHMENT 3. 3.04.16 APPLICATION 07-0212

# Subsurface Soil Conditions

Seven borings were drilled at the site by Reynolds & Associates. The test boring logs indicate the site is underlain by up to 2.5 feet of loose clayey sand over 1.5 to 4 feet of stiff to very stiff sandy clay. The sandy clay is underlain by clayey sand and sand to the depth of the borings. The report indicates the surface soils are non-expansive. Baserock and asphalt cover the native soils over most if the site and four feet of compacted fill was encountered in the northwest corner of the site near Soquel Avenue.

# **DISCUSSIONS & CONCLUSIONS**

Based on the results of our investigation, the recommendations presented in the Reynolds Associates may be used for the proposed improvements with the exception of the building proposed in the northwest corner of the site.

## Foundations

The loose soil varies from 1.5 to 2.5 feet deep across the site with the exception of the northwest corner where compacted fill was found. The Reynolds report recommended embedding foundation at least 18 inches below grade and provided a very low bearing capacity (1,250 psf) for proposed structures. Mr. Reynolds also recommended keeping the bearing loads uniform around the structure. We assume this recommendation was provided to keep the settlement uniform across the structure. The Revnolds report did not estimate total and differential settlements for the proposed structures. Our firm calculated the maximum allowable bearing capacity of the soil using the laboratory data included on the test boring logs. Our calculations indicate an allowable bearing pressure of 1,386 to 1,768 psf with a total settlement of 1 inch. We inspected the exposed portion of the foundation and slab for an existing structure constructed using the recommendations of the Reynolds report. (The two-story structure is centrally located along the east edge of the site.) The foundation was mostly buried below grade and the interior was stacked with storage items, however, the portions we were able to see were in very good condition. There were very small shrinkage cracks in the interior slab, most likely due to inadequate control joint spacing and no remarkable cracks were observed in the footings or masonry walls. Our calculations and site observations indicate the bearing capacity provided in the Revnolds report is appropriate and proposed structures may be supported on spread footings embedded 18 inches into firm native soil per the recommendations of the Reynolds report.

The building proposed in the northwest corner has very dense compacted fill below the north end of the structure. The nearest boring to the south end of the building had loose soils to a depth of 2.5 feet. There is a potential for differential settlement due to the large variation in soil density across the building pad. We recommend compacting the loose soil below the building foundation proposed in the northwest corner of the site to provide a firm, uniform subgrade for foundation support. The loose soils within 2 feet of footings should be compacted to at least 90 percent relative compaction. Footings embedded into compacted

SCR-0174 | 7/6/06

Environmental Review Inital Study ATTACHMENT 3. APPLICATION 07

engineered fill may be designed using an allowable bearing capacity of 2,350 psf.

# Slabs-on-Grade

Dees & Associates are not experts in the field of moisture proofing or vapor barriers. An expert, experienced in the field of vapor mitigation should be consulted to address areas where floor wetness would be undesirable or where sensitive flooring or equipment is planned on top of floor slabs. We also recommend you discuss this issue with your flooring and equipment manufacturers. At a minimum, a blanket of 4 inches of free-draining gravel should be placed beneath the floor slab to act as a capillary break. In order to minimize vapor transmission, an impermeable membrane should be placed over the gravel. The membrane should be covered with 2 inches of sand or rounded gravel to protect it during construction. The sand or gravel should be lightly moistened just prior to placing the concrete to aid in curing the concrete.

# Seismic Design Parameters

Structures designed in accordance with the most current seismic design codes should react well to seismic shaking. The project site is located about 13 km (8 miles) southwest of the San Andreas Fault zone. The San Andreas Fault is considered to be a Seismic Fault Source Type A, according to the 1997 UBC. A "Soil Type S<sub>D</sub>" may be used in seismic analysis using the 1997 UBC seismic design provisions.

# Plan Review, Construction Observation and Testing

Dees and Associates should be provided the opportunity for a general review of the final project plans prior to construction to evaluate if our geotechnical recommendations have been properly interpreted and implemented. If our firm is not accorded the opportunity of making the recommended review, we can assume no responsibility for misinterpretation of our recommendations. We recommend that our office review the project plans prior to submittal to public agencies, to expedite project review. Dees and Associates request the opportunity to observe and test grading operations and foundation excavations at the site. Observation of grading and foundation excavations allows anticipated soil conditions to be correlated to those actually encountered in the field during construction.

It has been a pleasure working with you on this project. If you have any questions, please call our office.

Very truly yours,

# DEES & ASSOCIATES, INC.

Rebecca L. Dees Geotechnical Engineer G.E. 2623

Copies: 3 to Addressee

SCR-0174 J 7/6/06 Environmental Review Inital Study ATTACHMENT 3, 5, 4-16 APPLICATION 07-0212



# LIMITATIONS AND UNIFORMITY OF CONDITIONS

- 1. The recommendations of this report are based upon the assumption that the soil conditions do not deviate from those disclosed in the borings. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that planned at the time, our firm should be notified so that supplemental recommendations can be given.
- 2. This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information and recommendations contained herein are called to the attention of the Architects and Engineers for the project and incorporated into the plans, and that the necessary steps are taken to ensure that the Contractors and Subcontractors carry out such recommendations in the field. The conclusions and recommendations contained herein are professional opinions derived in accordance with current standards of professional practice. No other warranty expressed or implied is made.
- 3. The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether due to natural processes or to the works of man, on this or adjacent properties. In addition, changes in applicable or appropriate standards occur whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated, wholly or partially, by changes outside our control. Therefore, this report should not be relied upon after a period of three years without being reviewed by a geotechnical engineer.

Environmental Review Inital Study ATTACHMENT\_3 APPLICATION \_

SCR-0174 | 7/6/06

SOIL INVESTIGATION for APN 26-031-05,18 Santa Cruz, California

FOR MR. ERNEST ANTOLINI Santa Cruz, California

BY JAMES C. REYNOLDS & ASSOCIATES GEOTECHNICAL ENGINEERS 85122-S60-F6 January 1986

Environmental Review Initial Study ATTACHMENT 3 7 64 / 64 APPLICATION 07-02 12



JAMES C. REYNOLDS & ASSOCIATES, INC. **Geotechnical Engineers** 

> 85122-S60-F6 21 January 1986

Mr. Ernest Antolini 2776 Soquel Avenue Santa Cruz, CA 95062

Subject: Antolini Property, APN 26-031-5,18 2776 Soquel Avenue, Santa Cruz

Dear Mr. Antolini:

In accordance with your authorization, we have conducted an investigation of the subsurface soil conditions at the site of the presently proposed high story building and subsequent future commercial buildings, in Santa Cruz, California.

Our findings indicate that the site, from a geotechnical engineering standpoint, is suitable for the proposed construction provided the recommendations of this report are followed in the design and construction phases of the project.

The accompanying report outlines our findings related to the field exploration and laboratory testing and includes our recommendations and conclusiona based on these findings.

It has been a pleasure performing this service for you. If you have any questions, please contact our office.

Very truly yours,

JAMES C. REYNOLDS & ASSOCIATES, INC.

Jon Mo James C. Reynolds

CE 15285

JCR:sr

4 to Mr. Ernest Antolini Copies: 1 to Ifland Engineers, Inc.

Environmental Review, Inital 9 ATTACHMENT APPLICATION

35 Secondo Way • Watsonville, California 95076 • 408-722-5377

#### DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

#### General

1. Based on this investigation, it is our opinion that the site can be developed for the proposed commercial type development provided these recommendations are included in the design and construction in the field.

2. Out site observations and laboratory testing indicated that the surface soils possess non-expansive properties.

3. Based on the site topography and our discussions, only a slight amount of grading will be required to develop the site. The use of imported material will probably not be necessary.

4. As the grading plans and foundation details have not been finalized, some of the recommendations must be general in nature. These items should be reviewed by the Geotechnical Engineer prior to the contract bidding to insure that the provisions of this report have been included in the design. At that time, additional recommendations will be provided, if necessary.

5. The Geotechncial Engineer should be notified at least four (4) working days prior to any site clearing or grading operations on the property in order to coordinate his work with the grading contractor. This time period will allow for any necessary laboratory testing (compaction curves) that should be completed prior to the grading operations.

6. Earthwork construction should be performed in accordance with the "Recommended Grading Specifications," Appendix B. The specifications set Environmental Review Inital Study ATTACHMENT 3. 904/0 APPLICATION 07-0010

forth minimum standards necessary to satisfy the other requirements of this report and without compliance with these standards, the design criteria presented in this report will not be valid.

#### Site Preparation

7. The initial site preparation shall consist of removal of all vegetation, stockpiled building materials, and demolition debris. The organic surface strippings from the site may be stockpiled for future landscaping. The depth of stripping will be minimal or non-existent, however some areas may require as much as four inches (4") in depth.

#### Cut and Fill Slopes

8. All cut and fill slopes shall be graded no steeper than two horizontal to one vertical (2:1).

9. After completion of the slope construction, proper erosion protection must be provided. This must include track-rolling and planting of the exposed surface of the slopes. Cut and fill slopes shall be constructed so that accumulated surface water will <u>not</u> be allowed to drain over the top of the slope face.

#### Grading

10. Fill soil including redensification of the loose surface soils under buildings should be compacted to a relative compactive effort of 90%: however, compactive effort under paved areas shall be a minimum of 95%. All soils should be moistured conditioned so that the moisture content at the time of compaction is at or near its optimum moisture content. The percent Environmental Review Inital Study

ATTACHMENT\_\_\_ APPLICATION \_\_\_\_

relative compaction must be based on the maximum dry density obtained from a laboratory compaction curve run in accordance with the procedure set forth in ASTM Test procedure #D1557-78. This test will also establish the optimum moisture content of the soil.

11. Should the use of imported fill be necessary for other than base or subbase on this project, this fill should be:

- a. free of organics, debris and other deleterious materials
- b. granular in nature and contain sufficient binder to allow utility trenches to stand open
- c. free of rocks in excess of 4 inches in size
- d. have a sand equivalent of 20 or more and
- e. have a Resistance "R"-Value in excess of 30.

Samples of any proposed imported fill planned for use on this project should be submitted to the Geotechnical Engineer for appropriate testing and approval no less than four (4) working days before anticipated job site delivery.

#### Redensification Zone

12. Due to the loose condition of the surface soils we recommend that the top six inches (6") of subgrade soil under the proposed pavements and buildings be scarified, moisture conditioned, and recompacted to the minimum compactive effort as delineated in paragraph 10 above. Subsequent fill required to bring the street subgrade and building pad to proper elevation will be placed, moisture condtioned and compacted in a like manner.

#### Foundations

13. Based on the soil characteristics, it is our opinion that the most appropriate foundation system for support of the building will consist of

Environmental Review Inital Study ATTACHMENT 3, 11 of 16 APPLICATION 07-026

conventional footings bedded into firm existing soil. This system should consist of continuous exterior footings, in conjunction with interior isolated spread footings or additional interior continuous footings.

14. For conventional footings, the continuous and isolated footing sizes should be based on the allowable bearing value but not less than 15" inches in width. All footings should be excavated a minimum of eighteen inches (18") into the firm existing soil. Should local building codes require deeper embeddment of the footings, the local codes must apply. Footing excavations must be checked by the Geotechnical Engineer before steel is placed and concrete is poured to insure bedding into proper material. Footings constructed to the given cirteria may be designed for an allowable bearing capacity of 1,250 p.s.f. for dead plus live load, and may be increased by one-third to include short term wind and seismic type loadings. Foundation bearing values should be kept as close to the specified value as possible.

The footings should contain steel reinforcement as directed by the 15. Project Design Engineer in accordance with applicable UBC or ACI Standards. However, we recommend that the reinforcing steel in the continuous footings be increased to include a minimum of four No. 4 bars (two near the top and two near the bottom). Isolated footings should be reinforced in a similar manner.

#### Concrete Slab-on-Grade Construction

16. Concrete slab-on-grade floors may be used for ground level construction on firm native soil. All concrete slabs-on-grade should be underlain by a Environmental Review Inital Study TACHMENT APPLICATION

minimum of six inch (6") thick capillary break of crushed rock. This should be checked and approved by the Geotechnical Engineer prior to pouring concrete.

Where floor coverings are anticipated or vapor transmission will be 17. a problem, a water proof membrane should be placed between the granular layer and the floor slab in order to reduce the moisture condensation under the floor coverings. A two inch layer of moist sand on top of the membrane will help protect the membrane from rupturing and will assist in equalizing the curing rate to reduce excessive shrinkage stresses. The crushed rock thickness may be reduced by a thickness equal to the sand cushion layer.

Slab thickness and reinforcing shall be designed by the Design Engineer 18. based on the structural parameters; however minimum reinforcement shall consist of 6"x6"/10x10 wire mesh. The reinforcing must be firmly held in place during placement and finishing of the concrete in order to attain its greatest efficiency in minimizing the cracking of the slabs.

## Drainage

We recommend that full gutters be used at all roof down eves to collect 19. storm runoff water and channel it through closed rigid conduits to a suitable discharge.

Water must not be allowed to pond adjacent to the structural founda-20. tions or on the paved areas. Finished grade should provide a positive gradient away from all foundations.

The building and surface drainage facilities should not be altered, 21. Environmental Review Inital Study **ATTACHMEN** APPLICATION
### 85122-S60-F6 21 Janaury 1986

nor any filling or excavation work performed after initial construction work has been completed without consulting the Geotechnical Engineer.

22. Irrigation activities at the site should be done in a controlled and reasonable manner.

### Utility Trenches

23. Utility trenches that are located parallel to the sides of building foundations should be placed so that they do not extend below a line sloping down and away at a 2:1 (horizontal to vertical) slope from the bottom edge of all footings.

24. Trenches should be backfilled with an approved granular material (not sand) and compacted uniformily to the minimum relative compactive effort as required by the "City Specifications" but not less than those specified in Item 10 above.

### Lateral Pressures

25. Retaining walls that are fully drained, should be designed to the following criteria:

- a. Where walls are "flexible," i.e. free to yield in an amount sufficient to develop an active earth pressure condition (about ½% of height) design for an active pressure 35 p.s.f./ft. depth with a horizontal backslope, and 55 p.s.f./ft. of depth with a 2:1 backslope.
- b. Where walls are considered "fixed" design for a uniform active pressure of 24H p.s.f. (H is depth of wall in feet) with horizontal backslope, and 30H p.s.f. with a 2:1 backslope gradient.
- c. For resisting passive earth pressure:
  - 1. For existing in-place soil, use 250 p.s.f./ft., of depth neglect the upper 12" if the soils are loose.
  - 2. For engineered fill, use 300 p.s.f./ft., of depth.

Environmental Review Initial Study ATTACHMENT 3, 14 af 16 APPLICATION 07-0212

12

### 85122-S60-F6 21 January 1986

- d. Coefficient of "friction" between base of foundation and subsoil of 0.30.
- e. Any live or dead surcharge which will transmit a force to the wall.

26. The above criteria are based on fully drained conditions. Therefore, we recommend that permeable material meeting the State of California Standard Specification Section 68-1.025 Class 2, be placed behind the wall, with a minimum width of twelve inches (12") and extending for the full height of the wall to within one foot of the ground surface. The rock should then be covered with a waterproof membrane and twelve inches (12") of compacted fill. A 4-inch diameter perforated and rigid drain pipe should be installed within four inches of the bottom of the granular backfill and be discharged to a suitable approved location.

#### Erosion

27. These soils are susceptable to erosion. The exposed soils should be landscaped as soon as possible, after grading, to reduce erosion.

### Pavements

28. The native clayey sand soils typically exhibit "R" Values from 20 to 30 with very low expansion characteristics. The following design results are based upon a minimum basement "R" Value of 20 and Traffic Indices of four for automobile traffic in driveway and parking areas and six for the truck maneuvering and delivery driveway areas. Therefore, we recommend that the on-site paving should be 2 inches of asphaltic concrete, over 7 inches of Class 2 Aggregate Baserock (R=78 min.), over 6 inches of compacted (95%) subgrade soil. For truck maneuvering and delivery driveway areas we recommend

Environmental Review Inital Study ATTACHMENT\_3 APPLICATION \_

13

### 85122-S60-F6 21 January 1986

3 inches asphaltic concrete, over 6 inches of Class 2 Aggregate Baserock (R=78), over 5 inches of Class 2 Aggregate Subbase (R=50 min.), over 6 inches of compacted (95%) subgrade soil.

29. To have the selected sections perform to their greatest efficiency, it is very important that the following items be considered:

- a. Properly moisture condition the subgrade and compact to a minimum relative compaction of 95%, at a moisture content near the optimum moisture content.
- b. Provide sufficient gradient to prevent ponding of water.
- c. Use only quality materials of the type and thickness (minimum) specified. All baserock must meet CALTRANS Stantard Specifications for Class 2 Aggregate Base, and be angular in shape. Subbase must also meet CALTRANS Standard Specifications for Class 2 Aggregate Subbase, and be angular in shape.
- d. Compact the subbase and base aggregate uniformily to a minimum relative compactive effort of 95%.
- e. Place the asphaltic concrete only during periods of fair weather when the free air temperature is within the prescribed limits.
- f. Provide a routine maintenance program.

#### Plan Reiview

30. We respectfully request an opportunity to review the plans before bidding to insure that the recommendations of this report have been included and to provide additional recommendations, if needed.

Environmental Review Inital Study ATTACHMENT 3 APPLICATION  $O\mathcal{I}$ 



# COUNTY OF SANTA CRUZ

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

November 15, 2007

Powers Land Planning, Ron Powers 1607 Ocean St., Ste. 8 Santa Cruz, CA, 95063

Subject: Review of Geotechnical Investigation by Dees & Associates Dated July 6, 2006; Project #: SCR-0174 APN 026-031-32,46, Application #: 07-0212

### 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. Plans shall also provide a thorough and realistic representation of all grading necessary to complete this project
- 3. Prior to the discretionary application being deemed complete, a *plan review letter* shall be submitted to Environmental Planning. The author of the report 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) 454-5121 if we can be of any further assistance.

Sincerely,

Carolyn Banti

Associate Civil Engineer

Cc: Cathy Graves, Project Planner Ernest and Ruth Antolini, Owners Dees & Associates Environmental Review Inital Study

ATTACHMENT 4 APPLICATION 07-0772



NOV 1 4 2006

Powers Land Planning, Inc

#### WATER DEPARTMENT

809 Center Street, Room 102 Santa Cruz CA 95060 Phone (831) 420-5200 Fax (831) 420-5201

November 9, 2006

Jeff Antolini 427 La Fonda Avenue Santa Cruz CA 95062

Re: APN 026-031-32 & 46, 2776 & 2806 Soquel Avenue; proposed demolition of one existing and construction of two new commercial buildings for a total of five buildings on two parcels.

Dear Mr. Antolini:

This letter is to advise you that the proposed development is located within the service area of the Santa Cruz Water Department and potable water is currently available for normal domestic use and fire protection. Service will be provided to each and every lot of the development upon payment of the fees and charges in effect at the time of service application and upon completion of the installation, at developer expense, of any water mains, service connections, fire hydrants and other facilities required for the development under the rules and regulations of the Santa Cruz Water Department. The development will also be subject to the City's Landscape Water Conservation requirements.

At the present time:

the required water system improvements have not been determined; and financial arrangements have not been made to the satisfaction of the City to guarantee payment of all unpaid claims.

This letter will remain in effect for a period of two years from the above date. It should be noted, however, that the City Council may elect to declare a moratorium on new service connections due to drought conditions or other water emergency. Such a declaration would supersede this statement of water availability.

If you have any questions regarding service requirements, please call the Engineering Division at (831) 420-5210. If you have questions regarding landscape water conservation requirements, please contact the Water Conservation Office at (831) 420-5230.

Sinceré Bill Kocher

Director

Environmental Review Inital Study ATTACHMENT <u>5</u> APPLICATION <u>07-0212</u>

Cc: Ron Powers

## DRAINAGE STUDY

FOR

## **Brickyard Plaza**

2776 Soquel Avenue Santa Cruz, California

January, 2008

Job 05069





IFLAND ENGINEERS, INC. 1100 Water Street, Suite 2 Santa Cruz, CA 95062 (831) 426-5313 FAX (831) 426-1763 www.iflandengineers.com

Environmental Review Inital Study ATTACHMENT 6, APPLICATION 07

### Introduction:

The subject property is 2.62 acres, consisting of two existing commercial lots located approximately 300 feet east of 7<sup>th</sup> Avenue on Soquel Avenue and Bostwick Lane. Redevelopment of the site is being proposed to remove an existing building in order to accommodate three additional buildings. Site development will necessitate compliance with drainage regulations as mandated by the County of Santa Cruz Design Criteria and the letters issued by the County of Santa Cruz Department of Public Works dated February 5, 1987 and July 27, 2007 (See Attachment A).

Presently there are three buildings, diminutive amount of trees and landscaping on the east lot, and the remainder is either pavement or compacted soil (used for storage). The existing site drains to the center and discharges to the east leading into the Soquel Avenue drainage system. The onsite structures of interest include three inlets located near and around the center of the site. The offsite structures of interest include the 24" RCP leaving the site near the eastern boundary and the north gutter on Bostwick Ln, which leads to an inlet at the west end of the street.

For the proposed development, improvements will include the use of BMPs to provide filtration and infiltration of site runoff as well as water quality treatment of discharging runoff.

Resources used for the study include the Soil Report conducted by Reynolds & Associates (dated January 1986), the updated Soil Report conducted by Dees & Associates (dated July 2006), National Resources Conservation Service Web Soil Survey 2.0, and Saturated Hydraulic Conductivity (permeability) data (See Attachment B). These exhibits demonstrate that the soil type and soil permeability in the upper 3' to 7' range is poor. However, the design includes a filtration/infiltration system (Concrete Open Jointed Pavers) to promote recharge.

### Existing Conditions:

The following calculations provide analysis of the existing conditions.

The runoff coefficient ( $C_{10}$ ) and the rainfall intensity ( $I_{10}$ ) are assumed values taken from figures SWM-1 and SWM-3, respectively, of the County of Santa Cruz Design Criteria dated June 2006.

*Total Area	= 2.75 Acres
C <sub>10</sub>	= 0.64
$I_{10} @ T_c = 10 min,$	= 2.11 in/hr.
Q <sub>10</sub> = (0.64)(2.11)(2.75)	= 3.71 c.f.s.
Q <sub>100</sub> ≈ (1.25)(1.5)(Q <sub>10</sub> )	= 6.96 c.f.s.

\*Area Includes Neighboring Northeast lot (APN 026-031-28, A=0.13 Ac impervious), which drains into property (See C3).

Environmental Re	view inital Study
ATTACHMENT 6	Zatil
APPLICATION O	7-0212

1

### Post Development Conditions:

The following calculations provide a general analysis of the post development conditions at the site.

<ul> <li>*Total Area</li> <li>Impervious Area</li> <li>Pervious Area</li> <li>Semi-Impervious Area</li> </ul>	= 2.75 Acres = 2.41 Acres = 0.17 Acres = 0.17 Acres
$C_{10} = (0.9)(2.58) + (0.25)(0.17)$ 2.75 $I_{10} \textcircled{0} T_{c} = 10 \text{ min}$	= 0.86 = 2.11 in/hr.
Q <sub>10</sub> = (0.86)(2.11)(2.75)	= 4.99 c.f.s.
For $Q_{100}$ , (Ca)(C) = (1.25)(0.83) > 1, so (Ca)(C) = 1 $Q_{100} = (1)(1.5)(2.11)(2.75)$	= 8,70 c.f.s.

2.54 acres of the site will be drained into a gravel filtration/infiltration trench located beneath the porous pavement structure. On-site filtration/infiltration is provided as required by the July 27, 2007 Santa Cruz DPW letter.

<ul> <li>*Total Area</li> <li>Impervious Area</li> <li>Pervious Area</li> <li>Semi-Impervious Area</li> </ul>	= 2.54 Acres = 2.21 Acres = 0.16 Acres = 0.17 Acres
$C_{10} = (0.9)(2.38) + (0.25)(0.16)$ 2.54	= 0.86
1 <sub>10</sub> @ T <sub>c</sub> = 10 min	■ 2.11 in/hr.
$Q_{10} = (0.86)(2.11)(2.54)$	= 4.61 c.f.s.
$Q_{100} = (1)(1.5)(2.11)(2.54)$	= 8.04 c.f.s.

The filtration/infiltration system provides a total storage volume of 2,779 cubic feet, which is greater than the volume required for a 10-year detention system design. Exhibit A shows the calculations used to determine the minimum and total storage volume.

In addition, discharge from the site is restricted to 10-year pre-development release rate in order further promote filtration and infiltration in the system by storing runoff longer. Restricting discharge to pre development levels will be achieved by means of a catch basin with a built in flow restrictor orifice.

Environmental Review Initial Study ATTACHMENT 6.3 of 22 APPLICATION 07-0212

### **Release Rate**

The site's release rate is based on a 10-yr pre-development storm, which is 3.71 c.f.s (see calculation on Page 1).

There are areas of new impervious surface that will not be treated by the filtration/infiltration system. The following calculations provide runoff analysis of the impervious areas not treated by the system.

<ul> <li>Other impervious areas requiring mitigation</li> </ul>	= 0.20 AC
Other pervious areas requiring mitigation	= 0.01 Ac
C <sub>10</sub>	= 0.87
I <sub>10</sub> @ T <sub>c</sub> ≈ 10 min	= 2.11 in/hr.
Q <sub>10</sub> = (0.87)(2.11)(0.21)	= 0.39 c.f.s.

The run-off generated from these untreated/undetained impervious areas is subtracted from the 10-yr pre-development run-off rate, which determines the release rate. This release rate of 3.32 c.f.s. is used in sizing the orifice. The following calculations provide the orifice size.

 $Q \approx CA(2gH)^{0.5}$  rearrange to solve for Area, A= Q/[C\*(2gH)^{0.5}] (where C=0.61 for circular sharp edged orifices)

A= 3.32/[0.61\*(2\*32.2\*2.99')<sup>0.5</sup>] = 0.39 s.f.

Convert area to circular diameter:  $A = \pi r^2 = 0.39$  s.f. and r = 0.35 ft. = 4.23 in.

### Infiltration Calculations

The amount of water that will percolate from the system is shown in the following calculation:

### Filtration/Infiltration Trench

Saturated Hydraulic Conductivity or Permeability (from	= 0.9 µm/s = 0.13 in/hr
System Footprint	= 1,056 sf
48 hr drawdown = (0.13in/hr)(.083ft/in)(1,056 sf)(48hr)	= 547 ft <sup>3</sup>

Since only 547 cf will percolate in 48 hours, a 12" sub-drain was included in the design of the system to assure that the facility would completely drain after all storms have ended.

The plans show the configuration of the collection, filtration/infiltration, and discharge system.

Environmental Review Inital Stuc ATTACHMENT 6 APPLICATION D

### **Design Conclusions:**

- Pervious Pavement and an open bottom gravel trench filtration/infiltration system will provide added water quality treatment benefits to the site development through reduced runoff, particulate deposition, and groundwater recharge.
- Pretreatment for runoff entering the gravel trench will be addressed by the use of the Santa Cruz County Standard Water Quality Treatment Unit (Fig. SWM-12). In addition, roof runoff entering the storm drain system will be pretreated by selected landscape areas where water will discharge and pond to a depth of 1" prior to release by curb notches onto the proposed AC pavement. Similarly, runoff from the area(s) not entering the filtration/infiltration trench will be treated by the use of Santa Cruz County Standard Water Quality Treatment Unit (Fig. SWM-12) prior to release onto Bostwick Ln gutter.
- All existing runoff to the neighboring west lot will be nearly eliminated.

Environmental Review Inital/Stud ATTACHMENT\_6 APPLICATION 1

## Attachment A:

Environmental Review Inital Study ATTACHMENT <u>6.64</u>22 APPLICATION <u>07-0212</u>



County of Santa Cruz

### DEPARTMENT OF PUBLIC WORKS

701 OCEAN STREET, ROOM 410, SANTA CRUZ, CA 95060-4070 (831) 454-2160 FAX (831) 454-2385 TDD (831) 454-2123

THOMAS L. BOLICH DIRECTOR OF PUBLIC WORKS

July 27, 2007

RON POWERS, AICP Powers Land Planning, Inc. 1607 Ocean Street, Suite 8 Santa Cruz, CA 95060

### SUBJECT: ANTOLINI USE PERMIT, PLANNING APPLICATION NUMBER 07-0212 ASSESSOR PARCEL NUMBERS 026-031-32 AND 026-031-46

Dear Mr. Powers:

This letter is in response to your June 19, 2007, letter regarding the subject development application and proposed requirements regarding drainage aspects of the project. The February 5, 1987, letter from Public Works that you attached indicates that for future development on the parcel no additional downstream drainage improvements would be required. In addition, the letter stated that on-site detention would not be required but that payment of appropriate drainage fees would be required. In closing, the letter made it clear that future development would be subject to any changes that are made to the County Design Criteria. Since that time the Design Criteria has in fact changed, and projects today must include some level of Best Management Practices (BMPs) where feasible to minimize impacts of the development. BMPs are meant to reduce sediment and pollutants that make their way into our local streams and water bodies.

Public Works will revise our project completeness comments after taking into consideration some of the facts that you point out in your letter. We will <u>not</u> require downstream drainage system analysis, including assessment of the outfall. We will <u>not</u> require on site detention, but we <u>will</u> require a reasonable attempt to include BMPs to the maximum extent feasible for your project. The current submittal makes no attempt to minimize the impacts of the development such as using alternative pervious or semi impervious pavements or optimizing the use of the landscaping areas to provide filtration and minor infiltration. As presented, the landscaped areas are quite small, fragmented, and separated from the rest of the site by curbing. In addition to the BMPs, we will require water quality treatment devices for the project site.

Environmental Review Inital Stud ATTACHMENT 6 APPLICATION

DEPARTMENT OF PUBLIC WORKS



## COUNTY OF SANTA CRUZ

701 OCEAN STREET SANTA CRUZ CALIFORNIA 95060-4070

D.A. PORATH DIRECTOR OF PUBLIC WORKS

PHIL W. SANFILIPPO (408) 425-2133 (ATSS#) 525-2133 ASST. DIRECTOR ENGINEERING

JOHN A, FANTHAM (408) 425-2481 (ATSS#) 525-2481 ASST, DIRECTOR OPERATIONS

February 5, 1987

GLEN IFLAND IFLAND ENGINEERS 1100 Water Street Santa Cruz, Ca 95062

SUBJECT: ZONE 5 DRAINAGE REQUIREMENTS FOR DEVELOPMENT OF APN 26-031-29, 32, 35, AND 38

Dear Glen:

This letter is to confirm the extent of drainage improvements which will be required of development on the subject parcels.

Zone 5 has recently approved plans prepared by Ifland Engineers for developments by Ernest Antolini (26-031-29 and 32) and Dapont Construction (26-031-35). The drainage improvements on these plans were designed for a 25-year storm for ultimate. buildout of the entire drainage shed.

For any future development on these parcels, Zone 5 will have no additional requirements, other than payment of any appropriate drainage fees. On site detention will not be required.

For future development of Wayne Barnes' property (26-031-38) no downstream improvements will be required, and onsite detention will not be required. Payment of any appropriate drainage fees and extension of the subject storm drain to serve this parcel will be required. This storm drain will in turn be extended by development upstream.

Environmental Review Inital Study ATTACHMENT APPLICATION \_

Page -2-

These requirements are based upon the current County Design Criteria. While we do not anticipate any increase in the level of storm protection required by the design criteria, it is possible that such a change would affect these requirements.

If you have any questions regarding these requirements, please contact Carl Rom at 425-2133.

Yours truly,

D. A. PORATH Director of Bublic Works

By:

Compton I. Vester Senior Civil Engineer

CDR:bb

Environmental Review Inital Study ATTACHMENT 6 APPLICATION

Merge: ZONE 5

## <u>Attachment B:</u>

Environmental Review Inital Study ATTACHMENT 6. 10 42 APPLICATION 07-0212

### Saturated Hydraulic Conductivity (Ksat)–Santa Cruz County, California (Brickyard Plaza)



.

at)–Santa Cruz County, California Plaza)	MAP INFORMATION	Original soil survey map sheets were prepared at publication scale. Viewing scale and printing scale, however, may vary from the original. Please rely on the bar scale on each map sheet for proper map measurements.	Source of Map: Natural Resources Conservation Service Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov Coordinate System: UTM Zone 10N	This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.	Soil Survey Area: Santa Cruz County, California Survey Area Data: Version 5, Dec 12, 2007	Date(s) aerial images were photographed: 6/14/1993	The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background incorrection on the procession of	of map unit boundaries may be evident.								
Saturated Hydraulic Conductivity (Ksat (Brickyard P	MAP LEGEND	Area of Interest (AO!) Area of Interest (AOI) Soils	Soil Katings Soil Ratings Soil Ratings	Not rated or not available	rouncian reactives Municipalities	Urban Areas	Water Features	Streams and Canals	Transportation 	Roads	 State Highways	Local Roads	Other Roads			
Envir TACHM PLICAT	onment IENT. FION	al Review	Inital S	tudy 12	22											

ſ

USDA Natural Resources Conservation Service

Web Soil Survey 2.0 National Cooperative Solt Survey

1/29/2008 Page 2 of 3

### Saturated Hydraulic Conductivity (Ksat)

Map unit symbol	Map unit name	Rating (micrometers per second)	Acres in AOI	Percent of AOI
161	Pinto loam, 0 to 2 percent slopes	0.9100	0.6	23.5%
176	Watsonville loam, 0 to 2 percent slopes	0.9100	1.7	69.2%
177	Watsonville loam, 2 to 15 percent slopes	0.9100	0.2	7.3%

### Description

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity is considered in the design of soil drainage systems and septic tank absorption fields.

For each soil layer, this attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

The numeric Ksat values have been grouped according to standard Ksat class limits.

### Rating Options

Units of Measure: micrometers per second

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

Tie-break Rule: Fastest

Interpret Nulls as Zero: No

Layer Options: Depth Range

Top Depth: 42

Bottom Depth: 84

Units of Measure: Inches

USDA Natural Resources Environmental Review Inital Study ATTACHMENT\_ APPLICATION

Web Soil Survey 2.0 National Cooperative Soil Survey 1/29/2008 Page 3 of 3

<u>Exhibit A:</u>

Environmental Review Initial Study ATTACHMENT 6,1445 APPLICATION 07-02.16

### Calculations For Trench System Volume:

### Index for SWM-17, Runoff Detention by the Modified Rational Method:

Cpre = Runoff Coefficient from Calculations on Page 1

**Cpost** = Impervious Runoff Coefficient

**Impervious Area** = Total impervious area captured by the Trench system. \*Includes porous pavement, existing impervious, and new impervious.

### **Results from SWM-17:**

Excavation Volume Needed = **3437 cf** Proposed Void Space = **40%** Storage Volume Calculated = **1375 cf** 

\*\* Everything else on SWM-17 not needed for Trench System Design

### Trench System Proposed Volume:

Length of trench = 264 ft. Width of Trench = 4 ft. Total Footprint Area = **1,056 sq.ft.** 

Minimum Depth = 5.55 ft. (Refer to Junction #1 on sheet C3 of Civil Plans)

Total Volume based on Minimum Depth Minimum Depth x Total Footprint Area = 5,861 cf

Storage Volume Calculated based on Minimum Depth Void Space x Volume = (5861 cf)(0.40) = 2,344 cf

### Minimum Storage for 10-yr @ 15 min. < Trench System Minimum Storage Volume

Trench Additional Available Storage = 1,087 cf

Total Trench Volume = 1,087 cf + 5,861 cf = 6,948 cf

Total Available Storage Volume Void Space x Volume = (6,948 cf)(0.40) = 2,779 cf

Environmental Review Inital Stu 

plication:07-0212 Calc by: EP Date: 1/28/2008	102Vr Post-Development Detention Storage Volume	0 010-Yr Pre-Development Release Rate											第二十二章的"李骥",刘母离望了他们是不是我们的时候,"董事子"这个人的"杜州"却是从了是你的"一人"了,"老哥?""我想你,我想到了,""我是能说这些	Notes & I imitations on Use:	1) The modified rational method, and therefore the standard calculations are applicable in	watersheds up to 20 acres in size.	2) Required detention volume determinations shall be based on all net new impervious area	both on and off-site, resulting from the proposed project. Pervious areas shart not be	included in determining volume sizing, an exception may be made for more than 10% of the total area.	3) Cravel macked detention chambers shall specify on the plans, aggregate that is washed,	angular, and uniformly graded (of single size), assuring void space not less than 35%.	4) A map showing boundaries of both regulated impervious areas and actual drainage	areas routed to the hydraulic control structure of the detention facility is to be provided,	clearly distinguishing between the two areas, and noting the square footage.	5) The EPA defines a class V injection well as any porea, unincu, or university we use	hole that is deeper than its widest surface unitension, or an unproved surveyor, or a subsurface fluid distribution system. Such storm water drainage wells are "authorized	by rule". For more information on these rules, contact the EPA. A web site link is	provided from the County DPW Stormwater Management web page.	6) Refer to the County of Santa Cruz Design Uriteria, for complete memory with the
& 46 Ap	THOD	SS Ver. 1.0	n Criteria	ind # 4				the square	tional area		@ 15 MIN.	Specified	Storage	Volume	-235473	-192208	-149478	-107486	-66624	-27868	-18822	-10283	-6317	-2692	-1083	297 1005	1250	1375	1273
026-031-32	TIONAL ME		County Design	See note # 2 See note # 2 See note # 2 6				*For pipe, use	root of the sec		DETENTION	Detention	Rate To	Storage	-2.180	-2.136	-2.076	-1.990	-1,851		-1.394	-1.143	-0.936	-0.598	-0.321	0.132	1.112	1.833	3.394
aza - APN:	DIFIED RA	UES	ig. SWM-2 in	ž	LION			Depth*	0.04	3.75			10 - Year	Qpost	0.556	0.600	0.660	0.746	0.885	0001	1.100	1.594	1.800	2.138	2.415	2.868 2.406	3.848	4.569	6.130
3rickyard P	ву тне мо	ER DESIGN VAL	1.50	0.64 0.90 103814	FOR DETEN	ne calculated	ssumed	Width*	0.04	3.75	SIGN STORM	10 - Yr.	Release	Qpre	0 305	0.427	0.469	0.530	0.630	0.711	0.054 0.954	1.133	1.280	1.520	1.717	2.039	2.736	3,249	4.359
OJECT: B	ETENTION I	RESS TAB & ENT	P60 Isopleth:	icients Cpre: Cpost: anious Area:	DIMENSIONS	t <sup>3</sup> storage volur	% void space a	T excavated vt Length	2.60	243.97	10 - YEAR DES		10 - Year	Intensity	(III/III)	0.28	0.31	0.34	0.41	0.46	0.55	0.74	0.83	0.99	1.12	1.33	1.5/ 1 78	2.11	2.83
Environme	RENOFF D	a Setury: P	Sign Location {	Date Coeffi		1375 1	40	Structure	Ratios	Dimen. (ft)			Storm	Duration	(min)	1200	960	720	480	360	240	120	06	60	45	30	20	2 9	5
PPLICATION		27	-0	216			<u>.                                    </u>			1	· •	1																	-

<u>Exhibit B:</u>

Environmental Review Initial Study ATTACHMENT 6. 17 AT 20 APPLICATION 07-0212



01/28/08 1.53 1.53 0.98 1.74 0.95 1.00 1.58 0.85 1.60 1.37 INLET FREEBOARD ŵ. 89.25 88.89 86.36 86.73 86.36 85.71 89.28 B6.23 85.68 87.84 3 PIPE F.L. Date: Date: 86.79 89.46 87.42 87.42 86.86 89.80 88.61 87.36 89.96 87.25 W.S. lontro**O**  $(\mathfrak{A})$ telnî 91.70 90.13 90.13 91.25 90.37 89.77 90.28 89.77 88.98 91.61 Hev. Hev.  $(\mathbb{R})$ 89.52 88.00 89.18 89.13 90.03 89.88 88.24 89.21 88.24 83.68 Control W.S. Elev.  $\overline{\epsilon}$ 0 Outlet Ш Calc by: SS Ver. Check by: ΣH (W) 0.438 0.048 0.145 0.365 1.276 0.243 0.199 0.151 8 0.027 LOSSES E 0.046 0.069 0.274 0.135 0.058 0.146 0.009 0.020 0.107 ٢ ī FRIC. L\*Sn (ft) 0.019 0.099 0.044 ۲ 0.296 1.00Z 0.303 0.184 0.053 0,028 1.00 Antecedent Moisture Factor (Ca) 0.00417 0.01670 0.00141 0.00049 0,00260 0.00282 0.00820 0.00354 0.00025 Ð δ PIPE FLOW DRAINAGE SYSTEM CALCULATION (fpm) (tps) 65.3 2.51 150.4 2.93 175.6 1.65 98.7 2.00 120.2 2.81 168.4 1.85 110.7 0.71 42.5 1.09 P 4.01 240.4 > > Pipe Area 0.012 0.20 0.012 0.20 0.35 0.010 0.79 0.012 0.012 (tubs) 0.20 0.79 0.79 0.012 0.79 ٩ 0.20 0.012 c HDPE 12.0 HDPE 6.0 HDPE 6.0 HDPE 6.0 HDPE 12.0 HDPE HDPE 8.0 ABS 12.0 6.0 HDPE 12.0 F) Dranner Production Productio Type ۵Ĵ 131 <u>ې</u> 17 ł 99 37 76 5 8, Out Qet 7,8 ы, 4 ឋ ភ្នំ 4,6 7,9 2,3 ω 4.38 0.79 0.55 1.45 2.29 0.39 0.92 0.25 0.86 2.30 1.97 2.11 1.93 2.11 2.03 2.08 2.03 2.11 1.92 2.04 2.01 2.01 #VALUE! #VALUE! 10.00 1.79 10.00 11.19 12.38 0.09 12,46 10,00 10.99 0.59 10.95 11.19 0.25 0.87 10.87 0.19 0.39 0.72 1.19 0.26 1.19 0.12 0.97 2.16 0.46 0.41 4 N Ċ 4 ŝ φ o,  $\sim$ æ ##### 1.18 0.15 0.25 0.42 1.00 0.61 0.08 0.55 10.0 2.11 10.0 2.11 2.11 2.11 10.0 2.11 10.0 2.11 10.0 2.11 ###### 2.11 2.11 0.12 0.04 0.20 0.07 0.26 0.47 0.29 0.56 SindA SindA 0.89 0.90 06'0 0.00 0.90 0.90 0.89 0.13 0.22 0.08 0.29 0,53 0.32 0.63 ŵ ۵ O ġ ß ш ۲

<u>Appendix:</u>

Environmental Review Initial Study ATTACHMENT 6, 2045 APPLICATION 07-0210



10/05

10



### COUNTY OF SANTA CRUZ Discretionary Application Comments

Project Planner: Cathy Graves Application No.: 07-0212 APN: 026-031-32 Daté: August 4, 2008 Time: 10:25:24 Page: 1

#### Environmental Planning Completeness Comments

Once we have received the soils report, the grading and drainage plan will be reviewed.

Once the plans have been accepted by all reviewing agencies, submit a plan review letter from the soils engineer stating that the plans are in conformance with the recommendations made in the report. ======= UPDATED ON NOVEMBER 6, 2007 BY AN-TONELLA GENTILE ========

The soils report and update is currently under review by the County Civil Engineer. After the report and update have been accepted, comments on the grading and drainage plan will be forwarded to the applicant. ======= UPDATED ON NOVEMBER 15, 2007 BY CAROLYN I BANTI ========

The soils report has been accepted. Please see letter dated 11/15/07.

Recieved Addendum recommendations for compaction below foundations (Dees, 3/6/07, SCR-0174). Comment addressed.

### Environmental Planning Miscellaneous Comments

Grading plans to be submitted with the building permit application shall show the extents of overexcavation and recompaction beneath the building proposed at the northwest corner of the parcel.Grading quantities shall include the quantities for **Environmental Beview Inital Study** 

ATTACHMENT 7 A 2 APPLICATION \_ OF- C d

Project Planner: Cathy Graves Application No.: 07-0212 APN: 026-031-32 Date: August 4, 2008 Time: 10:25:24 Page: 2

overexcavation and recompaction.

A separate grading permit will be required for all site grading (grading will not be included in the building permit for the structures).

Winter grading approval has not been granted for this site. This determination may be reevaluated at the building permit stage.

### Dpw Drainage Completeness Comments

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

The present development proposal does not control stormwater impacts. The proposal is out of compliance with County drainage policies and the County Design Criteria (CDC) Part 3, Stormwater Management, June 2006 edition, and also lacks sufficient information for complete evaluation. The Stormwater Management section cannot recommend approval of the project as proposed.

Reference for County Design Criteria: http://www.dpw.co.santacruz.ca.us/DESIGNCRITERIA.PDF

Policy Compliance Items:

Item 1) The County acknowledges the 1987 letter referring to drainage requirements for these parcels. The requirements of current County policies and the County Design Criteria have changed several times since the issuance of this letter and current requirements will be applied, as they have been revised and are now stricter.

Item 2) Please provide mitigation measures holding runoff levels to pre-development rates for a broad range of storms. These measures must include effective and substantial use of BMPs, which provide the bulk of stormwater controls in preference to orifice controlled detention. Such detention use shall be only supplemental in achieving full control of the largest design storm event. Due to capacity issues downstream, the minimum detention control shall be required to release the predevelopment 10-year event flow rate and provide storage volume for a 25-year event.

Item 3) The development is required to minimize impervious surfacing. Given the proposal for full development of the parcel and the large extents of parking desired, the use of properly designed porous pavements will meet this requirement and could be incorporated if sub-drained. This measure would also qualify as an acceptable BMP to meet item 2. Site soils are not mapped as being of good permeability.

Environmental Review inital, Study **ATTACHMENT** APPLICATION 07-

Project Planner: Cathy Graves Application No.: 07-0212 APN: 026-031-32 Date: August 4, 2008 Time: 10:25:24 Page: 3

Item 4) Please assess and photo document the current stability and erosion condition of the slope distance between the outfall for the offsite drainage system into which this development drains, and the normal water surface of Arana Gulch. Propose any needed corrective work, and show it on the plans.

Item 5) Water quality treatment mitigations are required for the entire site, including existing development.

Information Items:

Item 6) Incomplete. Provide topography a minimum of 50 feet beyond the project work limits.

Item 7) Incomplete. Submit documentation that establishes the legally developed extents of existing impervious surfacing, so that required mitigation levels may be evaluated. See miscellaneous comments.

Item 8) Incomplete. Indicate on the plans the manner in which building downspouts will be discharged. Proposing downspouts as discharged directly into the storm drain system or hardscape is generally inconsistent with efforts to hold runoff to predevelopment rates.

Please see miscellaneous comments. ======= UPDATED ON MAY 29, 2007 BY DAVID W SIMS

The present development proposal is accepted for discretionary stage stormwater review. This acceptance does not settle a question about fee credits being asked by the applicant. The applicant will be responded to separately on this issue.

Policy Compliance Items:

Prior Item 1) The County Public Works formally responded to the applicant by letter dated July 27, 2007 stating the terms for drainage requirements based on consideration of the prior referenced 1987 letter. This response letter modified some of the comments and stated requirements from the first routing and is accounted for below.

Prior Item 2) Project now proposes feasible BMP measures that provide storm runoff control and water quality improvements. The general approach, feasibility and level of control for the proposal has been accepted, with miscellaneous clarifications and changes deferred to the building application.

Prior Item 3) The proposed development includes application of porous pavers incorporated as a component of the primary mitigation facility, thereby minimizing impervious surfacing to a modest extent.

Prior Item 4) This item was waived in its entirety.

Prior Item 5) Water quality treatment is proposed by installation of three the County's standard silt and grease trap inlets effective for the entire paved site.

Environmental Review Inital Study ATTACHMENT to 3 of APPLICATION 07-02

Project Planner: Cathy Graves Application No.: 07-0212 APN: 026-031-32 Date: August 4, 2008 Time: 10:25:24 Page: 4

Additionally the porous pavers and underlying gravel beds will achieve a higher level of filtration.

Information Items:

Item 6) Deferred. Additional topography, spot elevations, flow arrows and notations were provided along the west property boundary and clarifies the conditions. The same level of information was not provide along the east property boundary and is required to be provided prior to public hearing.

Item 7) Deferred. Revisions to mitigation requirements have reduced the importance of this item to be resolved now for purposes of the mitigation design. For purposes of fee credits the issue can be deferred until later.

Item 8) Deferred. The drainage study states that roof downspouts will discharge into the various landscape islands for pretreatment prior to routing as surface flow to the primary mitigation facility. This intent was not found on the plans and will need to be added on the building application.

See miscellaneous comments ===== UPDATED ON FEBRUARY 27, 2008 BY DAVID W SIMS

3rd Review Summary Statement:

The present development proposal is accepted for discretionary stage stormwater review.

Policy Compliance Items:

Prior Items 1 through 5) No additional comment.

Information Items:

\_\_\_\_\_

Item 6) Complete. Additional information was provided along the east property boundary.

Item 7) Complete. Issue of fee credits and how they will be charged was communicated to applicant by letter dated 12/21/2007. Per this letter, the building plans will need to show the correct recognized extents of existing impervious surfacing to support fee charge documentation.

Item 8) Complete. The drainage study still states that roof downspouts will discharge into the various landscape islands for pretreatment prior to routing as surface flow to the primary mitigation facility. The civil engineer has stated verbally that this BMP will not be applied, and this was accepted by the reviewer since other sufficient mitigations are provided.

See miscellaneous comments.

### Dpw Drainage Miscellaneous Comments

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

Environmental Review Inital,Stuch 4 nd ATTACHMENT 7-APPLICATION 07-

Project Planner: Cathy Graves Application No.: 07-0212 APN: 026-031-32 Date: August 4, 2008 Time: 10:25:24 Page: 5

A) Maintenance procedures for the drainage facilities and mitigation measures must be provided on the plans.

B) A recorded maintenance agreement may be required for certain stormwater facilities.

C) Please note on the plans provision for permanent bold markings at each inlet that read: "NO DUMPING - DRAINS TO BAY".

Construction activity resulting in a land disturbance of one acre or more, or less than one acre but part of a larger common plan of development or sale must obtain the Construction Activities Storm Water General NPDES Permit from the State Water Resources Control Board. Construction activity includes clearing, grading, excavation, stockpiling, and reconstruction of existing facilities involving removal and replacement. For more information see: http://www.swrcb.ca.gov/stormwtr/constfag.html

A drainage impact fee will be assessed on the net increase in impervious area. The fees are currently \$0.95 per square foot, and are assessed upon permit issuance. Reduced fees are assessed for semi-pervious surfacing to offset costs and encourage more extensive use of these materials.

You may be eligible for fee credits for pre-existing impervious areas to be demolished. To be entitled for credits for pre-existing impervious areas, please submit documentation of permitted structures to establish eligibility. Documentations such as assessor's records, survey records, or other official records that will help establish and determine the dates they were built, the structure footprint, or to confirm if a building permit was previously issued is accepted. Not all existing pavements may be recognized as exempt from mitigation, or credited against impact fees.

Because this application is incomplete in addressing County requirements, resulting revisions and additions will necessitate further review comment and possibly different or additional requirements.

All resubmittals shall be made through the Planning Department. Materials left with Public Works will not be processed or returned.

Please call the Dept. of Public Works, Stormwater Management Section, from 8:00 am to 12:00 noon if you have questions. ======= UPDATED ON NOVEMBER 8, 2007 BY DAVID W SIMS ========

Limited review time has not allowed the posting of detailed miscellaneous comments. These items have been marked on the plans and calculations and returned to the engineer for pick-up. A meeting is required with the engineer/applicant to more thoroughly discuss these items prior to the first submittal of the building plans. It is not anticipated that any of these issues will affect the general feasibility of the proposal although modifications may be required. ======= UPDATED ON FEBRUARY 27, 2008 BY DAVID W SIMS =======

Remaining miscellaneous corrections will be handled with the building application.

Environmental Review Inital Study

ATTACHMENT_	Z,	5of	12
APPLICATION _	$\mathcal{O}$	7-0	212

Project Planner: Cathy Graves Application No.: 07-0212 **APN:** 026-031-32

Date: August 4, 2008 Time: 10:25:24 Page: 6

Maintenance agreement will be required.

### Dpw Driveway/Encroachment Completeness Comments

====== REVIEW ON MAY 22, 2007 BY DEBBIE F LOCATELLI ======== Proposed signage shall not obstruct motorist or pedestrian sight distance. ======== UPDATED ON OCTOBER 29, 2007 BY DEBBIE F LOCATELLI ======== It is the responsibility of owner/representative to verify that proposed fence and sign do not obstruct pedestrian or motorists site distance. No further comments. ======= UPDATED ON FEBRUARY 11, 2008 BY DEBBIE F LOCATELLI ======== Please condition discretionary permit to include the following: Encroachment permit required for all work proposed within county maintained right-of-ways (Soquel Avenue and Bostwick Lane).

Encroachment permit shall address the newly paved section of Soquel Avenue, any work within this area shall be required to be repaved in-kind or better.

### Dpw Driveway/Encroachment Miscellaneous Comments

====== REVIEW ON MAY 22, 2007 BY DEBBIE F LOCATELLI ======== Encroachment permit required for all off-site work in the County road right-of-way (required at the time of building permit submittal) Proposed fencing shall not block sight distance for motorists at adjacent intersections and driveways.

### Dpw Road Engineering Completeness Comments

I) Applicant submitted a Trip Generation Analysis prepared by Higgins Associates. dated October 8, 2007. The subject traffic analysis determined that 35 (AM) and 32 (PM) net new trip-ends will be generated at AM/PM peak hours, and 313 daily trips as a result of the project. The increase of net vehicular trip-ends at each peak hour exceeds the 20 trip-ends threshold for which a Traffic Impact Study is warranted. Therefore, Applicant is required to provide a Traffic Impact Study.

----- II) The Traffic Impact Study will need to provide AM peak and PM peak Level of Service Analysis for the following intersections: a) Bostwick Lane / 7th Avenue, b) Soquel Drive / 7th Avenue, and c) Soquel Drive / Soquel Avenue. Additionally, the study should include a sight distance analysis for Bostwick Lane at the intersection with 7th Avenue. Please contact Road Planning engineering staff if you have any question regarding the scope of work for the Traffic Impact Study.

----- III) The project will be subject to Live Oak Transportation Improvement Area (TIA) fees at a rate of \$472(\$236 for roadside improvement fees + \$236 for transportation improvement fees) per daily trip-end generated by the proposed use. The proposed Commercial Development will generate 313 net trip-ends. The fee is calculated as 313 trip-ends multi-plied by \$472 per trip-end which equals \$147,736. The total TIA fee of \$147,736 is to be split evenly between transportation improvement fees and roadside improvement fees. ---------- IV) Parking analysis

Environmental Review Inital Study

ATTACHMENT 7. 6 of 1 APPLICATION 07-02

Project Planner: Cathy Graves Application No.: 07-0212 APN: 026-031-32

ATTACHMENT\_7

Date: August 4, 2008 Time: 10:25:24 Page: 7

will be reviewed by the Planning Department.
ley gutter shown along the main driveway needs to be located on the center line of the parking aisle in order to discourage motorists from switching lanes.
an explanation indicating the reason why the driveway in the south west corner is needed.
walk between Building #3 and Building #4 needs to be centered between parking land- ing zones.
MAY 22. 2007 BY GREG J MARTIN ======== Incomplete
are incomplete with respect to curb heights so it is unclear how pedestrian access shall function. Show all ramps, not just those for handicapped parking facilities.
study which includes trip generation, trip distribution, parking requirements, and truck circulation is required. Please show truck turns using truck turn templates or AutoTurns (or equivalent).
Compliance
Transportation Improvement Area fees are required.
Recommended
pedestrian connection to Bostwick Lane is recommended.
spaces 85 and 39 are not protected on the side by a island. Please correct.
enclosure doors may not swing out into parking aisle or driveway. The trash enclosure may be recessed to allow additional room for trash doors to swing.
ing PG&E transformer appears to be located in the driveway and shall need to be relocated or the design revised.
accessible areas are not recommended to have parking aisles directly adjacent to buildings. A buffer consisting of sidewalk or landscaping is recommended. 831-454-2811 with questions. ======== UPDATED ON NOVEMBER 5, 2007 BY RODOLFO N
Environmental Review Inital Study

Project Planner: Cathy Graves Application No.: 07-0212 APN: 026-031-32 Date: August 4, 2008 Time: 10:25:24 Page: 8

RIVAS =======

1) Road Engineering no longer reviews internal circulation or parking for commercial projects. 2) The curb cuts for the new driveways will require 2 feet of new pavement from the lip of gutter to sawcut line. This can be addressed at the building permit stage. 3) TIA fees (previously calculated) shall be required.

### Dpw Road Engineering Miscellaneous Comments

### Dpw Sanitation Completeness Comments

No. 1 Review Summary Statement for App]. 07-0212, Sanitation Engineering comments:

The Proposal is out of compliance with District or County sanitation policies and the County Design Criteria (CDC) Part 4, Sanitary Sewer Design, June 2006 edition, and also lacks sufficient information for complete evaluation. The District/County Sanitation Engineering and Environmental Compliance sections cannot recommend approval of the project as proposed.

Reference for County Design Criteria: http://www.dpw.co.santacruz.ca.us/DESIGNCRITERIA.PDF

Policy Compliance Items:

Item 1) This review notice is effective for one year from the issuance date allow the applicant the time to receive tentative map, development or other Environmental Compliance Unit Review Comments Application No: 07-0212 APN: 026-031-32, 46

Review Summary Statement:

The Environmental Compliance Unit must be allowed to review plans and inspect all industrial operations at the facility. If commercial uses such as the ones listed in the -Level 1 Allowed Uses- section are anticipated for the Master Occupancy Permit, then you must submit plans that illustrate e plumbing plan and all work areas.

Policy Completeness Items:

Item 1) Any industrial use of the proposed building may require pretreatment of sanitary wastes prior to discharge. Industrial uses of the building will also require the installation of a sampling manhole on the property. The following activities may require pretreatment: machine work, surfboard shaping, vehicle/boat service facility, paint contractors, laboratories, lithographic print shops, photo processing labs, and any other industrial sector that could potentially have an impact on the sewer system

Environmental Review initial Study

ATTACHMENT 7. 80 APPLICATION 0

Project Planner:	Cathy Graves
Application No.:	07-0212
APN:	026-031-32

Date: August 4, 2008 Time: 10:25:24 Page: 9

All resubmittals shall be made through the Planning Department. Materials left with Public Works will not be processed or returned.

Please call the Dept. of Public Works, Environmental Compliance Unit at 477-3907 if you have questions. discretionary permit 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.

Information Items:

Item 1) 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:

Show rim elevation of public sewer manhole upstream of sewer lateral connection serving existing Building 1 for backflow prevention device requirements. Show sewer lateral for existing Building 1.

On demolition plan, show the existing sewer lateral -To be properly abandoned (including inspection by District) prior to issuance of demolition permit or relocation or disconnection of structure- at the property line.

Figs. SS-4 and SS-12 (from Design Criteria) have been revised. Use most current detail drawings available at above internet address.

Include Sanitation General Notes.

Any questions regarding the above criteria should be directed to Diane Romeo of the Sanitation Engineering division at (831) 454-2160.

Please see miscellaneous comments.

Review Summary Statement for Appl. 07-0212, Environmental Compliance Division Requirements: Commercial Building, Use Unknown Industrial Operations:

- A sampling manhole is required for certain types of industries: food service, photoprocessing, medical facilities, veterinarians, automotive, machine shops, dentists, etc. - Pretreatment may also be required for industrial facilities. - Any trash enclosures with drains connecting to the sanitary sewer must have overhead coverage to prevent storm water from entering the collection system. - If there are plans to wash fleet vehicles, forklifts, or large equipment then the wastewater generated from these activities must be routed to and treated prior to entering the sanitary sewer. A 3-stage 1500 gallon clarifier will be required if the above mentioned activities are conducted. - Hazardous waste, including biohazardous waste is prohibited from discharge to the sanitary sewer. - All hazardous materials and chemicals must be stored within secondary containment. Materials that are reactive

Environmental Review Inital Study ATTACHMENT 7. 9 ast 12 APPLICATION 07-0
Project Planner: Cathy Graves Application No.: 07-0212 APN: 026-031-32

Date: August 4, 2008 Time: 10:25:24 Page: 10

should be separated and stored appropriately. - Floor drains are not permitted in any work areas. - Commercial kitchens will require a properly sized District approved grease interceptor.

Any industrial use of the proposed building may require other pretreatment of sanitary wastes prior to discharge. It is difficult to specify any requirements during the planning phase if it is unclear what the intended use of the property is. For instance, a sampling manhole may be required if any industrial facilities are planned at the site. The following activities may require pretreatment: photoprocessing, machine work, surfboard shaping, vehicle service, dentistry, medical facility, paint contractors, printers, and dry cleaners, and any other industrial sector that could potentially have an impact on the sewer system.

Industrial uses of the building will require the installation of a sampling manhole on the property. Any questions regarding these requirements should directed to the Santa Cruz County Sanitation District Environmental Compliance Unit at (831) 477-3907. No. 2 Review Summary Statement for Appl. 07-0212, Sanitation Engineering comments:

The Proposal is out of compliance with District or County sanitation policies and the County Design Criteria (CDC) Part 4, Sanitary Sewer Design, June 2006 edition, and also lacks sufficient information for complete evaluation. The District/County Sanitation Engineering and Environmental Compliance sections cannot recommend approval of the project as proposed.

Reference for County Design Criteria: http://www.dpw.co.santacruz.ca.us/DESIGNCRITERIA.PDF

Policy Compliance Items:

Item 1) This review notice is effective for one year from the issuance date allow the applicant the time to receive tentative map, development or other discretionary permit 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.

Information Items:

Item 1) 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:

Add note that the installation of sewer backflow/overflow prevention devices for all buildings is required.

Environmental Review Inital Study

ATTACHMENT 7. Da APPLICATION 07-0

Project Planner: Cathy Graves Application No.: 07-0212 APN: 026-031-32

Date: August 4, 2008 Time: 10:25:24 Page: 11

Show sewer lateral for existing Building 1.

Proof of a recorded easement for maintenance, repair and replacement of existing lateral to serve proposed building 5 and located on the adjacent property shall be submitted to District prior to approval for this permit application.

Revise lateral for Building 4 to connect to public sewer main instead of existing manhole.

On demolition plan, show the existing sewer lateral -To be properly abandoned (including inspection by District) prior to issuance of demolition permit or relocation or disconnection of structure- at the property line.

Include Sanitation General Notes.

Any questions regarding the above criteria should be directed to Diane Romeo of the Sanitation Engineering division at (831) 454-2160.

No. 3 Review Summary Statement for Appl. 07-0212, Sanitation Engineering comments:

Reference for County Design Criteria: http://www.dpw.co.santacruz.ca.us/DESIGNCRITERIA.PDF

Completeness Items:

The sewer improvement plan submitted for the 3rd routing for the subject project is approved by the District with the addition of a note on the plans that all building are required to have sewer backflow preventative devices on their laterals.

Future changes to these plans shall be routed to the District for review to determine if additional conditions are necessitated by changes. All changes shall be highlighted as plan revisions and changes may cause additional requirements to meet District standards.

Any questions regarding the above criteria should be directed to Diane Romeo of the Sanitation Engineering division at (831) 454-2160.

There are no miscellaneous comments.

#### Dpw Sanitation Miscellaneous Comments

Miscellaneous:

Item 1) In accordance with Sanitation District Code section 7.04.375 Private Sanitary Sewer System Repair. of Title 7, prior to building permit submittal the applicant/owner is required to televise all on-site sewer laterals and make repairs

Environmental Review Inital Study ATTACHMENT APPLICATION 07

Project Planner: Cathy Graves Application No.: 07-0212 APN: 026-031-32 Date: August 4, 2008 Time: 10:25:24 Page: 12

to any damaged or leaking pipes that might be shown. This includes root intrusion, open joints, cracks or breaks, sags, damaged or defective cleanout, inflow and infiltration of extraneous water, older pipe materials that are known to be inadequate, inadequate lift or pump stations, inadequate alarm systems for overflows, and inadequate maintenance of lift stations. Color video results (tape or dvd), of a sufficient quality to observe interior pipe condition, joints, sags among other items, shall be made available to the District for review, along with District certification form completed by plumber, and the District shall review results within 10 working days of submittal to the District. Repairs, as required by the District, shall be made within 90 working days of receipt of video result review. Applicant/owner shall obtain a sewer repair permit (no charge) from the District and shall have repairs inspected by the District inspector prior to backfilling of pipe or structure.

Attach an approved (signed by the District) copy of the sewer system plan to the building permit submittal:

Environmental Review Initial Study ATTACHMENT <u>7.12.47</u> APPLICATION <u>07-0212</u>



October 8, 2007

Mr. Jeff Antolini 427 La Fonda Avenue Santa Cruz, CA 95065

#### Re: Brickyard Plaza, Santa Cruz County, California

Dear Jeff.

Higgins Associates has performed an initial traffic review for the proposed business park redevelopment project, to be constructed on Soquel Avenue between 7<sup>th</sup> Avenue and Soquel Drive in Santa Cruz County, California. A project vicinity map is included as *Exhibit 1*. Mr. Greg Martin, Santa Cruz County Public Works Department, has requested that the estimated trip generation and distribution for the project be submitted to the County. This letter report contains the trip generation estimate for the project and our anticipated project trip distribution within the greater Santa Cruz area. In addition, Higgins Associates has reviewed internal and access circulation for trucks, as well as verified if the number of provided parking spaces meets current Santa Cruz County parking standards.

#### **1** Trip Generation

The study project is composed of both redevelopment of an existing building on the project site, as well as the construction of new buildings. The project site plan is shown on *Exhibit 2*. Currently, the project site is composed of three existing buildings ("Building 1," "Building 2," and "Building 3"), totaling 18,658 square feet. As part of the study project, the third existing building ("Building 3," 5,520 square feet) would be torn down, and in its place, three new buildings ("Building 3," "Building 4," and "Building 5") would be constructed. The three new buildings would total 30,029 square feet in size.

*Exhibit 3* contains the trip generation estimate for the study project. This trip generation estimate is based upon trip generation rates published in the Institute of Transportation Engineers' (ITE) *Trip Generation*, 7<sup>th</sup> Edition, 2003. The study project would generate a net new 313 daily trips, with 35 trips (29 in, 6 out) during the AM peak hour, and 32 trips (7 in, 25 out) during the PM peak hour. When added to the estimated existing trip activity at the two remaining existing buildings, the total trip activity at the project site after construction of the study project would total 551 daily trips, with 62 trips (52 in, 10 out) during the AM peak hour, and 56 trips (13 in, 43 out) during the PM peak hour.

#### **Trip Distribution**

The anticipated project trip distribution is shown graphically on *Exhibit 3*, and repeated

122007/Labs/051-100/7-096/7-096/Letter3.doc 1300-B First Street - Giroy, California - 95020-4738 - voice/408 848-3122 - ray/408 848-2202 - www.kbhiggins.com Mr. Jeff Antolini October 8, 2007 Page 2

below:

	AM	PM
Percent	Peak	Peak
	Hour	Hour
0%	0	0
20%	12	11
	6	5
	3	3
	3	3
35%	22	20
	16	14
	6	6
45%	28	25
	22	19
	6	6
100%	62	56
	Percent 0% 20% 35% 45%	$\begin{array}{c c}   Percent \\   Peak \\   Hour \\   0% \\   0 \\   20% \\   12 \\   6 \\   3 \\   4 \\   2 \\   6 \\   \overline{100\%} \\   \overline{62} \\   \overline{100\%} \\   \overline{62} \\ $

The above trip distribution is based upon the trip distribution utilized in the traffic report *Live Oak Business Park Traffic Analysis Report*, by Higgins Associates, and dated February 1999. Said report reviewed the traffic impacts associated with a similar land use within one mile of the study project site.

#### 3 Truck Circulation



Fire truck turning templates have also been created to determine the feasibility of emergency

1:\2007\Jobs\051-100\7-096\7-096 Letter3.doc

Mr. Jeff Antolini October 8, 2007 Page 3

vehicle access. Since the project site is located close to the County of Santa Cruz (County) and the City of Santa Cruz (City) border line, we compared the County fire truck to the City fire truck and used the larger of the two to run the fire truck turning template. Based on information received from the Central Fire Department, the largest fire truck for the County is approximately 38 feet long. The City's largest fire truck is approximately 46 feet long. To be conservative, the City's fire truck was used for the turning template.

Attachment 1 also includes the fire truck turning templates. The City fire truck was found to have no problems entering or circulating through the project site. As the City fire truck is larger, the County fire truck would also have no problems entering or circulating through the site.

#### 4 Parking

Higgins Associates has reviewed the parking plan for the project site, and compared it with Santa Cruz County parking standards. The project would provide 110 parking spaces, of which 7 would be accessible (disabled) spaces. There is no County parking standard for a business park; based upon the proposed uses of the site, the land use of Manufacturing is the closest County land use. Based upon that land use, the project site would need to provide at least 72 spaces and 3 accessible spaces. Therefore, the project would meet County parking standards.

#### 5 Conclusion

In summary, the study project is estimated to generate a net 313 daily trips, over and above the existing site trip generation. The project trip distribution also has been derived. Truck turning templates found that trucks entering to and from the project site via Soquel Ave. and Bostwick Ln. driveways are adequate. Fire trucks would also be able to adequately circulate through the project site. Finally, the study project would meet County parking standards.

Thank you for the opportunity to assist you with this analysis. If you have any questions, please contact me at (408) 848-3122.

Respectfully\_submitted, Keith B. Higgins, CE, TE

Kbh;sk:jmw:cl

Attachments

ATTACHMENT 3, 3 4 18 APPLICATION 07-0212



# **BRICKYARD PLAZA**

## SANTA CRUZ, CALIFORNIA

# TRAFFIC IMPACT ANALYSIS

## Final Report



Prepared For

Jeff Antolini Santa Cruz, California

Environmental Review Inital Study **ATTACHMENT APPLICATION** 

January 18, 2008

i

## TABLE OF CONTENTS

1 INTRODU	CTION	. 1
1.1 1.2 1.3	Project Description Scope of Work Traffic Operation Evaluation Methodologies and Level of Service Standards	. 1 . 1 . 1
2 EXISTING	CONDITIONS	. 2
2.1 2.2 2.3	Existing Street Network Existing Intersection Volumes and Operating Conditions Sight Distance Analysis	. 2 . 3 . 4
3 BACKGRO	OUND CONDITIONS	. 5
3.1	Background Conditions Intersection Volumes and Operating Conditions	. 5
4 BACKGR	OUND PLUS PROJECT CONDITIONS	. 5
4.1 4.2 4.3 4.4	Project Definition Project Trip Generation Project Trip Distribution and Assignment Background Plus Project Intersection Volumes and Operating Conditions	.5 .6 .6 .7
5 CUMULA	TIVE CONDITIONS	. 7
5.1	Cumulative Conditions Intersection Volumes and Operating Conditions	.7
6 CUMULA	TIVE PLUS PROJECT CONDITIONS	. 8
7 PROJECT	ACCESS, CIRCULATION AND PARKING ASSESSMENT	. 9
7.1 7.2 7.3	Project Access Truck Circulation Parking	.9 .9 10
8 SUMMAR	Y OF RECOMMENDATIONS	10
8.1 8.2 8.3 8.4	Existing Conditions Background Conditions Background Plus Project Conditions Cumulative Conditions	10 10 11 11 11
a.)		т т

Environmental Review Inital Study ATTACHMENT \_\_\_\_\_



#### LIST OF EXHIBITS

- 1. Project Location Map
- 2. Project Site Plan
- 3. Existing Conditions AM and PM Peak Hour Volumes
- 4A. Intersection Levels of Service
- 4B. Recommended Intersection Improvements
- 5A. Background Projects Location Map
- 5B. Background Projects Trip Generation
- 6. Background Projects AM and PM Peak Hour Volumes
- 7A. Project Trip Generation
- 7B. Project Trip Distribution
- 8. Project AM and PM Trip Assignment
- 9. Sight Distance Analysis
- 10. Background Plus Project Conditions AM and PM Peak Hour Volumes
- 11. Cumulative Conditions AM and PM Peak Hour Volumes
- 12. Cumulative Plus Project Conditions AM and PM Peak Hour Volumes
- 13A. Truck Turning Template WB-40 at Soquel Avenue
- 13B. Truck Turning Template WB-40 at Bostwick Lane
- 13C. Truck Turning Template WB-40 (Internal)
- 13D. Truck Turning Template Fire Truck

Environmental Review Inital Stud ATTACHMENT\_ APPLICATION



#### LIST OF APPENDICES

- A. Level of Service Descriptions
  - A1. Signalized Intersections
  - A2. Unsignalized Intersections with Two-Way Stop Control
- B. Level of Service Calculations and Mitigations Existing Conditions
- C. Level of Service Calculations and Mitigations Background Conditions
- D. Level of Service Calculations and Mitigations Background Plus Project Conditions
- E. Level of Service Calculations and Mitigations Cumulative Conditions
- F. Level of Service Calculations and Mitigations Cumulative Plus Project Conditions
- G. Pictures, Correspondence and Resources

Environmental Review Inital Stud ATTACHMENT\_2 APPLICATION



## 1 INTRODUCTION

This Traffic Impact Analysis (TIA) presents an analysis of the traffic impacts for the proposed Brickyard Plaza in Santa Cruz County, California. **Exhibit 1** shows the project location.

#### 1.1 **Project Description**

The study project is composed of both the redevelopment of an existing building on the project site, as well as the construction of new buildings. The project site plan is shown on **Exhibit 2**. Currently, the project site is composed of three existing buildings ("Building 1," "Building 2," and "Building 3"), totaling 18,658 square feet. As part of the study project, the third existing building ("Building 3," 5,520 square feet) would be demolished, and in its place, three new buildings ("Building 3," "Building 4," and "Building 5") would be constructed. The three new buildings would total 30,029 square feet.

#### 1.2 Scope of Work

This traffic study analyzed the anticipated project traffic impacts on the local roadways in the project area. The study analyzes traffic conditions under these development scenarios:

- Existing Conditions
- Background Conditions
- Background Plus Project Conditions
- Cumulative Conditions
- Cumulative Plus Project Conditions

The following three intersections were analyzed. Recommendations for improvements and mitigation measures to offset the traffic impacts from the proposed project are provided. The site plan was analyzed for traffic circulation.

#### Project intersections:

- 1. Seventh Avenue/Soquel Avenue
- 2. Seventh Avenue/Bostwick Lane
- 3. Soquel Drive/Soquel Avenue

#### 1.3 Traffic Operation Evaluation Methodologies and Level of Service Standards

Quantitative Levels of Service (LOS) analyses were performed for the study intersections and highway segments, based on the 2000 Highway Capacity Manual methodologies. Intersection operations were evaluated using the Synchro analysis software.



Intersection traffic flow operations were evaluated using a level of service (LOS) concept. Intersections are rated based on a grading scale of "LOS A" through "LOS F", with "LOS A" representing free flowing conditions and "LOS F" representing forced flow conditions. The County of Santa Cruz has established LOS C as the minimum acceptable LOS for overall intersection operations. However, the Santa Cruz County does consider a LOS D where costs, right of way acquisitions, or environmental impacts of maintaining operational standards under LOS policy are excessive and the capacity enhancements infeasible. Generally, LOS F operations on the minor street approach of two-way or one-way stop controlled intersections are considered the threshold warranting improvements.

For signalized intersections, average control delay per vehicle is utilized to define intersection level of service. Delay is dependent upon a number of factors including the signal cycle length, the roadway capacity (number of travel lanes) provided on each intersection approach and the traffic demand. Appendix A1 shows the relationship between vehicle delay and the signalized intersection level of service categories. The Synchro software program was utilized to calculate signalized intersection levels of service.

At one and two-way stop controlled intersections, the operating efficiency of vehicle movements that must yield to through movements were analyzed. The level of service for vehicle movements on the controlled approaches is based on the distribution of gaps in the major street traffic stream and driver judgment in selecting gaps. Appendix A2 shows the relationship between the vehicle delay and level of service for two-way stop controlled intersections. The 2000 HCM calculates the level of service of the minor street approaches. Using this data, an overall intersection level of service was calculated. Both are reported in this study because traffic on the minor street approaches has the lowest priority of right-of-way at the intersection and is the most critical in terms of delay. The Synchro software program was utilized to calculate intersection levels of service for intersections that are one and two-way stop controlled.

## **2** EXISTING CONDITIONS

This chapter presents a description of the existing street network, existing traffic volume, intersection levels of service and sight distance.

#### 2.1 Existing Street Network

Soquel Avenue is a major arterial that traverses through Santa Cruz County, and connects to Highway 1 just east of Seventh Avenue. Seventh Avenue also serves as a major arterial connecting southern Santa Cruz County to Soquel Avenue. Another local road in the project vicinity includes Bostwick Lane.

2



**Soquel Avenue** is a four-lane arterial west of Highway 1 that provides as a corridor for travel between Santa Cruz and Live Oak. To the east of Highway 1, Soquel Avenue is a two-lane road providing access to Highway 1 for truck traffic generated by local commercial and industrial development.

**Seventh Avenue** is a two-lane arterial street, extending from east Cliff Drive to Soquel Avenue. The speed limit on Seventh Avenue is 25 mph near the project site.

**Bostwick Lane** is a two-lane local road connecting Paul Minnie Avenue and terminating at Soquel Avenue. The speed limit on Bostwick Lane is 25 mph.

#### 2.2 Existing Intersection Volumes and Operating Conditions

The following intersections have been studied for the project:

- 1. Seventh Avenue/Soquel Avenue
- 2. Seventh Avenue/Bostwick Lane
- 3. Soquel Drive/Soquel Avenue

Manual traffic counts were conducted at the intersection of Seventh Avenue/Bostwick Lane on November 29, 2007. Existing traffic volumes at the remaining two intersections were obtained from the Santa Cruz Medical Foundation Office Building Traffic Impact Analysis Report, October 5, 2007, and from the S.C.C.O Animal Services Center Traffic Impact Analysis Report, August 18, 2006. Each intersection was analyzed at its individual peak hour. The existing weekday AM and PM peak hour volumes are illustrated on Exhibit 3.

Weekday AM and PM peak hour levels of service for the study intersections are summarized on **Exhibit 4A**. The recommended intersection improvements are shown on **Exhibit 4B**.

All intersections currently operate at LOS C or better during the AM and PM peak hours, with the exception of Soquel Drive/Soquel Avenue, which operates at a LOS D during the AM and PM peak periods. This intersection is currently controlled by an actuated-isolated traffic signal. Based on the traffic analysis performed in Synchro, it is nevertheless recommended to provide an actuated coordinated signal system between the Soquel Drive/Soquel Avenue and Seventh Avenue/Soquel Avenue intersections. By implementing the above-mentioned improvement, along with optimizing the cycle lengths (80 seconds in the AM peak period and 85 seconds in the PM peak period) and green bands, the intersection could operate at LOS C during the AM and PM peak periods. **Exhibit 4B** summarizes the recommended intersection improvements for each analysis condition. The LOS calculation sheets are included in **Appendix B** for Existing Conditions. As the signalized intersections along Soquel Avenue-Soquel Drive are closely spaced, it is recommended to interconnect all the signals between Seventh Avenue and Thurber Lane.

Environmental Review Mital Stud ATTACHMENT 3 APPLICATION \_\_\_ R

3



HIGGINS ASSOCIATES

#### 2.3 Sight Distance Analysis

A sight distance analysis was performed to evaluate the corner sight distance currently available from the Bostwick Lane approach to Seventh Avenue. Sight distance looking from the Bostwick Lane approach to Seventh Avenue was measured in both directions. The minimum corner sight distance was evaluated using corner sight distance standards documented by Caltrans and the American Association of State Highway and Transportation Officials (AASHTO).

The existing sight distance looking to the north (right) and south (left) is 375 feet and 190 feet, respectively. These measurements were obtained from a point approximately 15 feet from the existing edge of travel way on Seventh Avenue. This is the approximate location that a driver stopped on Bostwick Lane would observe traffic on Seventh Avenue. It should be noted that the sight distance looking to the left from the eastbound Bostwick Lane approach to Seventh Avenue is blocked by vegetation on the south side of Seventh Avenue.

The posted speed limit on Seventh Avenue at its intersection with Bostwick Lane is 25 miles per hour (mph). A design speed of 30 mph was used to evaluate the minimum intersection and stopping sight distances required at Bostwick Lane. According to AASHTO and Caltrans, the preferred intersection corner sight distance, based on a 30 mph design speed, is 330 feet, as tabulated on **Exhibit 9**. This distance provides 7½ seconds for vehicles turning from the Bostwick Lane approach to Seventh Avenue to complete their maneuvers without significantly impacting the travel speed of vehicles on Seventh Avenue.

Caltrans allows the minimum corner sight distance to be reduced to the stopping sight distance when restrictive conditions exist. These conditions include high costs associated with right of way acquisition, building removal, extensive excavation, or environmental costs. **Exhibit 9** also shows the minimum stopping sight distances for the 30 mph design speed using the AASHTO stopping sight distance equation, which can be used for corner sight distance under restrictive conditions. Based on a 30 mph design speed, a minimum corner sight distance of 196 feet should be provided looking to the north and south from Bostwick Lane, based upon the restrictive condition sight distance criteria. For this situation, it is recommended that the restrictive condition criteria using the minimum stopping sight distance be used. The corner sight distance looking to the south does not meet the minimum recommended corner sight distance, while the corner sight distance looking to the north does meet the minimum recommended corner sight distance.

To achieve the minimum recommended corner sight distance of 196 feet looking from the Bostwick Lane approach to the south, it is recommended the vegetation be trimmed. Although trimming the vegetation would improve the sight distance coming from Bostwick Lane onto Seventh Avenue, final determination of the sight distance will not be known until the recommendation is implemented. Pictures of the sight distance observations that were taken during the field visit are included in **Appendix G**.

7-172 RepwdevcomFinal.doc Environmental Review Inital,Study
ATTACHMENT <u>8. 1/at 18</u>
APPLICATION <u>07-0212</u>



## **3 BACKGROUND CONDITIONS**

This section describes Background Conditions, which include projects that have been approved by the County but not yet constructed. The Background traffic was added to the existing traffic and analyzed. The list of Background projects was obtained from the County; the locations of these projects are depicted on **Exhibit 5A**, and the trip generations for the projects are itemized on **Exhibit 5B**.

#### 3.1 Background Conditions Intersection Volumes and Operating Conditions

The Background peak hour traffic volumes are illustrated on Exhibit 6. Exhibit 4A contains the levels of service for the study intersections under Background Conditions. The recommended intersection improvements are shown on Exhibit 4B.

Levels of service at the study intersections under Background Conditions would remain unchanged from Existing Conditions. All intersections will operate at a LOS C or better during the AM and PM peak hours, with the exception of Soquel Drive/Soquel Avenue, which operates at an LOS D during the AM and PM peak periods. This intersection could operate at acceptable levels of service by implementing the improvements identified under Existing Conditions. The LOS calculation sheets are included in **Appendix C**.

## **4 BACKGROUND PLUS PROJECT CONDITIONS**

This chapter describes Background Plus Project Conditions including traffic volumes and intersection levels of service. The project trip generation, distribution, and assignment are estimated. The project traffic is then added and analyzed to determine possible project impacts.

#### 4.1 **Project Definition**

The project proposes to demolish the existing "Building 3" and construct three new buildings ("Building 3," "Building 4," and "Building 5") totaling 30,029 square feet of commercial and industrial use that will expand their existing project site from 18,658 square feet to approximately 49,000 square feet at the intersection of Seventh Avenue and Bostwick Lane. Expansion is not expected for "Building 1" and "Building 2".

Environmental Review Inital Stud ATTACHMENT **APPLICATION** 

Brickyard Plaza Traffic Impact Analysis

# COVIL & TRAFFIC ENGINEERS

HIGGINS ASSOCIATES

4.2 Project Trip Generation

The anticipated project trip distribution is shown graphically on **Exhibit 7B**, and repeated below:

		AM	$\mathbf{PM}$
Direction	Percent	Peak	Peak
		Hour	Hour
To/From the North:	0%	0	0
To/From the South:	20%	12	11
via 7 <sup>th</sup> Avenue – 10%		6	5
via 17 <sup>th</sup> Avenue – 5%		3	3
via 41 <sup>st</sup> Avenue – 5%		3	3
To/From the East:	35%	22	20
via Highway 1 – 25%		16	14
via Soquel Drive 10%		6	6
To/From the West:	45%	28	25
via Highway 1 – 35%		22	19
via Soquel Avenue – 10%		6	6
TOTAL:	100%	62	56

The above trip distribution is based on existing traffic patterns in the project vicinity. It is similar to the distribution utilized in the traffic report *Live Oak Business Park Traffic Analysis Report*, by Higgins Associates, dated February 1999. The report reviewed the traffic impacts associated with a similar land use within one mile of the study project site.

#### 4.3 **Project Trip Distribution and Assignment**

Trip distribution defines the origins and destinations of all trips to and from a project site. The project traffic was distributed onto the study street network based upon existing travel patterns and land use in the vicinity of the project site. Project traffic was distributed onto the study street network as shown below:

Vicinity of Trip Distribu	tion Project Trip Distribution
Highway 1 West	35%
Highway 1 East	25%
North of Highway 1	10%
West of Soquel Avenu	le 10%
7 <sup>th</sup> Avenue	10%
Environmental Review Inital Study 17 <sup>th</sup> Avenue	5%
ATTACHMENT S. 13 OF 12 41st Avenue	5%
APPLICATION 07-021d	TOTAL: 100%

7-172 RepwdevcomFinal.doc



**Exhibits 7A and 7B** illustrate the project trip distribution and assignment at the study intersections. The Project peak hour traffic volumes are illustrated on **Exhibit 6** 

#### 4.4 Background Plus Project Intersection Volumes and Operating Conditions

The Background Plus Project peak hour traffic volumes are illustrated on **Exhibit 10**. **Exhibit 4A** contains the levels of service for the study intersections under Background Plus Project Conditions. The recommended intersection improvements are shown on **Exhibit 4B**.

Levels of service at the study intersections under Background Plus Project Conditions would remain unchanged from Background Conditions. All intersections will operate at LOS C or better during the AM and PM peak hours, with the exception of Soquel Drive/Soquel Avenue, which will continue to operate at an LOS D during the AM and PM peak periods.

Based on the traffic analysis results, it was determined that an optimized cycle length of 85 seconds instead of 80 second during the AM peak period will be necessary for better traffic operations at the intersection. This intersection will operate at LOS C by implementing the improvement described above. Aside from the above-mentioned improvement, no additional intersection improvements are recommended under Background Plus Project Conditions. The LOS calculation sheets are included in **Appendix D**.

## 5 CUMULATIVE CONDITIONS

Traffic volumes on the study road network will increase as a result of other new development in the region. This section describes Cumulative Conditions, which includes estimated traffic conditions in roughly 14 years. To assess the impact of the traffic generated by other new developments to traffic operations at the study intersections, the existing intersection volumes were increased at an average annual rate of 2.0% for 14 years per the County of Santa Cruz staff directive. These volumes were then analyzed to determine impacts for Cumulative Conditions.

#### 5.1 Cumulative Conditions Intersection Volumes and Operating Conditions

The Cumulative peak hour traffic volumes are illustrated on **Exhibit 11. Exhibit 4** contains the levels of service for the study intersections under Cumulative Conditions.

All intersections will operate at LOS C or better during the AM and PM peak hours, with the exception of the Soquel Drive/Soquel Avenue and Seventh Avenue/Soquel Drive intersections.

The Seventh Avenue/Soquel Avenue intersection operates at a LOS F during the PM peak period. Based on the Synchro analysis, more capacity at this intersection can be



achieved by adjusting the cycle lengths and green bands. The intersection would operate at LOS C by implementing the above-mentioned improvements.

The Soquel Drive/Soquel Avenue intersection operates at LOS F during the AM and PM peak periods. Previous studies, including the Santa Cruz County General Plan, have determined that ultimately it will be necessary to rebuild the interchange and convert the existing button-hook configuration into a partial cloverleaf interchange. Implementation of improvements to improve Soquel Drive/Soquel Avenue intersection operations should confirm the planned ultimate design of the interchange.

In lieu of this improvement, the traffic operational issues/concerns at this intersection can be solved by providing one of the following improvements:

- Extend the existing eastbound Soquel Avenue right turn lane to 150 feet from the intersection stop line to provide an exclusive free eastbound right turn movement. This improvement will require right of way acquisition from existing businesses along Soquel Avenue.
- Re-stripe the existing lane configurations on the west leg to accommodate a free eastbound right turn lane. This could be achieved by providing 11-foot through lanes and 4-foot bike lanes.

The intersection will operate at LOS D during the AM peak hour and LOS C during the PM peak period. The Santa Cruz County does consider a LOS D where costs, right of way acquisitions, or environmental impacts of maintaining operational standards under LOS policy are excessive and the capacity enhancements infeasible. As the signalized intersections along Soquel Avenue-Soquel Drive are closely spaced, it is recommended to interconnect all the signals between Seventh Avenue and Thurber Lane. The LOS calculation sheets are included in **Appendix E**.

## **6 CUMULATIVE PLUS PROJECT CONDITIONS**

In order to evaluate the potential traffic impacts that may be attributed to the proposed project, the Cumulative Plus Project volumes were derived by adding project trips to Cumulative traffic volumes. The Cumulative Plus Project peak hour traffic volumes are illustrated on **Exhibit 12**. **Exhibit 4A** contains the levels of service for the study intersections under Cumulative Plus Project conditions. The recommended intersection improvements are shown on **Exhibit 4B**.

Levels of service at the study intersections under Cumulative Plus Project Conditions would remain unchanged from Cumulative Conditions. Improvements identified under Cumulative Conditions for the Seventh Avenue/Soquel Avenue and Soquel Drive/Soquel Avenue intersections will be sufficient to mitigate the traffic operations at these intersections. Per County LOS policy, any proposed development that adds traffic resulting in a 1% increase in the volume by capacity ratio in an already over-saturated

Environment	al Rev	lew ir	nital Si	tudv	
ATTACHMENT	vconni	jal.doc/	50	+1	g
APPLICATION	$O^{i}$	2-7	22	12	_

8



intersection (LOS E or F) will be required to mitigate its impact. The proposed project adds less than a 1% increase in the volumes, and hence will only be required to pay their fair share contribution to mitigate the Cumulative impacts at the intersections. Please refer to the *County's Roadway Capacity/Level of Service* document attached in the **Appendix G**. Level of Services calculations for Cumulative Plus Project Conditions may be found in **Appendix F**.

## 7 PROJECT ACCESS, CIRCULATION AND PARKING ASSESSMENT

This section describes Project Access, circulation and parking assessment for the proposed project site.

#### 7.1 Project Access

Access to the project site will be provided via three driveways, two located along Bostwick Lane and the other located along Soquel Avenue. The west driveway along Bostwick Lane will primarily serve the proposed "Building 4." Some of the major streets in the proximity of the project site include Soquel Avenue, Seventh Avenue, and Highway 1. The majority of project trips will be utilizing Highway 1, Soquel Avenue, Seventh Avenue and 17<sup>th</sup> Avenue for access to the project site. The proposed development has convenient access to all of these major transportation roadway networks.

#### 7.2 Truck Circulation

As shown on the project site plan, Buildings 2, 3, 4, and 5 will have truck loading areas. Per our discussion with Eduardo Pech, Ifland Engineers, on July 23, 2007, it is our understanding that the largest truck traveling to and from the project site will be a WB-40 truck. Therefore, truck turning templates for the WB-40 truck, as shown in **Exhibit 13A**, **13B** and **13C** has been created for some of the more difficult maneuvers on the site. As shown on the truck turning templates, the Soquel Avenue and Bostwick Lane driveways will be able to accommodate WB-40 trucks. Trucks will also be able to maneuver into and out of the project site from Bostwick Lane without encroaching into the eastbound parking lane. All right-turn movements into and out of the loading spaces for all buildings would require trucks to travel on to the opposing side of traffic in the parking lot when making their turns or exiting on to Bostwick Lane. Due to the low traffic volumes that would travel through the project site, this situation is not considered to be a problem.

Fire truck turning templates, found on **Exhibit 13D**, have also been created to determine the feasibility of emergency vehicle access. Since the project site is located close to the County of Santa Cruz (County) and the City of Santa Cruz (City) border line, we compared the County fire truck to the City fire truck and used the larger of the two to run the fire truck turning template. Based on information received from the Central Fire Department, the largest fire truck for the County is approximately 38 feet long. The City's largest fire truck is approximately 46 feet long. To be conservative, the City's fire truck was used for the turning template.

The City fire truck was found to have no problems entering or circulating through the project site. As the City fire truck is larger, the County fire truck would also have no problems entering or circulating through the site.

#### 7.3 Parking

The project parking plan has been compared with Santa Cruz County parking standards. The project would provide 110 parking spaces, of which 7 would be accessible (disabled) spaces. There is no County parking standard for a business park; based upon the proposed uses of the site, the land use of Manufacturing is the closest County land use. Assuming that land use, the project site needs to provide at least 72 spaces and 3 accessible spaces. The  $85^{\text{th}}$  percentile parking demand at the project site was also checked using *ITE Parking Generation Manual 3<sup>rd</sup> Edition*. Assuming an industrial park land use, the project site needs to provide at least 80 spaces. Therefore, the project meets County parking standards.

## 8 SUMMARY OF RECOMMENDATIONS

#### 8.1 Existing Conditions

The following improvements are recommended under Existing Conditions regardless of the project impacts:

- 1. Provide an actuated coordinated signal system between the Soquel Drive/Soquel Avenue and Seventh Avenue/Soquel Avenue intersections.
- 2. Optimize the cycle lengths (80 seconds in AM and 85 seconds in PM peak period) and green bands at the Soquel Drive/Soquel Avenue intersection.
- 3. As the signalized intersections along Soquel Avenue-Soquel Drive are closely spaced, it is recommended to interconnect all the signals between Seventh Avenue and Thurber Lane for better traffic flow conditions.
- 4. Vegetation along Seventh Avenue, looking south from Bostwick Lane, needs to be trimmed to improve the sight distance. Although trimming the vegetation would improve the sight distance coming from Bostwick Lane onto Seventh Avenue, final determination of sight distance would be possible only after the recommendation is implemented.

#### 8.2 Background Conditions

No additional improvements are recommended under Background Conditions other than the improvements recommended for Existing Conditions.

Environmental Review Inital Stud ATTACHMENT **APPI ICATION** 



#### 8.3 Background Plus Project Conditions

No additional improvements are recommended under Background Conditions other than the improvements recommended for consideration under Existing Conditions except for the following minor changes.

#### Soquel Drive/Soquel Avenue intersection

1. Adjust the cycle lengths at the Soquel Drive/Soquel Avenue intersection to accommodate Background volumes. It is assumed that a coordinated system as recommended for the existing conditions has been installed.

#### 8.4 Cumulative Conditions

Cumulative traffic impacts can be mitigated by providing the following improvement. This assumes the improvements described under Existing Conditions are implemented.

#### Soquel Drive/Soquel Avenue intersection

- 1a. Provide a free eastbound Soquel Avenue right turn lane with 150 foot storage length. This improvement will require right of way acquisition from existing businesses along Soquel Avenue **OR**,
- 1b. Re-stripe the existing lane configurations on the west leg to accommodate a free eastbound right turn lane. This could be achieved by providing 11-foot through lanes and 4-foot bike lanes.

#### Seventh Avenue/Soquel Avenue intersection

1. Adjust the cycle lengths and green bands at the Soquel Drive/Soquel Avenue intersection to accommodate Cumulative volumes. It is assumed that a coordinated system as recommended for the existing conditions has been installed.

#### 8.5 Cumulative Plus Project Conditions

No additional improvements are recommended under Cumulative Plus Project Conditions other than the improvements recommended for consideration under Cumulative Conditions. The project does not add more than 1% increase in the volume to capacity ratio and hence will only be responsible for paying its fair share contribution to the anticipated developments under the Cumulative impacts.

Environmental Review Inital Stud ATTACHMENT <sup>2</sup> APPLICATION

7-172 RepwdevcomFinal.doc



# Santa Cruz County Sanitation District

701 OCEAN STREET, SUITE 410, SANTA CRUZ, CA 95060-4073 (831) 454-2160 FAX (831) 454-2089 TDD: (831) 454-2123

THOMAS L. BOLICH, DISTRICT ENGINEER

August 13, 2008

#### MR. RON POWERS 1607 OCEAN STREET #8 SANTA CRUZ CA 95060

#### SUBJECT: SEWER AVAILABILITY AND DISTRICT'S CONDITIONS OF SERVICE FOR THE FOLLOWING PROPOSED DEVELOPMENT:

APN:26-031-32 & -46APPLICATION NO.:07-0212PARCEL ADDRESS:26776 AND 2806 SOQUEL DRIVE, SANTA CRUZPROJECT DESCRIPTION:CONSTRUCT 3 BUILDINGS AT BRICKYARD PLAZA<br/>(COMMERCIAL, MANUFACTURING, AND RETAIL USES;<br/>NO FOOD SERVICE OR PROCESSING)

The District has been requested to allow for a time extension of the subject permit application. The last submittal to the plans (3<sup>rd</sup> submittal) was conditionally approved contingent upon a minor addition to the plans. The District will permit a minimum one year time extension as recommended by the Planning Department.

Any future changes to the plans shall be routed to the District for review to determine if additional conditions are necessitated by changes. All changes shall be highlighted as plan revisions and changes may cause additional requirements to meet District standards.

Please contact Diane Romeo at (831) 454-2160 if you have additional questions.

Yours truly,

THOMAS L. BOLICH District Engineer

By: Prachéz (Lather)

Rachél Lather Senior Civil Engineer



Environmental Review Inital Study ATTACHMENT 9 APPLICATION 07-0212

DR:dls/168

c: Cathy Graves, Planning Department 🗸

Property Owner: Ernest & Ruth Antolini P.O. Box 2665 Santa Cruz, CA 95063