



County of Santa Cruz

PLANNING DEPARTMENT

701 OCEAN STREET, 4TH FLOOR, SANTA CRUZ, CA 95060
(831) 454-2580 FAX: (831) 454-2131 TDD: (831) 454-2123
KATHLEEN MOLLOY PREVISICH, PLANNING DIRECTOR

www.sccoplanning.com

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

NOTICE OF PUBLIC REVIEW AND COMMENT PERIOD

Pursuant to the California Environmental Quality Act, the following project has been reviewed by the County Environmental Coordinator to determine if it has a potential to create significant impacts to the environment and, if so, how such impacts could be solved. A Negative Declaration is prepared in cases where the project is determined not to have any significant environmental impacts. Either a Mitigated Negative Declaration or Environmental Impact Report (EIR) is prepared for projects that may result in a significant impact to the environment.

Public review periods are provided for these Environmental Determinations according to the requirements of the County Environmental Review Guidelines. The environmental document is available for review at the County Planning Department located at 701 Ocean Street, in Santa Cruz. You may also view the environmental document on the web at www.sccoplanning.com under the Planning Department menu. If you have questions or comments about this Notice of Intent, please contact Matt Johnston of the Environmental Review staff at (831) 454-3201

The County of Santa Cruz does not discriminate on the basis of disability, and no person shall, by reason of a disability, be denied the benefits of its services, programs or activities. If you require special assistance in order to review this information, please contact Bernice Romero at (831) 454-3137 (TDD number (831) 454-2123 or (831) 763-8123) to make arrangements.

PROJECT: THE LUMBERYARD MIXED USE DEVELOPMENT

APP #: 141157

APN(S): 032-092-01; 032-092-05

PROJECT DESCRIPTION: The proposal is to demolish an existing lumberyard building and to construct a 9,600 square foot commercial, retail building with one commercial condominium unit at the lower floor that includes 3,200 square feet of restaurant use and 3,200 square feet of retail use and 3,200 square feet of office/service commercial use, and eight residential condominium units totaling 9,600 square feet at the second and third floor, together with a detached 2,033 square foot residential parking structure with eight separate garages, one for each condominium unit. This requires a Commercial Development permit including a Master Occupancy Permit; the approval of a Tentative Map; a Coastal Development Permit; a Height Exception to allow for an increase in height from 35 feet to around 38 feet 4 inches; a Variance to allow for two name signs for the center; Design Review, and the approval of a Parking Plan.

PROJECT LOCATION: The project is located at the corner on the south side of Portola Drive and the east side of 38th Avenue within the community of Live Oak in the unincorporated County of Santa Cruz.

EXISTING ZONE DISTRICT: C-2 (Community Commercial)

APPLICANT: HAMILTON SWIFT AND ASSOCIATES

OWNER: NORTH POINT INVESTMENTS FUND, LLC

PROJECT PLANNER: Lezanne Jeffs, (831) 454-2480

EMAIL: Lezanne.Jeffs@santacruzcounty.us

ACTION: Mitigated Negative Declaration

REVIEW PERIOD: September 12, 2015 through October 13, 2015

This project will be considered at a public hearing by the Planning Commission. The date, time and location have not yet been set. When scheduling does occur, these items will be included in all public hearing notices for the project.



COUNTY OF SANTA CRUZ

PLANNING DEPARTMENT

701 OCEAN STREET, 4TH FLOOR, SANTA CRUZ, CA 95060
(831) 454-2580 FAX: (831) 454-2131 TDD: (831) 454-2123
KATHLEEN MOLLOY PREVISICH, PLANNING DIRECTOR
<http://www.sccoplanning.com/>

MITIGATED NEGATIVE DECLARATION

Project: The Lumberyard Mixed Use Development
APN(S): 032-092-01; 032-092-05

Application #: 141157

Project Description: The proposal is to demolish an existing lumberyard building and to construct a 9,600 square foot commercial, retail building with one commercial condominium unit at the lower floor that includes 3,200 square feet of restaurant use and 3,200 square feet of retail use and 3,200 square feet of office/service commercial use, and eight residential condominium units totaling 9,600 square feet at the second and third floor, together with a detached 2,033 square foot residential parking structure with eight separate garages, one for each condominium unit. This requires a Commercial Development permit including a Master Occupancy Permit; the approval of a Tentative Map; a Coastal Development Permit; a Height Exception to allow for an increase in height from 35 feet to around 38 feet 4 inches; a Variance to allow for two name signs for the center; Design Review, and the approval of a Parking Plan.

Project Location: The project is located at the corner on the south side of Portola Drive and the east side of 38th Avenue within the community of Live Oak in the unincorporated County of Santa Cruz.

Applicant: Hamilton Swift and Associates

Owner: North Point Investments Fund, LLC

Staff Planner: Lezanne Jeffs, (831) 454-2480 email: Lezanne.Jeffs@santacruzcounty.us

This project will be considered at a public hearing by the Planning Commission at a date to be determined. The time, date and location have not been set. When scheduling does occur, these items will be included in all public hearing notices for the project.

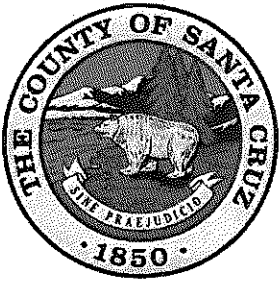
California Environmental Quality Act Negative Declaration Findings:

Find, that this Negative Declaration reflects the decision-making body's independent judgment and analysis, and; that the decision-making body has reviewed and considered the information contained in this Negative Declaration and the comments received during the public review period, and; on the basis of the whole record before the decision-making body (including this Negative Declaration) that there is no substantial evidence that the project will have a significant effect on the environment. The expected environmental impacts of the project are documented in the attached Initial Study on file with the County of Santa Cruz Clerk of the Board located at 701 Ocean Street, 5th Floor, Santa Cruz, California.

Review Period Ends: October 13, 2015

Date: _____

TODD SEXAUER, Environmental Coordinator
(831) 454-3511



County of Santa Cruz

PLANNING DEPARTMENT

701 OCEAN STREET, 4TH FLOOR, SANTA CRUZ, CA 95060
(831) 454-2580 FAX: (831) 454-2131 TDD: (831) 454-2123
KATHLEEN MOLLOY PREVISICH, PLANNING DIRECTOR
www.sccoplanning.com

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) INITIAL STUDY/ENVIRONMENTAL CHECKLIST

Date: August 24, 2015

Application Number: 141157

Project Name: The Lumberyard

Staff Planner: Lezanne Jeffs

I. OVERVIEW AND ENVIRONMENTAL DETERMINATION

APPLICANT: Hamilton Swift and Associates

APN(s): 032-092-01; 032-092-05

OWNER: North Point Investments Fund, LLC

SUPERVISORAL DISTRICT: First District

PROJECT LOCATION: The proposed project is located at the corner on the south side of Portola Drive and the east side of 38th Avenue within the community of Live Oak in the unincorporated County of Santa Cruz. The County of Santa Cruz is bounded on the north by San Mateo County, on the south by Monterey and San Benito counties, on the east by Santa Clara County, and on the south and west by the Monterey Bay and the Pacific Ocean.

SUMMARY PROJECT DESCRIPTION: The proposal is to demolish an existing lumberyard building and to construct a 9,600 square foot commercial, retail building with one commercial condominium unit at the lower floor that includes 3,200 square feet of restaurant use and 3,200 square feet of retail use and 3,200 square feet of office/service commercial use, and eight residential condominium units totaling 9,600 square feet at the second and third floor, together with a detached 2,033 square foot residential parking structure with eight separate garages, one for each condominium unit. This requires a Commercial Development permit including a Master Occupancy Permit; the approval of a Tentative Map; a Coastal Development Permit; a Height Exception to allow for an increase in height from 35 feet to around 38 feet 4 inches; a Variance to allow for two name signs for the center; Design Review, and the approval of a Parking Plan.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED: *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.*

- | | |
|---|--|
| <input type="checkbox"/> Aesthetics and Visual Resources | <input type="checkbox"/> Land Use and Planning |
| <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Mineral Resources |
| <input checked="" type="checkbox"/> Air Quality | <input checked="" type="checkbox"/> Noise |

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED: *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.*

- | | |
|--|--|
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Population and Housing |
| <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Public Services |
| <input checked="" type="checkbox"/> Geology and Soils | <input type="checkbox"/> Recreation |
| <input checked="" type="checkbox"/> Greenhouse Gas Emissions | <input checked="" type="checkbox"/> Transportation/Traffic |
| <input checked="" type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Utilities and Service Systems |
| <input checked="" type="checkbox"/> Hydrology/Water Supply/Water Quality | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

DISCRETIONARY APPROVAL(S) BEING CONSIDERED:

- | | |
|--|--|
| <input type="checkbox"/> General Plan Amendment | <input checked="" type="checkbox"/> Coastal Development Permit |
| <input checked="" type="checkbox"/> Land Division | <input checked="" type="checkbox"/> Grading Permit |
| <input type="checkbox"/> Rezoning | <input type="checkbox"/> Riparian Exception |
| <input checked="" type="checkbox"/> Development Permit | <input type="checkbox"/> LAFCO Annexation |
| <input type="checkbox"/> Sewer Connection Permit | <input checked="" type="checkbox"/> Other: Signage Variance and Height Exception |

OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED (e.g., permits, financing approval, or participation agreement):

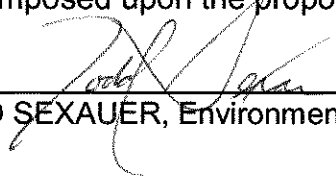
<u>Permit Type/Action</u>	<u>Agency</u>
None required	N/A

DETERMINATION:

On the basis of this initial evaluation:

- 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 revisions in the project have been made or agreed to by the project proponent. 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.
- I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



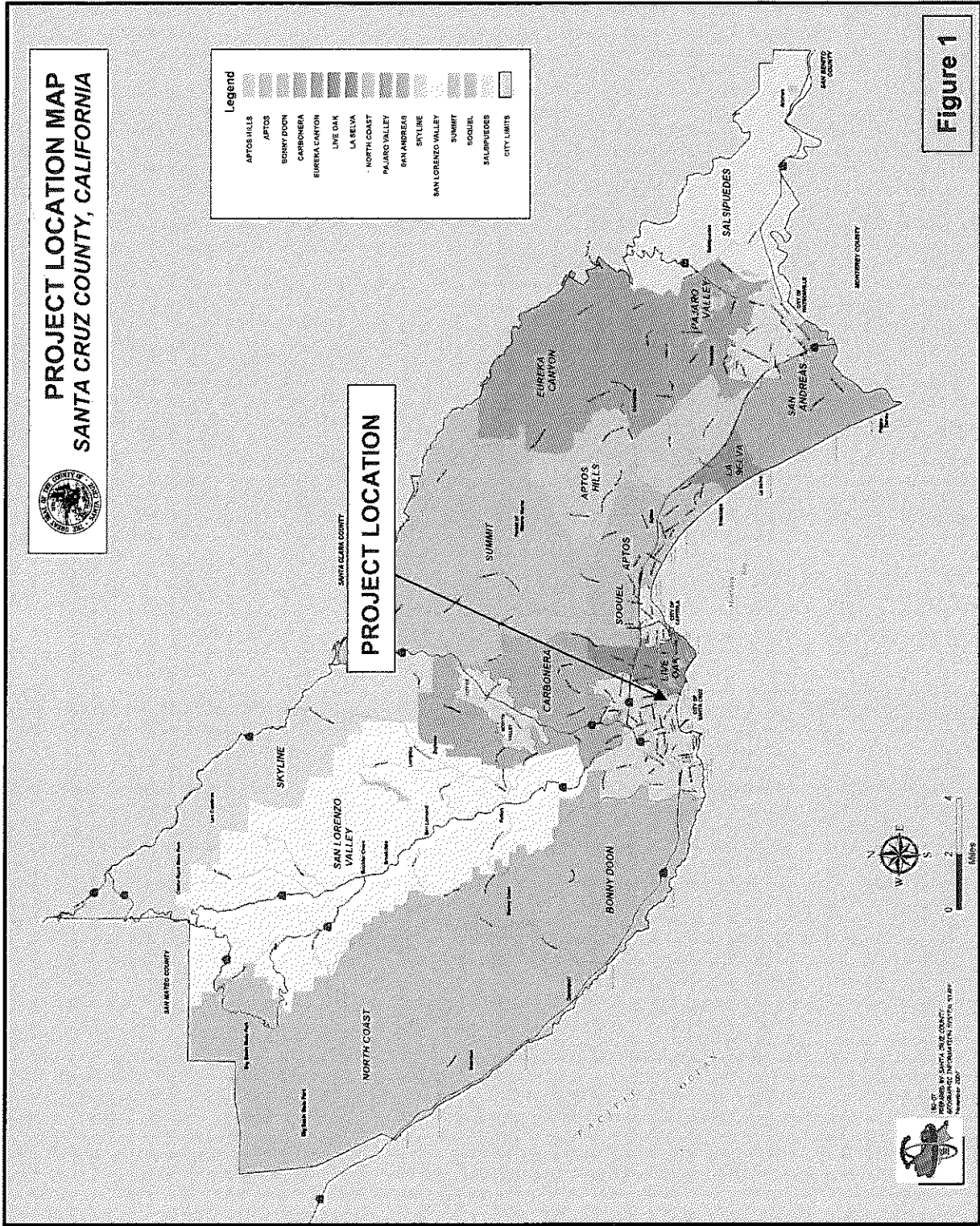
TODD SEXAUER, Environmental Coordinator

9/8/15

Date



This page intentionally left blank.





This page intentionally left blank

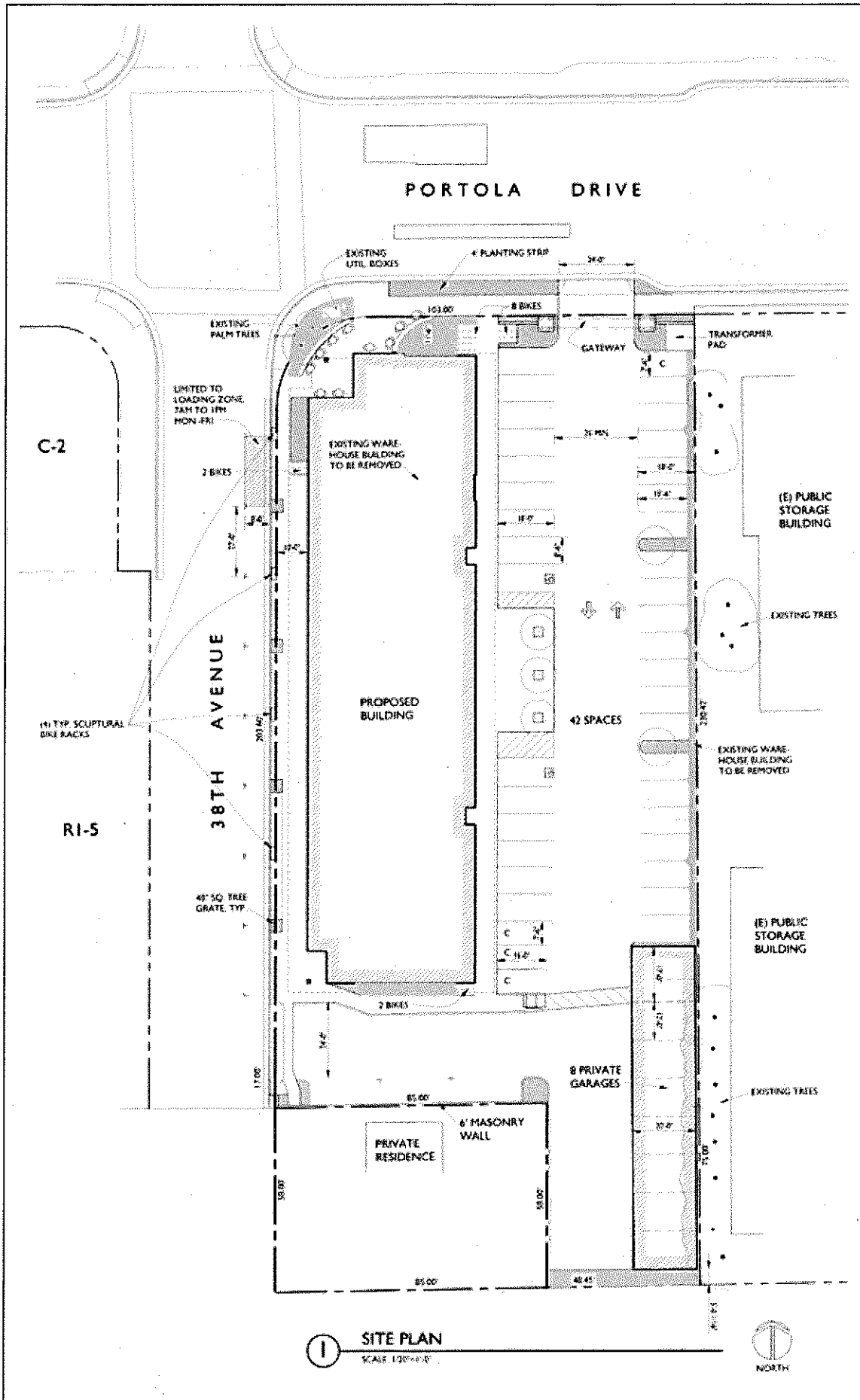


Figure 2

Project Site Plan

Application Number: 141157

The Lumberyard



This page intentionally left blank.

II. BACKGROUND INFORMATION

EXISTING SITE CONDITIONS:

Parcel Size (sq. ft.): 36,365 square feet
 Existing Land Use: Vacant Lumberyard building
 Vegetation: Site is completely developed. One small tree along the southern boundary, close to 38th Avenue.
 Slope in area affected by project: 0 - 30% 31 - 100% N/A
 Nearby Watercourse: Moran Creek (intermittent stream)
 Distance To: 1,200 feet

ENVIRONMENTAL RESOURCES AND CONSTRAINTS:

Water Supply Watershed:	Not Mapped	Fault Zone:	Not Mapped
Groundwater Recharge:	Not Mapped	Scenic Corridor:	Not Mapped
Timber or Mineral:	Not Mapped	Historic:	No historic structures
Agricultural Resource:	Not Mapped	Archaeology:	Not Mapped
Biologically Sensitive Habitat:	None identified	Noise Constraint:	None
Fire Hazard:	Not Mapped	Electric Power Lines:	None
Floodplain:	Not Mapped	Solar Access:	Adequate
Erosion:	Low Potential	Solar Orientation:	Adequate
Landslide:	None Mapped, Low Potential	Hazardous Materials:	None
Liquefaction:	Mapped "Low"	Other:	No

SERVICES:

Fire Protection:	Central Fire Protection District	Drainage District:	Zone 5
School District:	Live Oak School District	Project Access:	Portola Ave./38 th Avenue
Sewage Disposal:	Santa Cruz County Sanitation Department	Water Supply:	City of Santa Cruz Water Department

PLANNING POLICIES:

Zone District: C-2 (Community Commercial) Special Designation: None
General Plan: Community Commercial (C-C)
Urban Services Line: Inside Outside
Coastal Zone: Inside Outside

ENVIRONMENTAL SETTING AND SURROUNDING LAND USES:

Natural Environment

Santa Cruz County is uniquely situated along the northern end of Monterey Bay approximately 55 miles south of the City of San Francisco along the Central Coast. The Pacific Ocean and Monterey Bay to the west and south, the mountains inland, and the prime agricultural lands along both the northern and southern coast of the county create limitations on the style and amount of building that can take place. Simultaneously, these natural features create an environment that attracts both visitors and new residents every year. The natural landscape provides the basic features that set Santa Cruz apart from the surrounding counties and require specific accommodations to ensure building is done in a safe, responsible and environmentally respectful manner.

The California Coastal Zone affects nearly one third of the land in the urbanized area of the unincorporated County with special restrictions, regulations, and processing procedures required for development within that area. Steep hillsides require extensive review and engineering to ensure that slopes remain stable, buildings are safe, and water quality is not impacted by increased erosion. The farmland in Santa Cruz County is among the best in the world, and the agriculture industry is a primary economic generator for the County. Preserving this industry in the face of population growth requires that soils best suited to commercial agriculture remain active in crop production rather than converting to other land uses.

PROJECT BACKGROUND:

The subject property is composed of two parcels totaling 35,365 square feet, located at the southeast corner of Portola Drive and 38th Avenue in the Live Oak planning area of Santa Cruz County. Existing access to the property is via public streets (Portola Drive and 38th Avenue). The site is currently entirely developed with a vacant warehouse building and paved parking/circulation areas. The warehouse and site were developed as a retail lumber and hardware sales facility that was originally owned by the Pleasure Point Lumber Company, which began operations on the site in 1948. The lumberyard use operated continuously at this location until around 2010 although the ownership transferred in the early 1970s to the San Lorenzo Lumber Company and more recently to the Big Creek Lumber Company. Starting in the spring of 2010, soon after the Big Creek Lumber Company

ceased operations, and continuing through the fall of 2013, the site was leased by Wellington Energy as a storage and service depot. During this time the building was used for the storage and inventory of Smart Meters and as office space with the remainder of the parcel used for parking and overnight storage of service trucks and, during the day, for employee parking.

The topography of the parcel is almost flat and the site is completely developed with impervious surfaces, the only vegetation present being around the boundaries of the parcel, within the public right-of-way or on adjacent parcels. Parcels to the north and to the east and west along Portola Drive are all developed for a wide variety of commercial uses that include retail office and service uses. Adjacent to the project site to the east there is a mini-storage facility that includes one, two and three-story buildings, while across 38th Avenue and Portola Drive there are mostly retail and small office uses within one and two story buildings. South of the project site along 38th Avenue and also west of the southern portion of the site across the street there are single family homes. A Mobile Home Park, accessed from 38th Avenue just south of the project site, borders the southwestern corner of the property.

DETAILED PROJECT DESCRIPTION:

This project description is based on the project plans drawn by Thacher and Thompson, dated January 9, 2015, and the conceptual grading and drainage plans prepared by Ifland Engineers, dated June 15, 2015 (Attachment 3).

The project consists of the demolition of an existing lumberyard building and the construction of a 9,600 square foot commercial, retail building with one commercial condominium unit at the lower floor that includes 3,200 square feet of restaurant use and 3,200 square feet of retail use and 3,200 square feet of office/service commercial use, and eight residential condominium units totaling 9,600 square feet at the second and third floors, together with a detached 2,033.4 square foot residential parking structure with eight separate garages, one for each residential unit. In addition to the eight garage spaces, off-street parking would be provided for 42 cars within a paved parking lot located east and south of the proposed building, a total of 50 spaces for the development.

The ground floor commercial area of the proposed building has been designed to be open and inviting, with high ceilings, extensive multi-paned storefront glazing facing Portola Drive and with full-height glass roll-up doors that open directly onto the sidewalk at 38th Avenue and onto a paved plaza area set within the parking area located east of the building. The intention is that the space, when opened up to the tree lined street and parking area, would bring the inside out and the outside in. To further this concept, the project also includes outdoor seating areas that would be open for use by all patrons of the center. It is envisaged that a café coffee house or bakery would anchor the commercial corner of Brommer Street and 38th Avenue with the central portion of the space that is designed to be flexible and to allow for small shops and an open market type use with small stalls selling produce or other

locally produced merchandise. A similar second anchor tenant would be located at the southern end of the building.

The modestly sized residential condominium units at the second and third floors, that are located above the central portion of the commercial space, have each been designed to include two bedrooms. All of the units have comfortable private terraces that open off the living areas. These units are accessed via two separate private stairwells as well as by two private elevators. The private garages that accompany each unit allow for both secure parking areas for residents as well as for additional storage.

The proposed mixed-use building and residential garages would be constructed using a variety of materials that include cement plaster walls, paired with vertical siding elements over portions of the residential units and a metal standing-steel roof. The color palette includes soft off-white and muted grey shades, broken up by the use of natural wood at canopies extending out over the entrances to the commercial spaces at the first floor. It is intended that re-used wood from the original lumberyard be re-purposed for the decorative canopy areas. The height of the central portion of the building would be 38 feet 4 inches measured to the peak of the roof, with two roofed ventilation shafts that, combined, cover less than ten percent of the roof area and are approximately 2 feet 6 inches taller. Commercial spaces at each end of the building have a reduced height. At the northern end of the building, adjacent to the corner of Portola Drive and 38th Avenue, the commercial space has been designed to include a small decorative tower that has a height of approximately 27 feet. At the southern end of the building, so as to better relate to the residential neighborhood located to the south the maximum height to the peak of the roof would be reduced to approximately 23 feet.

Primary access to the site would be from Portola Drive at a point approximately 90 feet east of the corner of 38th Avenue, together with a secondary access point from 38th Avenue that is approximately 240 feet south of Portola Drive. Circulation between these two entrances would pass through the proposed parking area and has been designed to accommodate a two-way flow of traffic. A decorative roofed entrance arch has been proposed over the main driveway access to the site from Portola Drive, which would enclose and screen the parking area as well as continue the architectural character of the development across the primary frontage of the site. The applicants intend to construct improvements that would include new sidewalks with street tree planting along the entire frontage with both Portola Drive and 38th Avenue. Decorative bicycle racks would also be included within the broad sidewalk running along 38th Avenue.

New landscaping is proposed throughout the project site and also within the public sidewalks along both Portola Drive and 38th Avenue. Fourteen new trees are included in the plan that also includes new shrubs, vines and perennials. As a condition of approval of this project, three additional trees would be required to be added, adjacent to the southern elevation of the building and/or adjacent to the driveway access from 38th Avenue. The street frontage of

the site (Portola Drive and 38th Avenue) would be planted in accordance with the County street tree program. Existing landscaping that includes two mature Queen Palm trees at the corner of Portola Drive and 38th Avenue would be maintained as a decorative landscape element that matches similar plantings at other intersections in the neighborhood. No trees have been removed to facilitate the development. The parcel is proposed to be fenced along its eastern boundary, adjacent to the mini-storage facility and also along the southern and western boundaries adjacent to the proposed residential garages, with a five foot high redwood fence. Along the southern boundary of the project, adjacent to the driveway access from 38th Avenue, a minimum 6 foot high masonry sound wall is proposed to be constructed which would mitigate potential noise impacts from traffic and from patrons using the site. Climbing vines would be planted along the wall and also fences where they face the parking lot, to screen and soften these structures.

Lighting for the project parking areas would consist of approximately four light standards within the parking area; one light standard at the corner of Portola Drive and 38th Avenue; approximately 90 decorative strip-lights located along each side of the commercial building adjacent to 38th Avenue and fronting the parking lot; Approximately 10 motion sensor floodlights mounted on the front of the residential garages and at the entrance arch on Portola Drive, and two bollard lights located within the small outdoor plaza along the eastern frontage of the building facing the parking lot. All light standards are planned to be a maximum of 15 feet high in order to reduce off-site illumination. Strip lighting for the commercial spaces would be mounted beneath the canopy overhang and would utilize diffuse lenses to minimize any glare for adjacent and nearby residential properties. In addition, cut-off shields would be used on all light fixtures where they are close to the south site perimeter adjacent to residential uses, to prevent direct illumination of adjacent homes.

The existing developed site does not contain any drainage facilities and discharges all rainfall onto the adjacent streets. Runoff currently drains into two separate catchment areas; one that releases into an existing storm drain system running along Portola Drive, eventually discharging to Moran Creek, and one that releases to an overland system, eventually discharging via existing gutters and swales, directly to the ocean. These two drainage areas are divided by a line that runs from the eastern property boundary, across the existing lumberyard building at the change in roofline and then towards 38th Avenue in a roughly southeast to northwest direction. The proposed development of the site would maintain this existing drainage pattern. However, detention basins would be provided for each catchment area such that the post-development runoff rate would be reduced from pre-development levels. At the northern catchment area detention facilities would be designed to detain runoff from up to a 10 year storm event before releasing rainwater into the storm drain system. For the southern catchment basin, all rainfall up to a 25 year storm event would be detained on site before releasing excess flow to the street. For the southern catchment area, once the proposed detention facility has reached capacity, water would then be allowed to puddle to a maximum depth of six inches along the southern driveway before exiting the site to 38th

Avenue as a sheet flow that would enter existing gutters.

To adequately address the risks associated with developing the site, which has been shown to have an 18 to 24 inch thick layer of highly expansive clay located approximately two feet below the ground surface, there are two alternative design approaches that could be employed. Based upon the recommendations of the geotechnical report for the project, prepared by Dees and Associates, inc., dated July 31, 2014, these include either: a mat slab foundation designed to resist movement associated with shrinking and swelling of the subsoils, together with compaction of the top twelve inches of the sub-grade below the foundation, or the removal of the top three feet of soil, including the clay, which would be replaced with an engineered fill consisting of a non-expansive, well graded soil with low permeability. This option would then allow for a conventional foundation system embedded into the engineered fill to support the building.

All recommendations contained in the geotechnical report, would be implemented as part of the project design. If the preferred final design of the project requires removal of the top three feet of soil and replacement with an engineered fill, a grading permit would be required to be approved prior to the issuance of a Building Permit.

Erosion control would be implemented to include various Best Management Practices (BMPs).

The application is for a Commercial Development Permit including a Master Occupancy Permit to guide the future use of the commercial area. The project also requires a Coastal Development permit; the approval of a Tentative Map for the creation of one commercial condominium, eight residential condominium units and a common area; a Height Exception as allowed under County Code section 13.10.510(D)(2) to allow for an approximately 10% increase in height from 35 feet to around 38 feet 4 inches; a Variance to allow for two shopping center signs; the approval of a Parking Plan; Architectural and Landscape Design Review, and a Soils Report Review.

III. ENVIRONMENTAL REVIEW CHECKLIST

A. AESTHETICS AND VISUAL RESOURCES

Would the project:

1. Have a substantial adverse effect on a scenic vista?

Discussion: The project would 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, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Discussion: The project site is not located along a County designated scenic road, public viewshed area, scenic corridor, within a designated scenic resource area, or within a state scenic highway. Therefore, no impact is anticipated.

3. Substantially degrade the existing visual character or quality of the site and its surroundings?

Discussion: The proposed three-story mixed-use building would be located on the southern side of Portola Drive, at its intersection with 38th Avenue. Portola Drive is a busy local collector street that is developed on both sides with a variety of commercial uses that include retail stores, restaurants and other business uses. 38th Avenue is, except at the intersections with Portola Drive, developed for residential use and this street, together with parcels to the south/rear of the project site the area contains mostly one and two story single family homes, including a mobile home park at the southwest corner of the parcel. The existing visual setting is therefore extremely mixed and, although many of the existing commercial and residential buildings are either one or two stories in height, there are also three story structures. In particular, the rear portion of an existing mini-storage facility that is located immediately adjacent to the eastern boundary of the project site has three stories. The proposed project, which replaces an existing large lumberyard building, has been designed to fit into this setting. To reduce the potential bulk and mass of the structure, the facades of the building are broken up in both height and in distance from the street. A variety of colors and materials, that includes reused lumber from the existing building and a palette of muted off-white and grey shades, has been proposed to be in keeping with the varied styles of the commercial and residential buildings in the area.

Although an Exception subject to County Code Section 13.10.510(D)(2) has been requested

to increase the height by approximately 10% over the maximum 35 foot height allowed in the zone district, to around 38 feet 4 inches, the proposed mixed-use building would not deprive adjacent properties or the neighborhood of light, air, or open space. This is because the structure is located close to the corner of Portola Drive and 38th Avenue where it is furthest from adjacent structures, thereby exceeding the current setback requirements that ensure access to these amenities. Shade studies included with the project plans (Attachment 3) show that the proposed three-story building would not shade any adjacent structures. Further, the proposed structure would be of an appropriate scale and type of design that would enhance the aesthetic qualities of the surrounding properties and would not reduce or visually impact available open space in the surrounding area. The proposed mixed-use building is consistent with the land use intensity and density of the neighborhood.

To maintain the generally built-up character of Portola Drive, an entrance archway feature that complements the building is also proposed to be constructed over the driveway, visually extending the structure across the entire site frontage. The building and parking area would be screened and softened in views from the adjacent streets by the planting of new trees along both frontages, together with the addition of new shrub and groundcover planting at the corner of 38th Avenue and Portola Drive. Existing Queen Palms within the public right-of-way at the corner would also be retained. The parking and circulation areas and the interior building frontages are also proposed to be comprehensively landscaped with new tree planting around the proposed parking area and also along the southern driveway to break up the built environment and to soften views of the new development from adjacent properties, especially in views from the residential parcels to the south. The proposed trees, vines and shrub plantings would help the proposed buildings to both blend with and enhance the existing setting.

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

Discussion: The project would contribute an incremental amount of night lighting to the visual environment. However, the following project conditions would reduce this potential impact to a less than significant level: All site, building, security and landscape lighting would be directed onto the site and away from adjacent properties. Light sources have been designed and located to not be visible from adjacent properties and would be shielded by landscaping, structures, fixture design or some other physical means. Building and security lighting has been designed to be integrated into the building design and the lighted parking and circulation areas would utilize low-rise light standards with a maximum height of 15 feet. A lighting plan and study that shows how light and glare would be retained on the property is included with the project plans (Attachment 3)

The potential impact of indirect light emanating from the upper level residential units that

face west on the existing homes that are located along 38th Avenue Street would be reduced by street trees planted along the building frontage along 38th Avenue. Ambient light from within residential units that face east would be visible only from the windowless west facing elevation of the adjacent storage facility. Tree planting within the parking area and along the southern driveway access would help to reduce the impact of any indirect upper floor lighting that may be visible in oblique views from residential properties located to the south and southeast.

B. AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 1. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The project site is located within an existing urbanized area and is surrounded by residential and commercially developed property. The project site does not contain any lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. In addition, the project does not contain Farmland of Local Importance. Therefore, no Prime Farmland, Unique Farmland, Farmland of Statewide or Farmland of Local Importance would be converted to a non-agricultural use. No impact would occur from project implementation.

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 2. Conflict with existing zoning for agricultural use, or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The project site is zoned C-2 (Community Commercial), which is not considered to be an agricultural zone. Additionally, the project site's land is not under a Williamson Act Contract. Therefore, the project does not conflict with existing zoning for

agricultural use, or a Williamson Act Contract. No impact is anticipated.

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 3. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The project is not located near land designated as Timber Resource. Therefore, the project would not affect the resource or access to harvest the resource in the future. The timber resource may only be harvested in accordance with California Department of Forestry timber harvest rules and regulations.

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 4. Result in the loss of forest land or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: No forest land occurs on the project site or in the immediate vicinity. See discussion under B-3 above. No impact is anticipated.

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 5. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The project site and surrounding area within a radius of 2.4 miles does not contain any lands designated as Prime Farmland, Unique Farmland, Farmland of Statewide Importance or Farmland of Local Importance as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. Therefore, no Prime Farmland, Unique Farmland, Farmland of Statewide, or Farmland of Local Importance would be converted to a non-agricultural use. In addition, the project site contains no forest land, and no forest land occurs within 2.3 miles of the proposed project site. Therefore, no impacts are anticipated.

C. AIR QUALITY

The significance criteria established by the Monterey Bay Unified Air Pollution Control District (MBUAPCD) has been relied upon to make the following determinations. Would the project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 1. Conflict with or obstruct implementation of the applicable air quality plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: The project would not conflict with or obstruct any long-range air quality plans of the Monterey Bay Unified Air Pollution Control District (MBUAPCD). The project is consistent with the regional population growth numbers forecast by the Association of Monterey Bay Area Governments (AMBAG) (Attachment 15). AMBAG's regional forecasts for population and dwelling units are embedded in the emission inventory projections used in the regional Air Quality Management Plan (AQMP). Projects which are consistent with AMBAG's regional forecasts have been accommodated in the AQMP and are therefore consistent with the AQMP.

Because general construction activity related emissions (i.e., temporary sources) are accounted for in the emission inventories included in the plans, impacts to air quality plan objectives are generally less than significant. The demolition of the existing lumberyard building would be required to comply with all MBUAPCD regulations as a condition of approval of the project.

General estimated basin-wide construction-related emissions are included in the MBUAPCD emission inventory (which, in part, form the basis for the air quality plans cited below) and are not expected to prevent long-term attainment or maintenance of the ozone and particulate matter standards within the North Central Coast Air Basin (NCCAB). Therefore, temporary construction impacts related to air quality plans for these pollutants from the proposed project would be less than significant, and no mitigation would be required, since they are presently estimated and accounted for in the District's emission inventory. No stationary sources would be constructed that would be long-term permanent sources of emissions.

The demolition of the existing lumberyard building would be subject all applicable rules and a notification to the MBUAPCD.

AQ-1 Prior to the commencement of work, a survey for asbestos would be required and written notification for asbestos removal and/or demolition would be provided 10 working days prior to commencing any regulated activities.

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

Discussion: The North Central Coast Air Basin (NCCAB) does not meet state standards for ozone and particulate matter (PM₁₀) (MBUAPCD, 2013a). These pollutants are both emitted during construction activities.

Ozone is the main pollutant of concern for the NCCAB. The primary sources of ROG within the air basin are on- and off-road motor vehicles, petroleum production and marketing, solvent evaporation, and prescribed burning. The primary sources of NO_x are

on- and off-road motor vehicles, stationary source fuel combustion, and industrial processes. In 2010, daily emissions of ROG_s were estimated at 63 tons per day. Of this, area-wide sources represented 49 percent, mobile sources represented 36 percent, and stationary sources represented 15 percent. Daily emissions of NO_x were estimated at 54 tons per day with 69 percent from mobile sources, 22 percent from stationary sources, and 9 percent from area-wide sources. In addition, the region is “NO_x sensitive,” meaning that ozone formation due to local emissions is more limited by the availability of NO_x as opposed to the availability of ROG_s (MBUAPCD, 2013b).

PM₁₀ is the other major pollutant of concern for the NCCAB. In the NCCAB, highest particulate levels and most frequent violations occur in the coastal corridor. In this area, fugitive dust from various geological and man-made sources combines to exceed the standard. Nearly three quarters of all NCCAB exceedances occur at these coastal sites where sea salt is often the main factor causing exceedance (MBUAPCD, 2005). In 2005 daily emissions of PM₁₀ were estimated at 102 tons per day. Of this, entrained road dust represented 35 percent of all PM₁₀ emission, windblown dust 20 percent, agricultural tilling operations 15 percent, waste burning 17 percent, construction 4 percent, and mobile sources, industrial processes, and other sources made up 9 percent (MBUAPCD, 2008).

Construction Impacts

Emissions from construction activities represent temporary impacts that are typically short in duration, depending on the size, phasing, and type of project. Air quality impacts can nevertheless be acute during construction periods, resulting in significant localized impacts to air quality. Table 1 summarizes the threshold of significance for construction activities.

Activity	Potential Threshold*
Construction site with minimal earthmoving	8.1 acres per day
Construction site with earthmoving (grading, excavation)	2.2 acres per day

*Based on Midwest Research Institute, Improvement of Specific Emission Factors (1995). Assumes 21.75 working weekdays per month and daily watering of site.

Note: Construction projects below the screening level thresholds shown above are assumed to be below the 82 lb/day threshold of significance, while projects with activity levels higher than those above may have a significant impact on air quality. Additional mitigation and analysis of the project impact may be necessary for those construction activities.

Source: Monterey Bay Unified Air Pollution Control District, 2008.

As required by the MBUAPCD, construction activities (e.g., excavation, grading, on-site vehicles) which directly generate 82 pounds per day or more of PM₁₀ would have a significant impact on local air quality when they are located nearby and upwind of sensitive receptors such as the community of Live Oak (Table 1). Construction projects below the screening level thresholds shown in Table 1 are assumed to be below the 82 lb/day threshold of significance, while projects with activity levels higher than those thresholds

may have a significant impact on air quality. The proposed project would require minimal grading. Although the project would produce PM₁₀, it would be far below the 82 pounds per day threshold. Total PM₁₀ emissions during grading would be approximately 0.00591 tons per year or approximately 12 pounds (see Attachment 14). Total overall PM₁₀ emissions during construction would amount to approximately 0.0774 tons per year or approximately 155 pounds. This would result in less than significant impacts on air quality from the generation of PM₁₀.

Construction projects using typical construction equipment such as dump trucks, scrapers, bulldozers, compactors and front-end loaders that temporarily emit precursors of ozone [i.e., volatile organic compounds (VOC) or oxides of nitrogen (NO_x)], are accommodated in the emission inventories of state- and federally-required air plans and would not have a significant impact on the attainment and maintenance of ozone AAQS (MBUAPCD 2008).

Although not a mitigation measure per se (i.e., required by law), California ultralow sulfur diesel fuel with a maximum sulfur content of 15 ppm by weight would be used in all diesel-powered equipment, which minimizes sulfur dioxide and particulate matter.

Table 2: Thresholds of Significance for Criteria Pollutants of Concern Operational Impacts ⁽¹⁾	
Pollutant Source	Threshold(s) of Significance
VOC	137 lb/day (direct + indirect)
NO _x , as NO ₂	137 lb/day (direct + indirect)
PM ₁₀	82 lb/day (on-site) ⁽²⁾
	AAQS exceeded along unpaved roads (off-site)
CO	LOS at intersection/road segment degrades from D or better to E or F <u>or</u> delay at intersection at LOS E or F increases by 10 seconds or more <u>or</u> reserve capacity at unsignalized intersection at LOS E or F decreases by 50 or more ⁽³⁾
	550 lb/day (direct) ⁽³⁾
SO _x , as SO ₂	150 lb/day (direct) ⁽²⁾
Notes:	
(1) Projects that emit other criteria pollutant emissions would have a significant impact if emissions would cause or substantially contribute to the violation of State or national AAQS. Criteria pollutant emissions could also have a significant impact if they would alter air movement, moisture, temperature, climate, or create objectionable odors in substantial concentrations. When estimating project emissions, local or project-specific conditions should be considered.	
(2) The District's 82 lb/day operational phase threshold of significance applies only to onsite emissions and project-related exceedances along unpaved roads. These impacts are generally less than significant. On large development projects, almost all travel is on paved roads (0% unpaved), and entrained road dust from vehicular travel can exceed the significance threshold. Please contact the Air District to discuss estimating emissions from vehicular travel on paved roads. District approved dispersion modeling can be used to refute (or validate) a determination of significance if modeling shows that emissions would not cause or substantially contribute to an exceedance of State and national AAQS	
(3) Modeling should be undertaken to determine if the project would cause or substantially contribute (550 lb/day) to exceedance of CO AAQS. If not, the project would not have a significant impact	
Source: Monterey Bay Unified Air Pollution Control District, 2008.	

Operational Impacts

As required by the MBUAPCD, operational activities (e.g., additional traffic trips) which

directly generate 82 pounds per day or more of PM₁₀ would have a significant impact on local air quality (Table 2). The overall PM₁₀ emissions during the operational phase of the project would be approximately 432 pounds per year or approximately 1.21 pounds per day (Attachment 14). This would result in less than significant impacts on air quality from the generation of PM₁₀. The overall project emissions would not exceed the thresholds outlined in Table 2 for VOC, NO_x, CO, and SO_x (see Attachment 14). As a result, operational impacts to air quality would be less than significant.

Best Management Practices

The following Best Management Practices (BMPs) and Best Available Control Technology (BACT) will be implemented during all site excavation and grading.

AQ-2 Contracted Diesel Control Measures: In addition to the use of Tiered engines and California ultralow sulfur diesel fuel, the following requirements will be incorporated into contract specifications:

- To minimize potential diesel odor impacts on nearby receptors (pursuant to MBUAPCD Rule 402, Nuisances), construction equipment will be properly tuned. A schedule of tune-ups will be developed and performed for all equipment operating within the project area. A written log of required tune-ups will be maintained and a copy of the log will be made available to the County of Santa Cruz Planning Department for inspection upon request.
- Fixed temporary sources of air emissions (such as portable pumps, compressors, generators, etc.) will be electrically powered unless the contractor submits documentation and receives written approval from the County of Santa Cruz Planning Department that the use of such equipment is not practical, feasible, or available (generally contingent upon power line proximity, capacity, and accessibility). California ultralow sulfur diesel fuel with maximum sulfur content of 15 ppm by weight (ppmw S), or an approved alternative fuel, will be used for on-site fixed equipment not using line power.
- To minimize diesel emission impacts, construction contracts will require off-road compression ignition equipment operators to reduce unnecessary idling with a 2-minute time limit, subject to monitoring and written documentation.
- On-road material hauling vehicles will shut off engines while queuing for loading and unloading for time periods longer than 2 minutes, subject to monitoring and written documentation.
- Off-road diesel equipment will be fitted with verified diesel emission control systems (e.g., diesel oxidation catalysts) to the extent reasonably and economically feasible.
- Utilize alternative fuel equipment (i.e., compressed or liquefied natural gas,

biodiesel, electric) to the extent reasonably and economically feasible.

Feasibility will be determined consistent with Best Available Control Technology (BACT) general criteria: 1) achieved in practice; 2) contained in adopted control measures; 3) technologically feasible; and 4) cost-effective.

AQ-3 Diesel Particulate Matter Emissions Control Measures: In addition, the project will implement the following measures to reduce particulate matter emissions from diesel exhaust:

- Grid power will be used instead of diesel generators where it is feasible to connect to grid power (generally contingent upon power line proximity, capacity, and accessibility).
- The project specifications will include 13 CCR Sections 2480 and 2485, which limit the idling of all diesel-fueled commercial vehicles (weighing over 10,000 pounds, both California- or non-California-based trucks) to 30 seconds at a school or 5 minutes at any location. In addition, the use of diesel auxiliary power systems and main engines will be limited to 5 minutes when within 100 feet of homes or schools while the driver is resting.
- The project specifications will include 17 CCR Section 93115, Airborne Toxic Control Measure for Stationary Compression Ignition Engines, which specifies fuel and fuel additive requirements; emission standards for operation of any stationary, diesel-fueled, compression-ignition engines; and operation restrictions within 500 feet of school grounds when school is in session.
- A schedule of low-emissions tune-ups will be developed and such tune-ups will be performed on all equipment, particularly for haul and delivery trucks.
- Low-sulfur (≤ 15 ppmw S) fuels will be used in all stationary and mobile equipment.

AQ-4 Dust Control Measures: The following controls will be implemented at the construction and staging sites as applicable:

- Water all active construction areas at least twice daily as necessary and indicated by soil and air conditions.
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of freeboard.
- Pave, apply water three times daily, or apply (nontoxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
- Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites.
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.

- All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, will be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover.
- All on-site unpaved roads and off-site unpaved access roads will be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities will be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.
- When materials are transported off site, all material will be covered, or effectively wetted to limit visible dust emissions, and at least 6 inches of freeboard space from the top of the container will be maintained.
- All operations will limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.)
- Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles will be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.
- Within urban areas, trackout will be immediately removed when it extends 50 or more feet from the site and at the end of each workday.
- Any site with 150 or more vehicle trips per day will prevent carryout and trackout.
- Hydroseed or apply (nontoxic) soil stabilizers to inactive construction areas (previously graded areas inactive for 10 days or more).
- Enclose, cover, water twice daily, or apply (nontoxic) soil binders to exposed stockpiles (dirt, sand, etc.).
- Limit traffic speeds on unpaved roads to 15 miles per hour.
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than 1 percent.
- Replant vegetation in disturbed areas as quickly as possible.
- Install wheel washers for all exiting trucks, or wash off all trucks and equipment leaving the site.
- Install wind breaks at windward side(s) of construction areas.
- Suspend excavation and grading activity when winds (instantaneous gusts) exceed 20 miles per hour.
- Limit the area subject to excavation, grading, and other construction activity at any one time.

Implementation of the above BMPs and BACT would ensure that emissions of diesel particulate matter (DPM) and fugitive dust from project excavation and grading would be consistent with the MBUAPCD emissions inventories.

3. *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?*
- | | | | |
|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: Project construction would have a limited and temporary potential to contribute to existing violations of California air quality standards for ozone and PM₁₀ primarily through diesel engine exhaust and fugitive dust. However, the Santa Cruz monitoring station has not had any recent violations of federal or state air quality standards mainly through dispersion of construction-related emission sources. BMPs and BACT described above under C-2 would ensure emissions remain below a level of significance. Therefore, the proposed project would not result in a cumulatively considerable net increase in criteria pollutants. The impact on ambient air quality would be less than significant.

4. *Expose sensitive receptors to substantial pollutant concentrations?*
- | | | | |
|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: The proposed mixed use project would not generate substantial pollutant concentrations. Emissions from construction activities represent temporary impacts that are typically short in duration. Impacts to sensitive receptors would be less than significant.

5. *Create objectionable odors affecting a substantial number of people?*
- | | | | |
|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: California ultralow sulfur diesel fuel with a maximum sulfur content of 15 ppm by weight would be used in all diesel-powered equipment, which minimizes emissions of sulfurous gases (sulfur dioxide, hydrogen sulfide, carbon disulfide, and carbonyl sulfide). Therefore, no objectionable odors are anticipated from construction activities associated with the proposed project, and no mitigation measures would be required. The proposed project would not create objectionable odors affecting a substantial number of people; therefore, impacts are expected to be less than significant.

D. BIOLOGICAL RESOURCES

Would the project:

1. *Have a substantial adverse effect, either directly or through habitat modifications,*
- | | | | |
|--------------------------|--------------------------|--------------------------|-------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|

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 Wildlife, or U.S. Fish and Wildlife Service?

Discussion: According to the California Natural Diversity Data Base (CNDDDB), maintained by the California Department of Fish and Wildlife, there are three known special-status plant and animal species in the site vicinity. These include a species of insect, Zayante band-winged grasshopper (*Trimeropterus infantilis*), a species of native asteraceae, white-rayed pentachaeta (*Pentachaeta bellidiflora*), and a native bat, pallid bat (*Antrozous pallidus*).

Both the white-rayed pentachaeta and Zayante band-winged grasshopper are species that are generally only found in association with the Sandhills habitat. The Santa Cruz Sandhills are a unique community of plants and animals found only on outcrops of Zayante sand soil in the central portion of Santa Cruz County, in central coastal California. Based upon the Geotechnical Investigation prepared for the project by Dees and Associates, dated July 2014, the soils noted for the project site consist of Terrace Deposits, thinly bedded silty sand, clayey sand, clay and silt over sand, with varying amounts of gravel, and not the Zayante sand soil type. Furthermore, the lack of suitable habitat and the disturbed nature of the site make it unlikely that either of these special status species occur at the project site.

To conclusively rule out the potential presence of pallid bats within the disused lumberyard building, a bat survey was conducted and a report was prepared for this project by Paul A. Heady III of the Central Coast Bat Research Group, dated 2/28/15 (Attachment 4). Based upon the bat survey performed over the night of February 27, 2015, no sign of use of the existing barn-like structure by bats was observed and no echolocation calls were recorded at the building. Therefore, it was concluded that there are no species of bat, including the pallid bat, existing on the parcel, and that no protective measures for bats are necessary during the demolition of the existing structures. The Bat Survey Report has been reviewed and accepted by the Planning Department Environmental Section.

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| <p>2. <i>Have a substantial adverse effect on any riparian habitat or sensitive natural community identified in local or regional plans, policies, regulations (e.g., wetland, native grassland, special forests, intertidal zone, etc.) or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?</i></p> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: Other than the special status species discussed at D-1, that have been shown to not exist on the parcel, there are no mapped or designated sensitive biotic communities or riparian habitats on or adjacent to the project site. Therefore the project would not have any effect on any biological resources in the area.

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 3. <i>Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: There are no mapped or designated federally protected wetlands on or adjacent to the project site. Therefore, no impacts would occur from project implementation.

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 4. <i>Interfere substantially with the movement of any native resident or migratory fish or wildlife species or migratory wildlife corridors, or impede the use of native wildlife nursery sites?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: 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.

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 5. <i>Conflict with any local policies or ordinances protecting biological resources (such as the Sensitive Habitat Ordinance, Riparian and Wetland Protection Ordinance, and the Significant Tree Protection Ordinance)?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The project would not conflict with any local policies or ordinances.

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 6. <i>Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The proposed project would not conflict with the provisions of any adopted Habitat Conservation Plan Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, no impact would occur.

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 7. Produce nighttime lighting that would substantially illuminate wildlife habitats? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The subject property is located in an urbanized area and is surrounded by existing commercial and residential development that currently generates nighttime lighting. There are no sensitive animal habitats within or adjacent to the project site. No impact would occur.

E. CULTURAL RESOURCES

Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 1. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The property located at 3800 Portola Drive in Santa Cruz, APN 032-092-01, was evaluated by Annie Murphy, Historic Resources Planner for Santa Cruz County, to determine whether the proposed project would cause a substantial adverse change in the significance of a historic resource.

The property is not listed as a historical resource in the California Register of Historical Resources or the Santa Cruz County Historic Resources Inventory. Furthermore, a review of information and records currently available for the property and a site visit did not identify any information to indicate that the property may qualify as a historical resource as defined in Public Resources Code Section 5024.1. As there is no substantial evidence to indicate that the property would qualify as a historical resource, the project would not cause a substantial adverse change in the significance of a historical resource.

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: No archeological resources are known to occur 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: Impacts are expected to be less than significant. However, 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. <i>Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: No unique paleontological resources or unique geologic features are known to occur in the vicinity of the proposed project. No impacts are anticipated.

F. GEOLOGY AND SOILS

Would the project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| 1. <i>Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:</i> | | | | |
| A. <i>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 based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| B. <i>Strong seismic ground shaking?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| C. <i>Seismic-related ground failure, including liquefaction?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| D. <i>Landslides?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion (A through D): The project site is located outside of the limits of the State

Alquist-Priolo Special Studies Zone (County of Santa Cruz GIS Mapping, California Division of Mines and Geology, 2001). The closest faults to the site are the Zayante-Vergeles Fault, approximately 6.4 miles to the northwest; the offshore Monterey-Tularcitos Fault, approximately 8.4 miles to the southwest; the San Andreas Fault, approximately 9.6 miles to the southwest, and the offshore San Gregorio Fault, approximately 11.5 to the southwest. While the San Andreas fault is larger and considered more active, each fault is capable of generating moderate to severe ground shaking from a major earthquake. Therefore, it is reasonable to assume that, even though the project site is not located within or adjacent to a county or state mapped fault zone, the proposed development would be subject to at least one moderate to severe earthquake from one of the faults in the next fifty years. The October 17, 1989 Loma Prieta earthquake (magnitude 7.1) was the second largest earthquake in central California history.

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. A geotechnical investigation for the proposed project was performed by Dees & Associates, Inc. dated July 2014 (Attachment 5). The report specified ground motion parameters for the project site, based upon the USGS Ground Motion Parameter Calculator, which are required to be used in the design of the foundation of the proposed structure. The report concluded that, if the foundation of the structure is designed in accordance with the 2013 California Building Code using the specified ground motion parameters, the proposed structure, should react well to strong seismic shaking.

Liquefaction occurs when saturated fine-grained sands, silts and sensitive clays are subject to shaking during an earthquake and the water pressure within the pores builds up leading to a loss of strength. According to the County of Santa Cruz GIS Mapping, "Map Showing Geology and Liquefaction Potential of Quaternary Deposits in Santa Cruz County, CA" (Dupre, W.R., 1975), the project is located in an area of low liquefaction potential. The geotechnical report also concluded that there is a low potential for liquefaction to affect the proposed development due to the density of the subsoils and lack of groundwater table.

As confirmed by the geotechnical report, there is no potential for landslides to affect the proposed development, since the site is nearly level and there are no slopes in the project vicinity. The report has been reviewed and accepted by Environmental Planning staff (Attachment 7).

2. *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?*

conventional foundation system embedded into the engineered fill to support the building. Alternatively, a mat slab foundation may be used where the top twelve inches of the sub-grade below the foundation is compacted to provide a firm base for slab support and the mat slab is designed to resist movement associated with shrinking and swelling of the subsoils.

The recommendations contained in the geotechnical report, as set out above, would be required to be implemented as part of the project design to minimize to adequately reduce this potential hazard. If the preferred final design of the project includes a conventional foundation system, which would require removal of the top three feet of soil and replacement with an engineered fill, a grading permit would be required to be approved.

In addition, with either design solution, surface runoff at the finished site should be controlled and not allowed to pond or flow adjacent to foundations. An engineered drainage plan has been submitted and has been reviewed and approved by the Department of Public Works for the collection and retention of all runoff, that would address this concern. Final plans for the project would be required to be reviewed by the project Geotechnical Engineer who would then submit to the county a signed and stamped Plan Review Form denoting acceptance of the final design. Final approval by the County would be required prior to any construction.

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 6. <i>Have soils incapable of adequately supporting the use of septic tanks, leach fields, or alternative waste water disposal systems where sewers are not available for the disposal of waste water?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: No septic systems are proposed. The project would connect to the Santa Cruz County Sanitation District, and the applicant would 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. <i>Result in coastal cliff erosion?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The proposed project is not located in the vicinity of a coastal cliff or bluff; and therefore, would not contribute to coastal cliff erosion. No impact is anticipated.

G. GREENHOUSE GAS EMISSIONS

Would the project:

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 1. <i>Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: Greenhouse gas (GHG) emissions for transportation projects can be divided into those produced during construction and those produced during operations.

Construction GHG emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction. These emissions would be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

The project would result in a small temporary increase in greenhouse gas emissions during construction. Approximately 87 metric tons of total CO₂ equivalent emissions would be generated during project construction (Attachment 14). Permanent operational project emissions are also expected to be minimal. It is estimated that approximately 296 metric tons of CO₂ equivalent emissions would be generated annually from project operations (Attachment 14). However, in the absence of further regulatory or scientific information related to greenhouse gas emissions and California Environmental Quality Act significance, it is too speculative to make a determination on the project's direct impact and its contribution on the cumulative scale to climate change. Nonetheless, the County has strategies to help reduce greenhouse gas emissions and energy consumption. These measures included in the *County of Santa Cruz Climate Action Strategy* (County of Santa Cruz, 2013) are outlined below.

Strategies for the Reduction of Greenhouse Gases from Transportation

- Reduce vehicle miles traveled (VMT) through County and regional long range planning efforts.
- Increase bicycle ridership and walking through incentive programs and investment in bicycle and pedestrian infrastructure and safety programs.
- Provide infrastructure to support zero and low emissions vehicles (plug in, hybrid plug-in vehicles).
- Increase employee use of alternative commute modes: bus transit, walking, bicycling, carpooling, etc.
- Reduce County fleet emissions.

Strategies for the Reduction of Greenhouse Gases from Energy Use

- Develop a Community Choice Aggregation (CCA) Program, if feasible.
- Increase energy efficiency in new and existing buildings and facilities.
- Enhance and expand the Green Business Program.
- Increase local renewable energy generation.
- Public education about climate change and impacts of individual actions.
- Continue to improve the Green Building Program by exceeding the minimum standards of the state green building code (Cal Green).

- Form partnerships and cooperative agreements among local governments, educational institutions, nongovernmental organizations, and private businesses as a cost-effective way to facilitate mitigation and adaptation.
- Reduce energy use for water supply through water conservation strategies.

The proposed project has been designed as a neighborhood hub, to take advantage of the walkable neighborhood in which it would be situated. The proposal also incorporates easily accessible bicycle parking spaces both on the parcel and within the adjacent sidewalk. Impacts are expected to be less than significant.

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 2. <i>Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: See the discussion under G-1 above. No significant impacts are anticipated.

H. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 1. <i>Create a significant hazard to the public or the environment as a result of the routine transport, use or disposal of hazardous materials?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The proposed project would not create a significant hazard to the public or the environment. No routine transport or disposal of hazardous materials is proposed. However, during construction, fuel would be used at the project site. In addition, fueling may occur within the limits of the staging area proposed to be located east of the proposed building within the proposed parking area. Best management practices would be used to ensure that no impacts would occur. Impacts are expected to be less than significant.

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 2. <i>Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: Please see discussion under H-1 above. Project impacts would be considered less than significant.

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 3. <i>Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: There are no existing or proposed public schools located within a quarter mile radius of the project site. Although fueling of equipment is likely to occur within the staging area, best management practices would be implemented. No impacts are anticipated.

4. *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?*

Discussion: The project site (3800 Portlola Drive) is not included on the April 13, 2015 list of hazardous sites in Santa Cruz County compiled pursuant to Government Code Section 65962.5. A Phase I Environmental Site Assessment (ESA) was performed by Remediation Risk Management, Inc., (RRM), dated December 4, 2013 (Attachment 13). This Phase I ESA report documents groundwater conditions at nearby sites that indicate that the property has potentially been impacted with tetrachloroethylene (PCE). The Phase I ESA therefore recommended that a limited subsurface investigation be performed to provide more information regarding concentrations of PCE that may exist in soil, soil gas, and/or groundwater beneath the property.

As a result of this conclusion a Phase II ESA was performed by RRM, dated May 21, 2014 (Attachment 13). From the findings of this investigation RRM concluded that a concentration of 0.30 ppb of PCE was detected in the groundwater. However, no other volatile organic compounds (VOC) were detected above laboratory detection limits. Further, the level of PCE and other VOCs in the property soil gas were determined to be below applicable screening levels and do not appear to pose an unacceptable exposure risk. All of the VOCs detected in the soil gas and groundwater were determined to be consistent with known off site sources and plumes and no data indicates that there is any current or historical release of contaminants on the subject property. Therefore it was determined that no additional sampling or mitigation measures necessary and RRM did not recommend any additional soil or groundwater investigation for the property.

In addition, based upon the age of the disused lumberyard building on the site, the Phase I ESA identified the potential use of construction materials containing lead or asbestos. The report recommends comprehensive surveys for both materials prior to the demolition of the building on the project site, and that all such materials, if discovered, be properly identified and removed in accordance with applicable laws pertaining to lead based paint and asbestos containing materials.

Mitigation measures

HAZ-1 A comprehensive survey for the presence of lead based paint shall be performed prior to the demolition of the building on the parcel and all such materials shall be properly identified and removed in accordance with applicable laws pertaining to lead based paint.

HAZ-2 A comprehensive survey for the presence of asbestos containing materials shall be performed prior to the demolition of the building on the parcel and all such materials shall be properly identified and removed in accordance with applicable laws pertaining to asbestos containing materials.

With the implementation of these mitigation measures impacts would be less than significant.

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 5. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The proposed project is not located within two miles of a public airport or public use airport. No impact is anticipated.

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 6. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The proposed project is not located in the vicinity of a private airstrip. No impact is anticipated.

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 7. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The proposed project would not conflict with implementation of the County of Santa Cruz Local Hazard Mitigation Plan 2010-2015 (County of Santa Cruz, 2010). Therefore, no impacts to an adopted emergency response plan or evacuation Plan would occur from project implementation.

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 8. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

wildlands?

Discussion: The proposed project is not located in a Fire Hazard Area. However, the project design incorporates all applicable fire safety code requirements and includes fire protection devices as required by the local fire agency. Impacts would be less than significant.

I. HYDROLOGY, WATER SUPPLY, AND WATER QUALITY

Would the project:

1. *Violate any water quality standards or waste discharge requirements?*

Discussion: The mixed use project would not discharge runoff either directly or indirectly into a public or private water supply. No commercial or industrial activities are proposed that would generate a substantial amount of contaminants. The parking and driveway associated with the project would incrementally contribute urban pollutants to the environment; however, the contribution would be minimal given the size of the driveway and parking area. However, runoff from this project may contain small amounts of chemicals and other household contaminants. Silt and grease traps, and a plan for maintenance, would be required to ensure impacts water quality would be less than significant.

Potential siltation from the proposed project would be addressed through implementation of erosion control best management practices (BMPs). No water quality standards or waste discharge requirements would be violated. Impacts would be less than significant.

2. *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?*

Discussion: The project would obtain water from the City of Santa Cruz Water Department, and would not rely on private well water. Although the project would incrementally increase water demand, the City of Santa Cruz Water Department has indicated that adequate supplies are available to serve the project (Attachment 8). The project is not located in a mapped groundwater recharge area.

3. *Substantially alter the existing drainage*

pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

Discussion: The proposed project is not located near any watercourses, and would not alter the existing overall drainage pattern of the site. Although, as shown by a surveyed drainage map of the existing property prepared by Ifland Engineers, dated April 23, 2015, (Attachment 3) the site is almost level, runoff currently drains into two separate catchment areas; the northern portion of the site currently drains to the north and into storm water systems along Portola Drive that outflow into Moran Creek. The southern portion of the site drains towards the southwest and into storm water systems located along 38th Avenue that drain directly into the ocean. These two drainage areas are divided by a line that runs from the eastern property boundary, across the existing lumberyard building at the change in roofline and then towards 38th Avenue in a roughly southeast to northwest direction.

Two separate underground retention/detention systems would be required to be constructed, one for each of the existing drainage catchment areas and located beneath proposed parking areas (Attachment 3). These would provide temporary storage of storm water. Such systems are designed to retain rainwater from regular storm events within the site and to allow it to percolate into the groundwater basin without entering the existing public storm water system. Once at capacity the systems would gradually meter to the off-site storm drainage systems to release runoff at pre-development rates. The northern system has been designed in accordance with the County's Design Criteria to detain all runoff on-site up to a minimum 10 year storm event and, once at capacity, the system would then release excess runoff to the existing storm drain system along Portola Drive, with the rate of outflow restricted by limiting the diameter of outfall pipes. The southern system has been designed, to exceed County requirements and to detain all runoff up to a minimum 25 year storm event before runoff would be discharged into the existing surface system along 38th Avenue. The rate of outflow would be restricted at the driveway entrance on 38th Avenue by a raised area that would cause water to puddle to a depth of around six inches within the southern driveway of the site before releasing excess runoff as a controlled sheet flow to the street. Final design details of the storm drain systems would be subject to approval by Department of Public Works Stormwater Management Section.

As currently developed, the site includes no drainage facilities and all runoff is discharged directly to either Portola Drive or to 38th Avenue. Therefore there would be no increase in the pre-development run-off rates from the parcel created by the proposed development and the proposed development would not result in an increase the amount of surface runoff in a manner that would result in increased flooding off the site. Department of Public Works staff has reviewed the materials that have been submitted and have determined the

proposed drainage plan to be feasible. Standard erosion control BMPs would be required during construction to prevent erosion or siltation from construction activities. No impact would occur from project implementation.

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 4. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding, on- or off-site? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: The proposed project is not located near any watercourses, and would not alter the existing overall drainage pattern of the site as detailed in I-3. Department of Public Works staff has reviewed the proposed plan and determined the proposed drainage plan to be feasible. Impacts from project construction would be less than significant.

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 5. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems, or provide substantial additional sources of polluted runoff? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: Drainage Calculations prepared by Ifland Engineers, dated November 20, 2014 (Attachment 9) have been reviewed for potential drainage impacts and accepted by the Department of Public Works (DPW) staff. The runoff from the property would be controlled by on-site storm water detention and the infiltration of storm water through pits excavated through the less permeable surface clayey soils, to more pervious soil layers below. Revised percolation test results prepared by the Geotechnical Engineers, Dees and Associates, dated February 12th 2015 and addendum letter dated June 29, 2015 (Attachment 6) would be utilized in the design of the proposed detention systems. Two separate on-site storm water detention basins have been proposed, one that would retain all rainfall on the northern portion of the site up to a 10 year storm event and on the southern portion of the site, up to a 25 year storm event, as described in I-3. DPW staff have reviewed the proposed drainage plan and determined for the northern catchment area that, if rainfall volumes exceed those of a 10 year storm event, the existing storm water facilities along Portola Drive have adequate capacity to handle the excess runoff. Similarly, for the southern catchment area, the existing facilities along 38th Avenue have been determined to be adequate to handle runoff where rainfall amounts exceed those associated with a 25 year storm event. The proposed on-site storm water detention and retention/infiltration improvements would be adequate to handle runoff associated with the project and storm water release from the site would comply with, or exceed, the County Design Criteria standards. Refer to responses I-1 and I-6 for discussion of urban contaminants and/or other polluting runoff.

Impacts would be considered less than significant.

Erosion control would be implemented to include various Best Management Practices (BMPs).

6. *Otherwise substantially degrade water quality?*

Discussion: The project would not discharge runoff directly into a public or private water supply or into any watercourse or stream. Further, no commercial or industrial activities are proposed on the site that would generate a substantial amount of contaminants. However, upon project completion, urban pollutants such as oil, grease, heavy metals, sediments and debris could be carried off-site in runoff from project parking areas, resulting in potential pollution of downstream water bodies, and ultimately groundwater supplies. The off-site transport of these non-point source pollutants would be minimized by the required installation of silt and grease traps for each of the two drainage catchment areas as described in I-5, and the implementation of a silt and grease trap maintenance agreement to assure annual maintenance of the silt and grease traps by the property owner would minimize the effects of urban pollutants and ensure that impacts water quality would be less than significant.

7. *Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?*

Discussion: According to the Federal Emergency Management Agency (FEMA) National Flood Insurance Rate Map, dated May 16, 2012, no portion of the project site, and therefore no new housing or any other development lies within a 100-year flood hazard area. Therefore, no impacts from project implementation would occur.

8. *Place within a 100-year flood hazard area structures which would impede or redirect flood flows?*

Discussion: According to the Federal Emergency Management Agency (FEMA) National Flood Insurance Rate Map, dated May 16, 2012, no portion of the project site lies within a 100-year flood hazard area. Therefore, the proposed project would not impede or redirect flood flows. No impact would occur.

9. *Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a*

result of the failure of a levee or dam?

Discussion: The proposed project would not increase the risk of flooding and would not lead to the failure of a levee or dam. No impact would occur.

10. *Inundation by seiche, tsunami, or mudflow?*

Discussion: There are two primary types of tsunami vulnerability in Santa Cruz County. The first is a teletsunami or distant source tsunami from elsewhere in the Pacific Ocean. This type of tsunami is capable of causing significant destruction in Santa Cruz County. However, this type of tsunami would usually allow time for the Tsunami Warning System for the Pacific Ocean to warn threatened coastal areas in time for evacuation (County of Santa Cruz 2010).

The more vulnerable risk to the County of Santa Cruz is a tsunami generated as the result of an earthquake along one of the many earthquake faults in the region. Even a moderate earthquake could cause a local source tsunami from submarine landsliding in Monterey Bay. A local source tsunami generated by an earthquake on any of the faults affecting Santa Cruz County would arrive just minutes after the initial shock. The lack of warning time from such a nearby event would result in higher casualties than if it were a distant tsunami (County of Santa Cruz 2010).

At its closest point the project site is located approximately 0.2 miles inland. Because the coastline in the vicinity of project site is protected by a bluff that rises between 48 and 50 feet above the existing sea level the site is therefore approximately 0.2 miles beyond the effects of a tsunami. There are no hillsides or mountains within the vicinity of the project site and therefore there no likelihood of inundation by a mudflow. In addition, no impact from a seiche is anticipated. No impact would occur.

J. LAND USE AND PLANNING

Would the project:

1. *Physically divide an established community?*

Discussion: The proposed project does not include any element that would physically divide an established community. No impact would occur.

2. *Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental*

effect?

Discussion: The proposed project does not conflict with any regulations or policies adopted for the purpose of avoiding or mitigating an environmental effect. No impacts are anticipated.

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 3. Conflict with any applicable habitat conservation plan or natural community conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The proposed project would not conflict with any applicable habitat conservation plan or natural community conservation plan. No impact would occur.

K. MINERAL RESOURCES

Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 1. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The site does not contain any known mineral resources that would be of value to the region and the residents of the state. Therefore, no impact is anticipated from project implementation.

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 2. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The project site is zoned C-2 (Community commercial), which is not considered to be an Extractive Use Zone (M-3) nor does it have a Land Use Designation with a Quarry Designation Overlay (Q) (County of Santa Cruz 1994). Therefore, no potentially significant loss of availability of a known mineral resource of locally important mineral resource recovery (extraction) site delineated on a local general plan, specific plan or other land use plan would occur as a result of this project.

L. NOISE

Would the project result in:

- | | | | | |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|
| 1. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|

Discussion:

County of Santa Cruz General Plan

The Santa Cruz County General Plan (County of Santa Cruz 1994) contains the following table, which specifies the maximum allowable noise exposure for stationary noise sources (Table 3). The County of Santa Cruz has not adopted noise thresholds for construction noise.

The following applicable noise related policy is found in the Public Safety and Noise Element of the Santa Cruz County General Plan (Santa Cruz County 1994).

- Policy 6.9.7 Construction Noise. Require mitigation of construction noise as a condition of future project approvals.

	Daytime ² (7:00 am to 10:00 pm)	Nighttime ^{2, 5} (10:00 pm to 7:00 am)
Hourly Leq average hourly noise level, dB ³	50	45
Maximum Level, dB ³	70	65
Maximum Level, dB – Impulsive Noise ⁴	65	60

Notes:
 1 As determined at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards may be applied to the receptor side of noise barriers or other property line noise mitigation measures.
 2 Applies only where the receiving land use operates or is occupied during nighttime hours
 3 Sound level measurements shall be made with "slow" meter response.
 4 Sound level measurements shall be made with "fast" meter response
 5 Allowable levels shall be raised to the ambient noise levels where the ambient levels exceed the allowable levels. Allowable levels shall be reduced to 5 dB if the ambient hourly Leq is at least 10 dB lower than the allowable level.
 Source: County of Santa Cruz 1994

County of Santa Cruz Code

There are no County of Santa Cruz ordinances that specifically regulate construction noise levels; however, the following code regulates offensive noise.

Section 8.30.010 (Curfew—Offensive noise) of the Santa Cruz County Code contains the following language regarding noise impacts:

- A. No persons shall, between the hours of ten p.m. and eight a.m., make, cause, suffer, or permit to be made any offensive noise:
 1. Which is made within one hundred feet of any building or place regularly used for sleeping purposes; or
 2. Which disturbs any person of ordinary sensitivities within his or her place of residence.
- B. "Offensive noise" means any noise which is loud, boisterous, irritating, penetrating, or unusual, or that is unreasonably distracting in any other manner such that it is likely to disturb people of ordinary sensitivities in the vicinity of such noise, and includes, but is not limited to, noise made by an individual alone or by a group of people engaged in any business, meeting, gathering, game, dance, or amusement, or by any appliance,

contrivance, device, structure, construction, ride, machine, implement, instrument or vehicle. (Ord. 4001 § 1 (part), 1989).

Sensitive Receptors

Some land uses are generally regarded as being more sensitive to noise than others due to the type of population groups or activities involved. Sensitive population groups generally include children and the elderly. Noise sensitive land uses typically include all residential uses (single- and multi-family, mobile homes, dormitories, and similar uses), hospitals, nursing homes, schools, and parks.

The use of construction equipment to accomplish the proposed project would result in noise in the project area, i.e., construction zone. Table 4 shows typical noise levels for common construction equipment. The sources noise that levels are normally measured at 50 feet, are used to determine the noise levels at nearby sensitive receptors by attenuating 6 dB for each doubling of distance for point sources of noise such as operating construction equipment. Noise levels at the nearest sensitive receptors for each site were analyzed on a worst-case basis, using the equipment with the highest noise level expected to be used.

The nearest sensitive receptors are located approximately 40 feet to the south of the construction area.

Impacts

Although construction activities would likely occur during daytime hours, noise may be audible to nearby residents. However, periods of noise exposure would be temporary. Noise from construction activity may vary substantially on a day-to-day basis.

Potential Temporary Construction Noise Impacts

Construction activity would be expected to use equipment listed in Table 4. Based on the activities proposed for the proposed project, the equipment with the loudest operating noise level that would be used often during activity would be a jackhammer or hoe ram during the demolition phase of the project, which would produce noise levels of 90 dBA at a distance of 50 feet. The nearest sensitive receptor is located approximately 40 feet from the construction site. However, these impacts would also be temporary.

Equipment	L _{max} (dBA)
Air Compressor	81
Backhoe	80
Cement Mixer Truck	85
Cement Pump Truck	82
Chain Saw	85
Compactor	82
Crane	83
Concrete Saw	90
Dozer	85
Excavator	85
Dump Truck	84
Flat Bed Truck	84
Front End Loader	80
Fork Lift	75
Generator	81
Grader	85
Hoe-rams	90
Jackhammers	88
Paver	85
Pick-up Truck	55
Pneumatic Tools	85
Rollers	74
Tree Chipper	87

Source: Federal Transit Authority, 2006.

The County of Santa Cruz has not adopted significance thresholds for construction noise. However, Policy 6.9.7 of the General Plan requires mitigation of construction noise as a condition of future project approvals.

The following mitigation measures would be required to assist in the reduction of temporary construction noise impacts. With the implementation of those measures, no adverse noise impacts are expected occur during construction activities.

- NOI-1 Limit construction activity to between the hours of 7:00 a.m. to 6:00 p.m. Monday through Friday, 9:00 a.m. to 5:00 p.m. Saturday in order to avoid noise during more sensitive nighttime hours. Prohibit construction activity on Sundays.
- NOI-2 Require that all construction and maintenance equipment powered by gasoline or diesel engines have sound-control devices that are at least as effective as those originally provided by the manufacturer and that all equipment be operated and maintained to minimize noise generation.
- NOI-3 Prohibit gasoline or diesel engines from having unmuffled exhaust.
- NOI-4 Use noise-reducing enclosures around stationary noise-generating equipment capable of 6 dB attenuation.
- NOI-5 Prior to demolition of the existing structure or construction of the proposed commercial mixed-use building, require construction of a permanent masonry sound wall with a minimum height on 6 feet along the property boundary with 718 38th Avenue.

Long-term Operational Noise Impacts

The proposed project would create a small incremental increase in the existing noise environment. The development of new commercial and residential uses typically increases the traffic volumes in the vicinity of the new development. Because traffic noise is a primary contributor to the local noise environment, any increase in traffic resulting from the development of new commercial and residential uses would be expected to proportionally increase local noise levels. However, this increase would be small and would be similar in character to noise generated by the surrounding existing uses. Proposed parking areas are located so as to be away from adjacent residential uses where they would be between the proposed structure and the adjacent mini-storage facility.

Adherence to applicable County and or State noise standards together with the following mitigation measures would ensure that potential impacts related to this issue are less than significant.

- NOI-6 Construct a masonry sound wall with a minimum height of 6 feet along the southern property boundary adjacent to the southern driveway access from 38th

Avenue where it borders the adjacent residential property at 718 38th Avenue.

NOI-7 Construct fencing or other solid barrier with a minimum height of 6 feet, together with landscape plantings that include large shrubs/small trees with dense woody foliage along the southern property boundary adjacent to the proposed residential garages.

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 2. <i>Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: The use of construction equipment and grading equipment would potentially generate vibration in the project area. The nearest residential property is located immediately adjacent to the project site on the east side of 38th Avenue, approximately 5 feet to the south of the project site. Due to this distance, the closest area residences would experience significant groundborne vibration or groundborne noise levels during construction activities associated with the proposed project. However, this impact would be temporary and therefore is not expected to be significant.

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 3. <i>A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: The proposed project would generate noise similar to surrounding commercial and residential properties and would not result in a significant permanent increase in the ambient noise levels. The main source of noise in the project vicinity is traffic noise along Portola Drive. Impacts are expected to be less than significant.

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 4. <i>A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: See discussion under L-1 above. Noise generated during project construction would increase the ambient noise levels in adjacent areas. Construction would be temporary, however, and given the limited duration of this impact it is considered to be less than significant with the incorporation of mitigation measures.

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 5. <i>For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The proposed project is not within two miles of a public airport. Therefore, the proposed project would not expose people residing or working in the project area. No impact is anticipated.

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 6. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The proposed project is not within two miles of a private airstrip. Therefore, the proposed project would not expose people residing or working in the project area. No impact is anticipated.

M. POPULATION AND HOUSING

Would the project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 1. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: 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. Impacts would be less than significant.

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 2. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The proposed project would create eight new housing units in conjunction with a mixed-use project that replaces an existing abandoned lumberyard building and would not displace any existing housing as a result. No impact would occur.

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 3. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The proposed project would not displace a substantial number of people since the project is intended to replace the previous commercial use and also to provide additional housing units in an area designated for commercial and mixed-use developments. No impact would occur.

N. PUBLIC SERVICES

Would the project:

1. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental 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. <i>Fire protection?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b. <i>Police protection?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c. <i>Schools?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d. <i>Parks?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e. <i>Other public facilities; including the maintenance of roads?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Discussion (a through e): While the project represents an incremental contribution to the need for services, the increase would be minimal. Moreover, the project meets all of the standards and requirements identified by the local fire agency and school, park, and transportation fees to be paid by the applicant would be used to offset the incremental increase in demand for school and recreational facilities and public roads. Impacts would be considered less than significant.

O. RECREATION

Would the project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 1. <i>Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: The proposed mixed-use project would not substantially increase the use of existing neighborhood and regional parks or other recreational facilities. Impacts would be considered less than significant.

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 2. <i>Does the project include recreational facilities or require the construction or expansion of recreational facilities which</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

might have an adverse physical effect on the environment?

Discussion: The proposed project does not propose the expansion or construction of additional recreational facilities. No impact would occur.

P. TRANSPORTATION/TRAFFIC

Would the project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <p>1. <i>Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?</i></p> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: The proposed development is located on Portola Drive in the Pleasure Point area, close to the intersection with 41st Avenue, an area that has been identified in the County’s Sustainable Santa Cruz County Plan as an area where new mixed-use infill or redevelopment would be appropriate due to the concentrations of existing development and the ease of accessibility. This area contains a diversity of land uses all within close proximity to one another, which creates opportunities for people to walk to destinations. The Pleasure Point area, which is level, also encourages the extensive use of bicycle transportation. There is an extensive network of bicycle lanes along the major streets, including Portola Drive, and bicycle paths, such as along East Cliff Drive running adjacent to the coast, and neighborhood streets are easily navigable by cyclists. Further, there are two available bus routes that currently run along Portola Drive with two bus stops located within easy walking distance of the site. Concentrations of housing and jobs support frequent transit service while the transit service would help to support the proposed mixed-use center.

The proposed commercial and residential mixed-use building would be developed together with a parking lot that provides 42 spaces for the combined use of tenants and patrons of the center and 8 additional spaces within residential garages, one each for the exclusive use by tenants of the eight condominium units. As indicated by the Parking Study prepared by Marquez Transportation Engineering dated July 29, 2014 and addendums prepared June 19, 2015 and July 29, 2015 (Attachment 11), prepared using transportation planning Best practices, the proposed parking would be sufficient to meet the parking demands created by the proposed development. In addition to vehicular parking the proposed development

would also include parking for around 16 bicycles. Therefore the impact of the proposed development would be expected to be less than significant.

The project would create a small incremental increase in traffic on nearby roads and intersections, as indicated in the focused traffic study prepared by Kimley Horn, dated January 14, 2015, with revised calculations prepared in May 2015 (Attachment 10). However, given the small number of new trips created by the project (24 AM peak hour trips and 22 PM peak hour trips), this increase would be less than significant. Further, the increase would not cause the Level of Service at any nearby intersection that currently operates at a Level of Service (LOS) of D or higher, to drop below Level of Service (LOS) D, consistent with General Plan Policy 3.12.1. At the intersection of Portola Drive and 41st Avenue that currently operates at an unacceptable LOS during the PM peak hour, the project would not further reduce the LOS below levels that would otherwise be experienced without the project.

The intersections at Portola Drive and 38th Avenue and Portola Drive and 30th Avenue currently operate at LOS B during the AM peak hour and C during the PM peak hour. The intersection at Portola Drive and 41st Avenue currently operates at LOS B during the AM peak hour but operates unacceptably at LOS E during the PM peak hour. In projected Near-Term Project Conditions (2016) these intersections would operate at the same LOS as without the project. Near-Term the addition of the project increases the vehicle count by 0.87% which is less than the County threshold of 1% and therefore is not considered a significant impact.

In Cumulative (2035) Conditions, without the project, the level of service at the intersection of Portola Drive and 38th Avenue would operate at LOS B during the AM peak hour and LOS D during the PM peak hour; the intersection of Portola Drive and 30th Avenue would operate at LOS C during both the AM peak and PM peak hours and the intersection of Portola Drive and 41st Avenue would operate at LOS C during the AM peak hour and, unacceptably, at LOS F during the PM peak hour. In Cumulative Plus Project Conditions these intersections would operate at the same LOS as without the project. The addition of the project in Cumulative Plus Project Conditions would increase the vehicle count by 0.85% which is less than the County threshold of 1% and therefore is not considered a significant impact.

2. *Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?*

Discussion: In 2000, at the request of the Santa Cruz County Regional Transportation Commission (SCCRTC), the County of Santa Cruz and other local jurisdictions exercised the option to be exempt from preparation and implementation of a Congestion Management Plan (CMP) per Assembly Bill 2419. As a result, the County of Santa Cruz no longer has a Congestion Management Agency or CMP. The CMP statutes were initially established to create a tool for managing and reducing congestion; however, revisions to those statutes progressively eroded the effectiveness of the CMP. There is also duplication between the CMP and other transportation documents such as the Regional Transportation Plan (RTP) and the Regional Transportation Improvement Program (RTIP). In addition, the goals of the CMP may be carried out through the Regional Transportation Improvement Program and the Regional Transportation Plan. Any functions of the CMP which are useful, desirable and do not already exist in other documents may be incorporated into those documents.

The proposed project would not conflict with either the goals and/or policies of the RTP or with monitoring the delivery of state and federally-funded projects outlined in the RTIP. No impact would occur.

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 3. <i>Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: No change in air traffic patterns would result from project implementation. Therefore, no impact is anticipated.

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 4. <i>Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The proposed project would comprise a mixed-use development consisting of residential office and retail uses at the ground level with eight multi-family dwelling units at the second and third floors above. All the activities would be located within one building. The retail space would include typical small shops and food service uses and market type vendors that would operate during normal business hours. However, the use does not contain a short-duration farmers market set up that would have increased impacts because it only operates for limited hours, once or twice a week. No increase in hazards would occur from project design or from incompatible uses. The project would take access from both Portola Drive and 38th Avenue, which meets all County standards. No impact would occur with project implementation.

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 5. <i>Result in inadequate emergency access?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

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

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 6. <i>Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The proposed project design would comply with current road requirements to prevent potential hazards to motorists, bicyclists, and/or pedestrians. No impact would occur.

Q. UTILITIES AND SERVICE SYSTEMS

Would the project:

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 1. <i>Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: The proposed project's wastewater flows would not violate any wastewater treatment standards. No significant impacts would occur from project implementation.

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 2. <i>Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The project would connect to an existing municipal water supply. City of Santa Cruz Water Department has determined that adequate supplies are available to serve the project (Attachment 8). No impact would occur from project implementation.

Municipal sewer service is available to serve the project, as reflected in the attached letter from the Santa Cruz County Sanitation District (Attachment 12). No impact would occur from project implementation.

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 3. <i>Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: Please see the discussion under I-3 and I-5 above. Impacts would be considered to be less than significant.

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 4. <i>Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: The City of Santa Cruz Water Department has indicated that adequate water supplies are available to serve the project and has issued a will-serve letter for the proposed project, subject to the payment of fees and charges in effect at the time of service (Attachment 8). The development would also be subject to the water conservation requirements. Therefore, existing water supplies would be sufficient to serve the proposed project, and no new entitlements or expanded entitlements would be required. Impacts would be less than significant.

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 5. <i>Result in determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The County of Santa Cruz Sanitation District has indicated that adequate capacity is available to serve the project and has issued a will-serve letter for the proposed project, subject to the payment of fees and charges in effect at the time of service (Attachment 12). Therefore, existing wastewater treatment capacity would be sufficient to serve the proposed project. Please see discussion under Q-2 above. No impact would occur from project implementation.

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 6. <i>Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: Due to the small incremental increase in solid waste generation by the proposed project during construction and operations, the impact would not be significant.

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 7. <i>Comply with federal, state, and local statutes and regulations related to solid waste?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The project would comply with all federal, state, and local statutes and regulations related to solid waste disposal. No impact would occur.

R. MANDATORY FINDINGS OF SIGNIFICANCE

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 1. <i>Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Discussion: 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, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory were considered in the response to each question in Section III (A through Q) of this Initial Study. As a result of this evaluation, no potentially significant impacts were identified and there is no substantial evidence that significant effects associated with this project would result. Therefore, this project has been determined to not meet this mandatory finding of significance.

2. 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, the effects of other current projects, and the effects of probable future projects)?
-

Discussion: In addition to project specific impacts, this evaluation considered the projects potential for incremental effects that are cumulatively considerable. As a result of this evaluation, no potentially significant cumulative impacts were identified. Therefore, this project has been determined not to meet this Mandatory Finding of Significance.

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

Discussion: In the evaluation of environmental impacts in this Initial Study, the potential for adverse direct or indirect impacts to human beings were considered in the response to specific questions in Section III (A through Q). As a result of this evaluation, there were determined to be potentially significant effects to human beings related to the following:

Air Quality, prior to the commencement of work, a survey for asbestos would be required and a written notification for asbestos removal and/or demolition would be provided prior to commencing any regulated activities. Best Management Practices (BMPs) and Best Available Control Technology (BACT) would be implemented during all site excavation and grading. The project would implement Diesel Particulate Matter Emissions Control Measures to reduce particulate matter emissions from diesel exhaust: and also Dust Control Measures at the construction and staging sites as applicable.

Noise, both during construction of the project and potential ongoing noise generated from the southern driveway access from 38th Avenue on the immediately adjacent residence. However, mitigation has been included that clearly reduces these effects to a level below significance. These mitigations include: limiting the hours of construction activity; requiring that all construction and maintenance equipment be fitted with sound-control devices; prohibiting gasoline or diesel engines from having an unmuffled exhausts; using noise-reducing enclosures around stationary noise-generating equipment; the construction of a permanent masonry sound wall adjacent to the 718 38th Avenue prior to the commencement of any demolition or construction activities, and also the construction of a fence or other solid barrier, together with landscape plantings, along other property boundaries with adjacent residential properties to the south of the project site.

Hazardous materials, a comprehensive survey for the presence of lead based paint and asbestos containing materials is required to be performed prior to the demolition of the existing building on the parcel and all such materials shall be properly identified and removed in accordance with applicable laws pertaining to lead based paint and asbestos containing materials.

As a result of this evaluation, there is no substantial evidence that, after mitigation, there are adverse effects to human beings associated with this project. Therefore, this project has been determined not to meet this Mandatory Finding of Significance.

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
--------------------------------------	--	------------------------------------	-----------



This page intentionally left blank.

IV. REFERENCES USED IN THE COMPLETION OF THIS INITIAL STUDY

California Department of Conservation. 1980

Farmland Mapping and Monitoring Program Soil Candidate Listing for Prime Farmland and Farmland of Statewide Importance Santa Cruz County U.S. Department of Agriculture, Natural Resources Conservation Service, soil surveys for Santa Cruz County, California, August 1980.

County of Santa Cruz, 2013

County of Santa Cruz Climate Action Strategy. Approved by the Board of Supervisors on February 26, 2013.

County of Santa Cruz, 2010

County of Santa Cruz Local Hazard Mitigation Plan 2010-2015. Prepared by the County of Santa Cruz Office of Emergency Services.

County of Santa Cruz, 1994

1994 General Plan and Local Coastal Program for the County of Santa Cruz, California. Adopted by the Board of Supervisors on May 24, 1994, and certified by the California Coastal Commission on December 15, 1994.

Dupre', W.R., 1975

Maps showing geology and liquefaction potential of the Quaternary deposits in Santa Cruz County, California; U.S. Geological Survey Misc. Field Studies Map MF-626, 2 sheets at 1:62,500.

MBUAPCD, 2005

2005 Report on Attainment of the California Particulate Matter Standards in the Monterey Bay Region. Senate Bill 656 Implementation Plan, December 1, 2005.

MBUAPCD, 2008

Monterey Bay Unified Air Pollution Control District (MBUAPCD), CEQA Air Quality Guidelines. Prepared by the MBUAPCD, Adopted October 1995, Revised: February 1997, August 1998, December 1999, September 2000, September 2002, June 2004 and February 2008.

MBUAPCD, 2013a

Monterey Bay Unified Air Pollution Control District, NCCAB (NCCAB) Area Designations and Attainment Status – January 2013. Available online at [http://www.mbuapcd.org/mbuapcd/pdf/Planning/Attainment Status January 2013 2.pdf](http://www.mbuapcd.org/mbuapcd/pdf/Planning/Attainment%20Status%20January%202013%202.pdf)

MBUAPCD, 2013b

Triennial Plan Revision 2009-2011. Monterey Bay Air Pollution Control District. Adopted April 17, 2013.



This page intentionally left blank.

Attachment 1

Mitigation Monitoring and Reporting Program



This page intentionally left blank.



County of Santa Cruz

PLANNING DEPARTMENT

701 OCEAN STREET, 4TH FLOOR, SANTA CRUZ, CA 95060
 (831) 454-2580 FAX: (831) 454-2131 TDD: (831) 454-2123
 KATHLEEN MOLLOY PREVISICH, PLANNING DIRECTOR

MITIGATION MONITORING AND REPORTING PROGRAM

for

Lumber Yard Mixed Use Project
 Application No. 141157, August 24, 2015

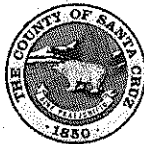
No.	Environmental Impact	Mitigation Measures	Responsibility for Compliance	Method of Compliance	Timing of Compliance
AQ-1	Conflict with or obstruct implementation of the applicable air quality plan?	<p>Prior to the commencement of work, a survey for asbestos would be required and written notification for asbestos removal and/or demolition would be provided 10 working days prior to commencing any regulated activities.</p> <p>Contracted Diesel Control Measures: In addition to the use of Tiered engines and California ultralow sulfur diesel fuel, the following requirements will be incorporated into contract specifications:</p> <ul style="list-style-type: none"> To minimize potential diesel odor impacts on nearby receptors (pursuant to MBUAPCD Rule 402, Nuisances), construction equipment will be properly tuned. A schedule of tune-ups will be developed and performed for all equipment operating within the project area. A written log of required tune-ups will be maintained and a copy of the log will be made available to the County of Santa Cruz Planning Department for inspection upon request. Fixed temporary sources of air emissions (such as portable pumps, compressors, generators, etc.) will be electrically powered unless the contractor submits documentation and receives written approval from the County of Santa Cruz Planning Department that the use of such equipment is not practical, feasible, or available (generally contingent upon power line proximity, capacity, and accessibility). California ultralow sulfur diesel fuel with maximum sulfur content of 15 ppm by weight (ppmw S), or an approved alternative fuel, will be used for on-site fixed equipment not using line power. To minimize diesel emission impacts, construction contracts will require off-road compression ignition equipment operators to reduce unnecessary idling with a 2-minute time limit, subject to monitoring and written documentation. On-road material hauling vehicles will shut off engines while queuing for loading and unloading for time periods longer than 2 minutes, subject to monitoring and written documentation. Off-road diesel equipment will be fitted with verified diesel emission control systems (e.g., diesel oxidation catalysts) to the extent reasonably and economically feasible. Utilize alternative fuel equipment (i.e., compressed or liquefied natural gas, biodiesel, electric) to the extent reasonably and economically 	Applicant	Compliance monitored by the County Planning Department	To be implemented prior to and during of existing structures.
AQ-2	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<p>Contracted Diesel Control Measures: In addition to the use of Tiered engines and California ultralow sulfur diesel fuel, the following requirements will be incorporated into contract specifications:</p> <ul style="list-style-type: none"> To minimize potential diesel odor impacts on nearby receptors (pursuant to MBUAPCD Rule 402, Nuisances), construction equipment will be properly tuned. A schedule of tune-ups will be developed and performed for all equipment operating within the project area. A written log of required tune-ups will be maintained and a copy of the log will be made available to the County of Santa Cruz Planning Department for inspection upon request. Fixed temporary sources of air emissions (such as portable pumps, compressors, generators, etc.) will be electrically powered unless the contractor submits documentation and receives written approval from the County of Santa Cruz Planning Department that the use of such equipment is not practical, feasible, or available (generally contingent upon power line proximity, capacity, and accessibility). California ultralow sulfur diesel fuel with maximum sulfur content of 15 ppm by weight (ppmw S), or an approved alternative fuel, will be used for on-site fixed equipment not using line power. To minimize diesel emission impacts, construction contracts will require off-road compression ignition equipment operators to reduce unnecessary idling with a 2-minute time limit, subject to monitoring and written documentation. On-road material hauling vehicles will shut off engines while queuing for loading and unloading for time periods longer than 2 minutes, subject to monitoring and written documentation. Off-road diesel equipment will be fitted with verified diesel emission control systems (e.g., diesel oxidation catalysts) to the extent reasonably and economically feasible. Utilize alternative fuel equipment (i.e., compressed or liquefied natural gas, biodiesel, electric) to the extent reasonably and economically 	Applicant	Compliance monitored by the County Planning Department and the MBUAPCD	To be implemented prior to and during project construction

No.	Environmental Impact	Mitigation Measures	Responsibility for Compliance	Method of Compliance	Timing of Compliance
AQ-3	feasible. Feasibility will be determined consistent with Best Available Control Technology (BACT) general criteria: 1) achieved in practice; 2) contained in adopted control measures; 3) technologically feasible; and 4) cost-effective.	<p>Diesel Particulate Matter Emissions Control Measures: In addition, the project will implement the following measures to reduce particulate matter emissions from diesel exhaust:</p> <ul style="list-style-type: none"> • Grid power will be used instead of diesel generators where it is feasible to connect to grid power (generally contingent upon power line proximity, capacity, and accessibility). • The project specifications will include 13 CCR Sections 2480 and 2485, which limit the idling of all diesel-fueled commercial vehicles (weighing over 10,000 pounds, both California- or non-California-based trucks) to 30 seconds at a school or 5 minutes at any location. In addition, the use of diesel auxiliary power systems and main engines will be limited to 5 minutes when within 100 feet of homes or schools while the driver is resting. • The project specifications will include 17 CCR Section 93115, Airborne Toxic Control Measure for Stationary Compression Ignition Engines, which specifies fuel and fuel additive requirements; emission standards for operation of any stationary, diesel-fueled, compression-ignition engines; and operation restrictions within 500 feet of school grounds when school is in session. • A schedule of low-emissions tune-ups will be developed and such tune-ups will be performed on all equipment, particularly for haul and delivery trucks. • Low-sulfur (≤ 15 ppmw S) fuels will be used in all stationary and mobile equipment. 	Applicant	Compliance monitored by the County Planning Department	To be implemented during project construction
AQ-4		<p>Dust Control Measures: The following controls will be implemented at the construction and staging sites as applicable:</p> <ul style="list-style-type: none"> • Water all active construction areas at least twice daily as necessary and indicated by soil and air conditions. • Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of freeboard. • Pave, apply water three times daily, or apply (nontoxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites. • Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites. • Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets. • All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, will be effectively stabilized of dust 	Applicant	Compliance monitored by the County Planning Department	To be implemented during project construction

No.	Environmental Impact	Mitigation Measures	Responsibility for Compliance	Method of Compliance	Timing of Compliance
		<p>emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover.</p> <ul style="list-style-type: none"> • All on-site unpaved roads and off-site unpaved access roads will be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant. • All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities will be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking. • When materials are transported off site, all material will be covered, or effectively wetted to limit visible dust emissions, and at least 6 inches of freeboard space from the top of the container will be maintained. • All operations will limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.) • Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles will be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant. • Within urban areas, trackout will be immediately removed when it extends 50 or more feet from the site and at the end of each workday. • Any site with 150 or more vehicle trips per day will prevent carryout and trackout. • Hydroseed or apply (nontoxic) soil stabilizers to inactive construction areas (previously graded areas inactive for 10 days or more). • Enclose, cover, water twice daily, or apply (nontoxic) soil binders to exposed stockpiles (dirt, sand, etc.). • Limit traffic speeds on unpaved roads to 15 miles per hour. • Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than 1 percent. • Replant vegetation in disturbed areas as quickly as possible. • Install wheel washers for all exiting trucks, or wash off all trucks and equipment leaving the site. • Install wind breaks at windward side(s) of construction areas. • Suspend excavation and grading activity when winds (instantaneous gusts) exceed 20 miles per hour. • Limit the area subject to excavation, grading, and other construction activity at any one time. 			
Hazards and Hazardous Materials					
HAZ-1	<i>Be located on a site</i>	A comprehensive survey for the presence of lead based paint shall be	Applicant	Compliance	To be implemented

No.	Environmental Impact	Mitigation Measures	Responsibility for Compliance	Method of Compliance	Timing of Compliance
HAZ-2	<p>performed prior to the demolition of the building on the parcel and all such materials shall be properly identified and removed in accordance with applicable laws pertaining to lead based paint.</p> <p>A comprehensive survey for the presence of asbestos containing materials shall be performed prior to the demolition of the building on the parcel and all such materials shall be properly identified and removed in accordance with applicable laws pertaining to asbestos containing materials.</p>	<p>performed prior to the demolition of the building on the parcel and all such materials shall be properly identified and removed in accordance with applicable laws pertaining to lead based paint.</p> <p>A comprehensive survey for the presence of asbestos containing materials shall be performed prior to the demolition of the building on the parcel and all such materials shall be properly identified and removed in accordance with applicable laws pertaining to asbestos containing materials.</p>	<p>Applicant</p>	<p>monitored by the County Planning Department</p> <p>Compliance monitored by the County Planning Department</p>	<p>prior to and during demolition</p> <p>To be implemented prior to and during demolition</p>
Noise					
NOI-1	<p>Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?</p>	<p>Limit construction activity to between the hours of 7:00 a.m. to 6:00 p.m. Monday through Friday, 9:00 a.m. to 5:00 p.m. Saturday in order to avoid noise during more sensitive nighttime hours. Prohibit construction activity on Sundays.</p> <p>Require that all construction and maintenance equipment powered by gasoline or diesel engines have sound-control devices that are at least as effective as those originally provided by the manufacturer and that all equipment be operated and maintained to minimize noise generation.</p> <p>Prohibit gasoline or diesel engines from having unmuffled exhaust.</p>	<p>Applicant</p>	<p>Compliance monitored by the County Planning Department</p> <p>Compliance monitored by the County Planning Department</p> <p>Compliance monitored by the County Planning Department</p>	<p>To be implemented during project construction</p> <p>To be implemented during project construction</p> <p>To be implemented during project construction</p>
NOI-2	<p>Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?</p>	<p>Use noise-reducing enclosures around stationary noise-generating equipment capable of 6 dB attenuation.</p>	<p>Applicant</p>	<p>Compliance monitored by the County Planning Department</p>	<p>To be implemented during project construction</p>
NOI-3	<p>Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?</p>	<p>Prior to demolition of the existing structure or construction of the proposed commercial mixed-use building, require construction of a permanent masonry sound wall with a minimum height on 6 feet along the property boundary with 718 38th Avenue.</p>	<p>Applicant</p>	<p>Compliance monitored by the County Planning Department</p>	<p>To be implemented prior to demolition of the existing structure</p>
NOI-4	<p>Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?</p>	<p>Construct a masonry sound wall with a minimum height of 6 feet along the southern property boundary adjacent to the southern driveway access from 38th Avenue where it borders the adjacent residential property at 718 38th Avenue.</p>	<p>Applicant</p>	<p>Compliance monitored by the County Planning Department</p>	<p>To be implemented prior to demolition of the existing structure</p>
NOI-5	<p>Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?</p>	<p>Construct fencing or other solid barrier with a minimum height of 6 feet, together with landscape plantings that include large shrubs/small trees with dense woody foliage along the southern property boundary adjacent to the proposed residential garages.</p>	<p>Applicant</p>	<p>Compliance monitored by the County Planning Department</p>	<p>To be implemented following project construction</p>
NOI-6	<p>Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?</p>				
NOI-7	<p>Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?</p>				

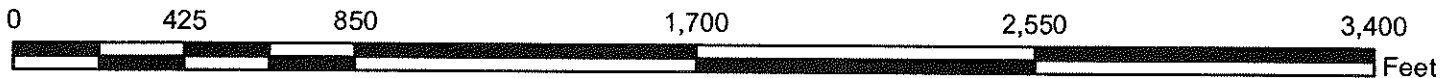
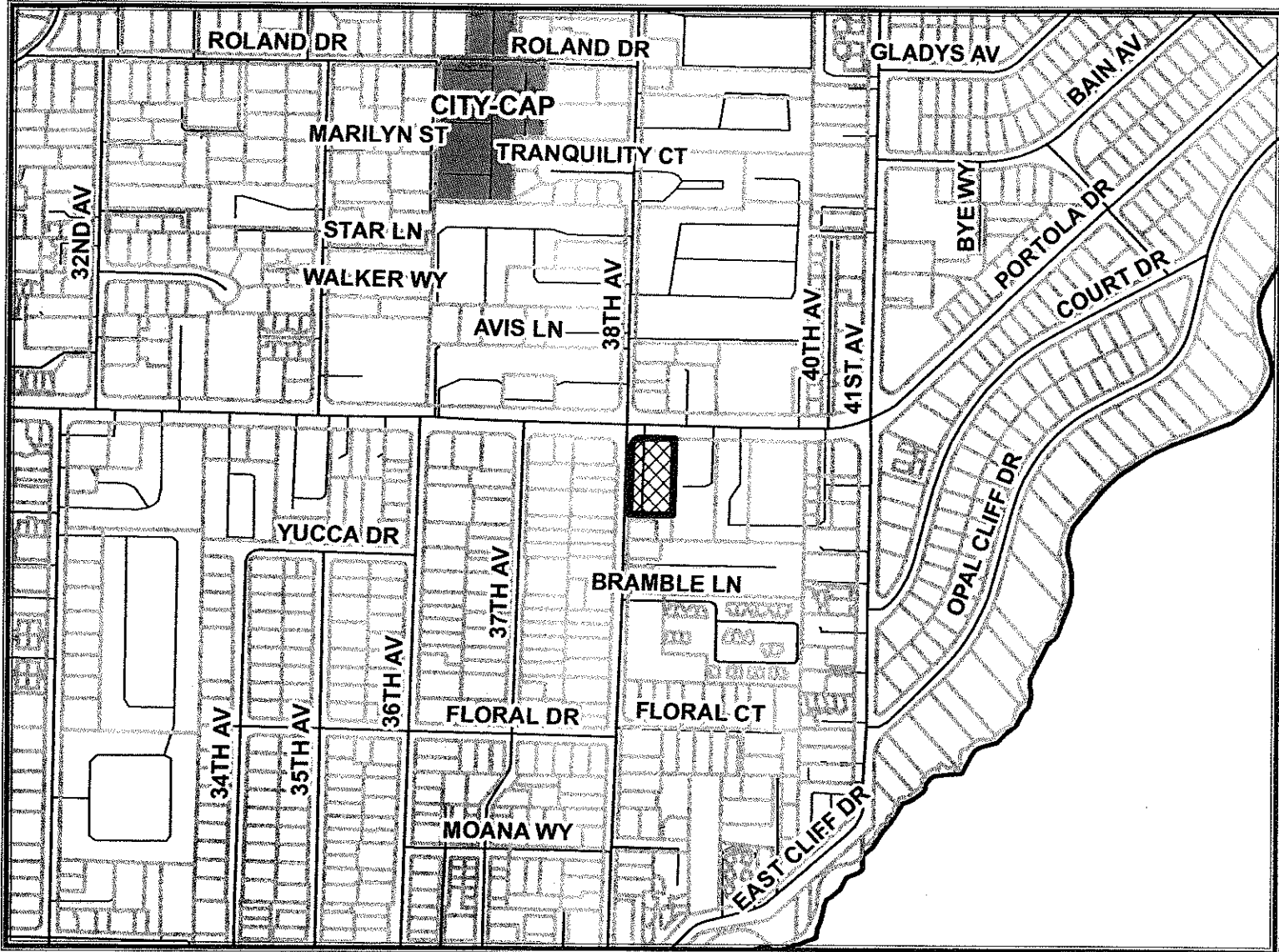
Attachment 2








This page intentionally left blank.



Location Map



LEGEND

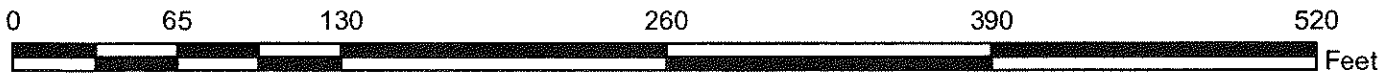
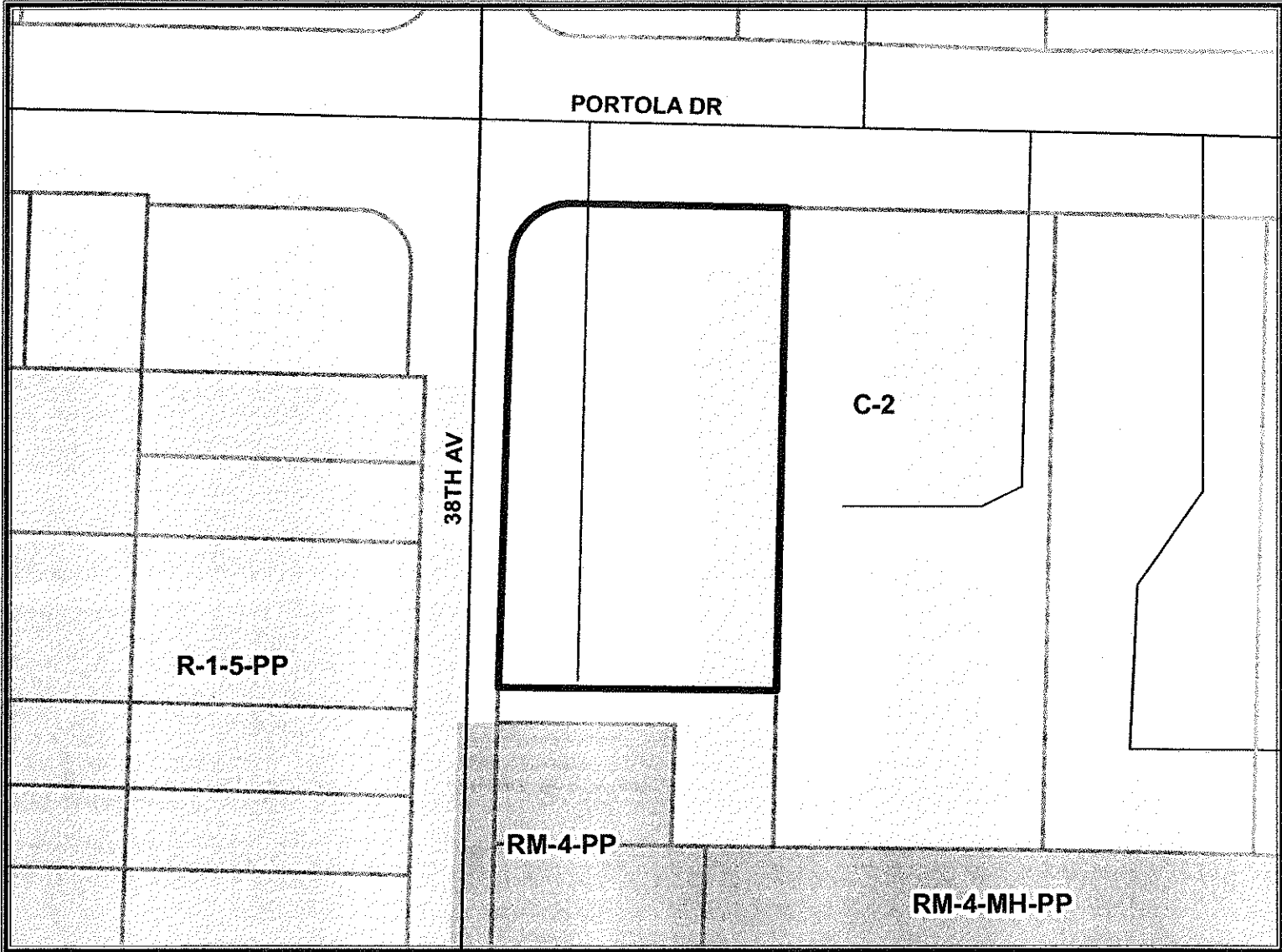
-  APN: 032-092-01
-  Assessors Parcels
-  Street
-  CITY OF CAPITOLA
-  County Boundary









Map Created by
 County of Santa Cruz
 Planning Department
 June 2014

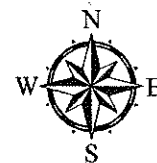


Zoning Map



LEGEND

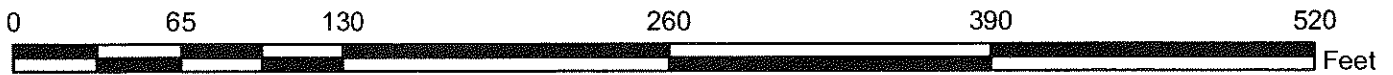
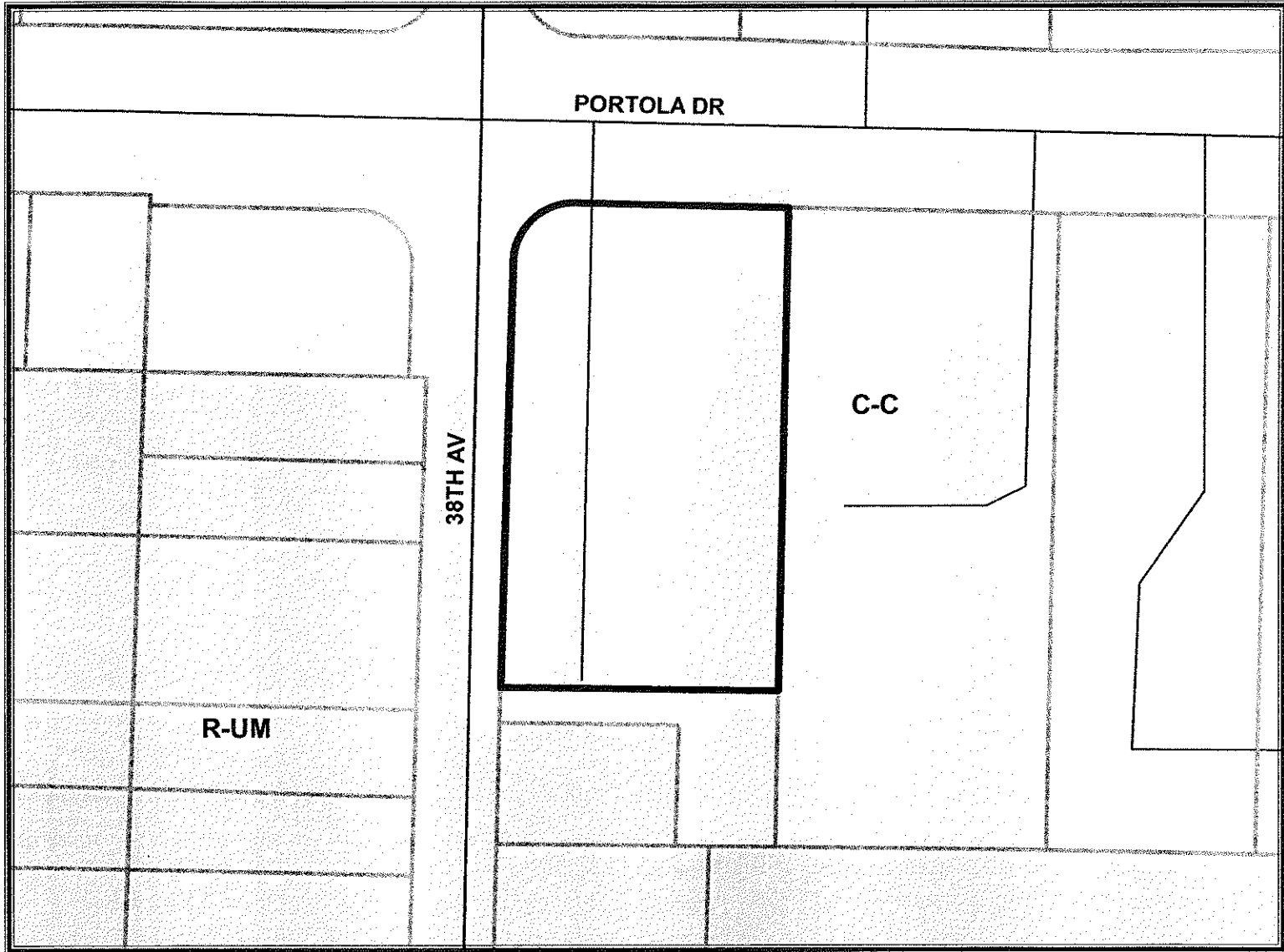
-  APN: 032-092-01
-  Assessors Parcels
-  Street
-  COMMERCIAL-COMMUNITY
-  RESIDENTIAL-SINGLE FAMILY
-  RESIDENTIAL-MULTI FAMILY



Map Created by
County of Santa Cruz
Planning Department
September 2014

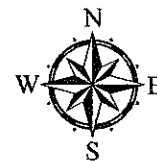


General Plan Designation Map



LEGEND

-  APN: 032-092-01
-  Assessors Parcels
-  Street
-  Commercial-Community
-  Residential - Urban Medium Density

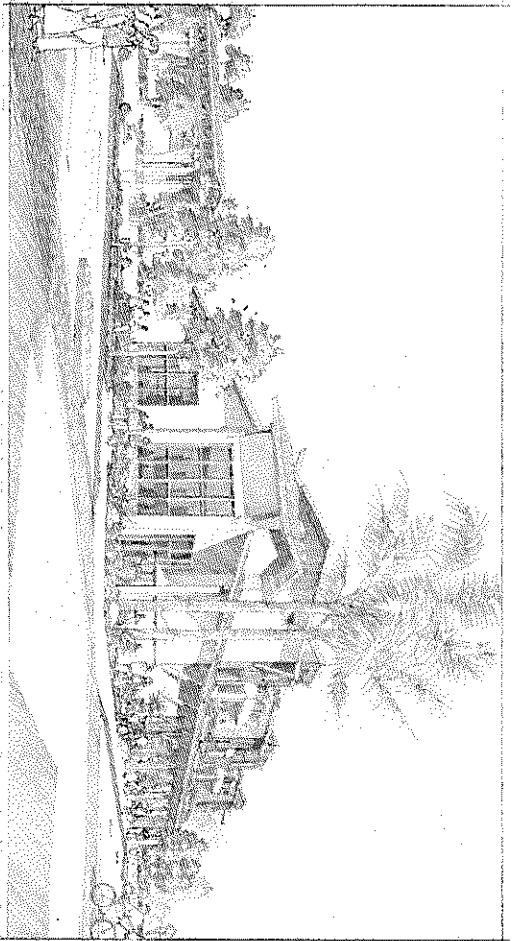


Map Created by
 County of Santa Cruz
 Planning Department
 September 2014

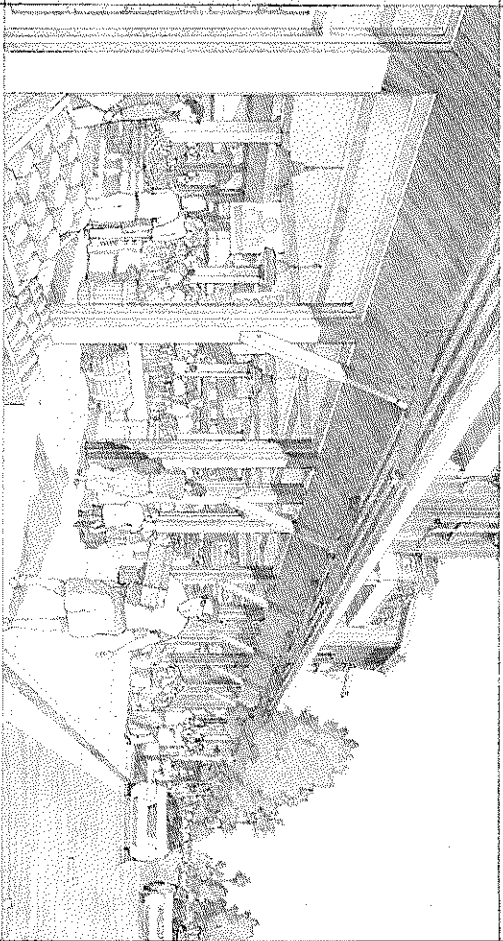
Attachment 3



This page intentionally left blank.



VIEW FROM PORTOLA DRIVE



LOOKING DOWN 38TH AVENUE



THACHER &
THOMPSON
ARCHITECTS

1000 G ST. N.W.
WASHINGTON, D.C. 20004
202.331.1100

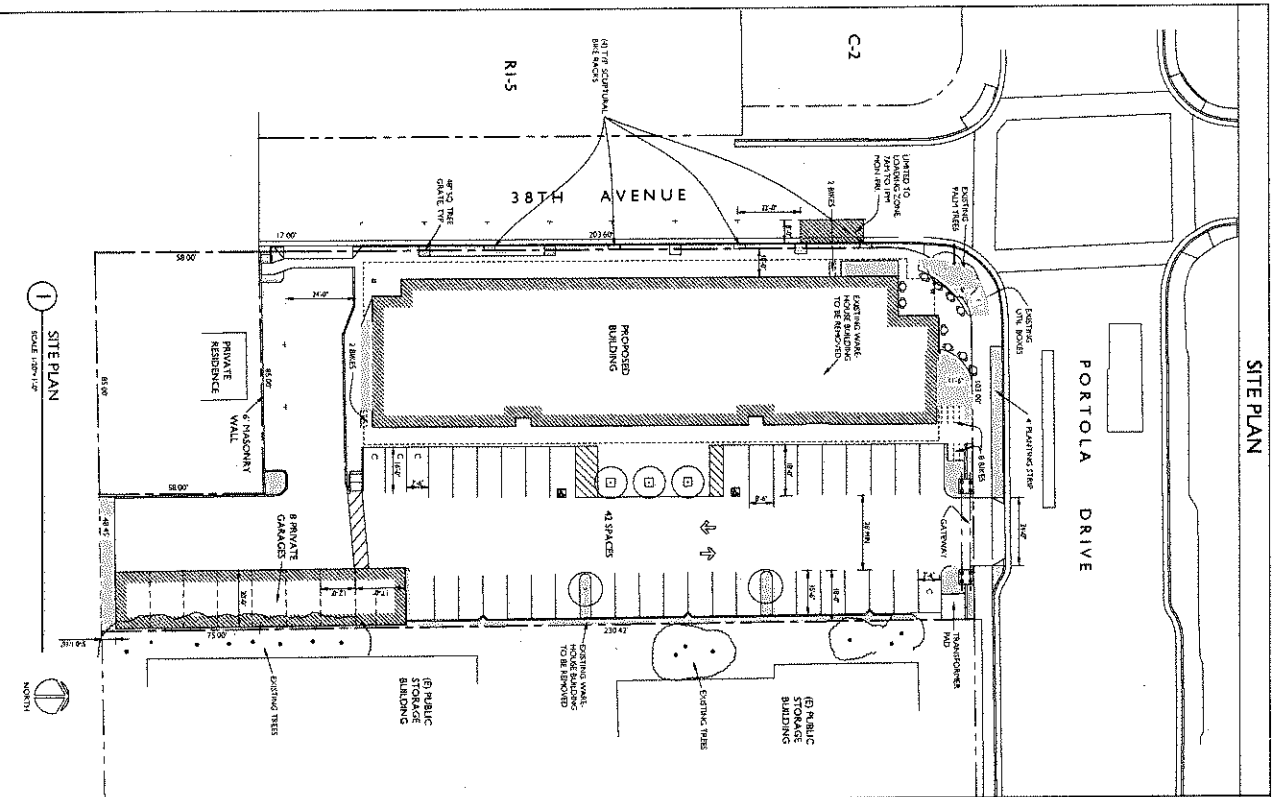
NORTHPOINT
PORTOLA DR
& 38TH AVE

COVER SHEET

DRAWING DATE: JANUARY 1, 2015
 DESIGNED TO INCLUDE: CONSTRUCTION DOCUMENTS
 PROJECT LOCATION: 1000 G STREET, N.W.
 PROJECT NAME: NORTHPOINT 3014
 ARCHITECT: THACHER & THOMPSON ARCHITECTS
 C:\17004\NORTHPOINT\3014\3014.DWG

THE PROJECT AND THE ARCHITECT'S
 RESPONSIBILITY TO THE CLIENT AND THE
 PUBLIC IS NOT LIMITED BY THE
 ARCHITECT'S LICENSE. THE ARCHITECT
 IS NOT RESPONSIBLE FOR THE
 ACCURACY OF THE INFORMATION
 CONTAINED HEREIN. THE ARCHITECT
 IS NOT RESPONSIBLE FOR THE
 ACCURACY OF THE INFORMATION
 CONTAINED HEREIN. THE ARCHITECT
 IS NOT RESPONSIBLE FOR THE
 ACCURACY OF THE INFORMATION
 CONTAINED HEREIN.

AI



AREA CALCULATIONS

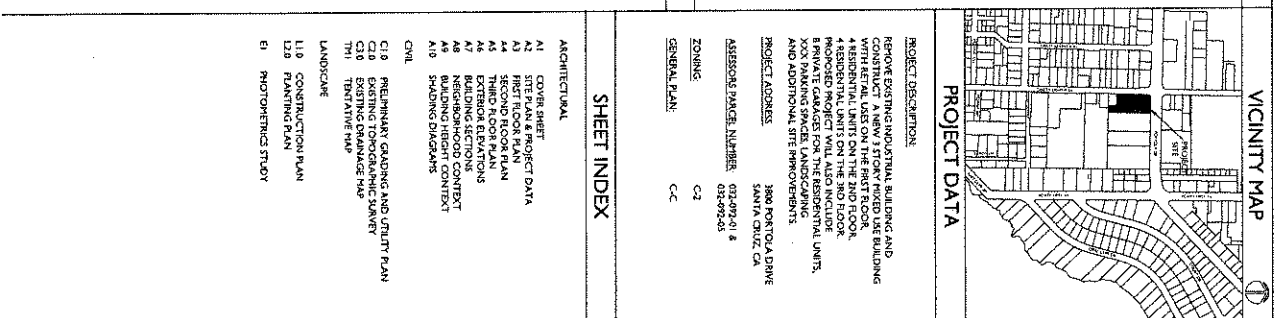
EXISTING	%	PROPOSED	%	
SITE AREA	35,345 SF	100	35,345 SF	100
BUILDING COVERAGE	4,342 SF	12.00%	34.0	96.0%
PARKING & DRIVEWAY AREA	15,033 SF	42.53%	15,469 SF	43.77%
LANDSCAPE AREA	0 SF	0.00%	5,566 SF	15.75%
BUILDING AREAS	0 SF	0.00%	2,303 SF	6.52%
EXISTING BUILDING AREA, 1ST FLOOR	14,342 SF			
PROPOSED BUILDING AREA, 1ST FLOOR	8,533 SF			
CONVERTIBLE TENANT AREA	893 SF			
CONVERTIBLE COMMON AREA	414 SF			
RESIDENTIAL COMMON AREA	444 SF			
TOTAL 1ST FLOOR AREA	9,994 SF			
TOTAL 1ST FLOOR BLDG. USE BLDG.	1,703 SF			
TOTAL 1ST FLOOR BUILDING AREA	11,719 SF			
PROPOSED BUILDING AREA, 2ND FLOOR	790 SF			
RESIDENTIAL COMMON AREA	4,480 SF			
RESIDENTIAL CONDO FLATS (4 @ 1,200 SF)	4,800 SF			
TOTAL 2ND FLOOR BUILDING AREA	5,290 SF			
TERACES (4 @ 299 SF)	1,196 SF			
PROPOSED BUILDING AREA, 3RD FLOOR	200 SF			
RESIDENTIAL COMMON AREA	5,000 SF			
RESIDENTIAL CONDO FLATS (4 @ 1,200 SF)	4,800 SF			
TERACES (4 @ 299 SF)	1,032 SF			
BUILDING AREA SUMMARY	8,600 SF			
TOTAL RESIDENTIAL COMMON AREA	814 SF			
TOTAL COMMON AREA	1,030 SF			
TOTAL RESIDENTIAL COMMON AREA	2,134 SF			
PARKING AS CALCULATED BY TRANSPORTATION ENGINEER	37 SPACES			
PARKING SUPPLY	3%			
STANDARD PARKING SPACES	4			
ACCESSIBLE SPACES	2			
SUBTOTAL (UNCOVERED PARKING)	42			
RESIDENTIAL GARAGE SPACES	8			
TOTAL OFF-STREET PARKING	50			
ON-STREET PARKING (OPEN STREETS & RESIDENTIAL GUEST SPACES)	8			
AVAILABLE PARKING	58			
BICYCLE PARKING DEMAND	9			
COMMERCIAL @ 1 PER 1000 SF	8			
RESIDENTIAL (GARAGES) @ 1 PER D.U.	2			
RESIDENTIAL - OTHER @ 0.2 PER D.U.	19			
TOTAL DEMAND	29			
BICYCLE PARKING SUPPLY	12			
COMMERCIAL AND RESIDENTIAL BIKES	8			
RESIDENTIAL GARAGE	20			
TOTAL BICYCLE PARKING	28			

PROJECT TEAM

OWNERS:	NORTHPOINT INVESTMENTS SAN FRANCISCO, CA 94147 415.615.1500 CONTRACT PARTNER ROY partners@npi.com
ARCHITECT:	THACHER & THOMPSON ARCHITECTS 2700 CALIFORNIA AVENUE SAN FRANCISCO, CA 94133 (415) 452-2939 thacher@tandth.com
LAND USE PLANNER:	MATTHEW J. HUNT 280 CHRISTIE STREET, SUITE 100 SAN FRANCISCO, CA 94133 (415) 452-2939 mjhunt@tandth.com
CIVIL ENGINEER:	FLAND ENGINEERS 1580 SOCOL AVENUE, SUITE 101 SAN FRANCISCO, CA 94133 (415) 764-5112 info@fland.com
LANDSCAPE ARCHITECT:	BEAUBIEN SYSTEMS/TENNENETZ 2700 CALIFORNIA AVENUE HONOLULU, CA 96840 (813) 944-1383 info@bsa.com
SLAVEYOR:	ROBERT DEWITT LAND SLAVEYORS SAN FRANCISCO, CA 94102 (415) 452-1617 rslavey@slavey.com

APPROVAL AGENCIES

PLANNING & BUILDING	SANTA CRUZ COUNTY
FIRE	CENTRAL FIRE
WATER	SANTA CRUZ WATER
SANITATION	S.C. COUNTY SANITATION



SHEET INDEX

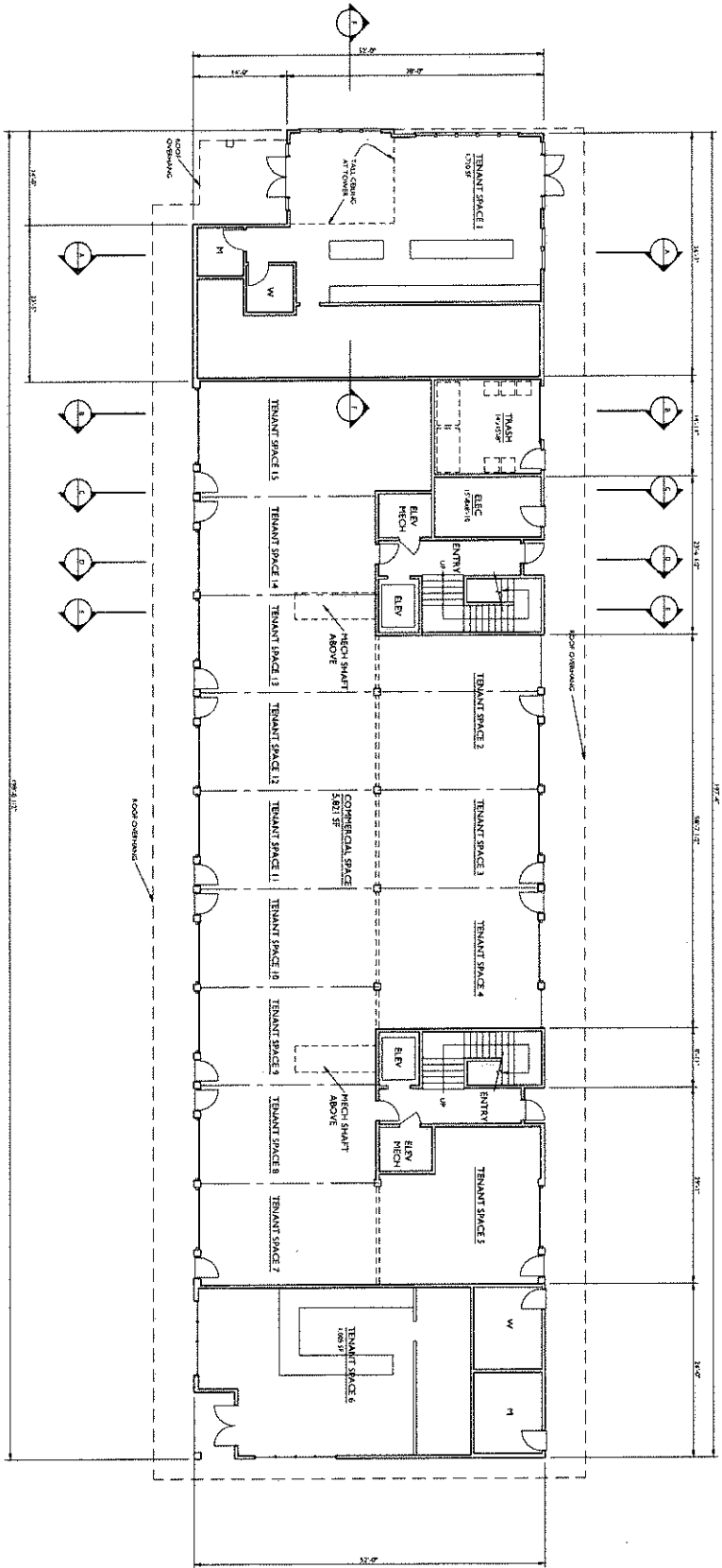
ARCHITECTURAL	A1 COVER SHEET
	A2 SITE PLAN & PROJECT DATA
	A3 FIRST FLOOR PLAN
	A4 SECOND FLOOR PLAN
	A5 THIRD FLOOR PLAN
	A6 EXTERIOR ELEVATIONS
	A7 BUILDING SECTIONS
	A8 BUILDING HEIGHT CONTEXT
	A9 SHADING DIAGRAMS
	A10 SHADING DIAGRAMS
	Civil
	C10 PRELIMINARY GRADING AND UTILITY PLAN
	C11 EXISTING TOPOGRAPHIC SURVEY
	C12 TRIANGULAR SURVEY
	TH1 TRIANGULAR SURVEY
	LANDSCAPE
	L10 CONSTRUCTION PLAN
	L20 PLANTING PLAN
	E1 PHOTOGRAPHICS STUDY

THACHER & THOMPSON ARCHITECTS
2700 CALIFORNIA AVENUE
SAN FRANCISCO, CA 94133
(415) 452-2939
thacher@tandth.com

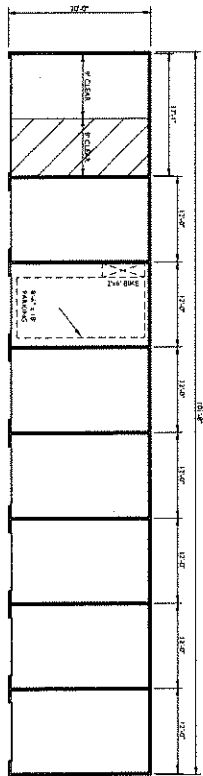
NORTHPOINT INVESTMENTS
3800 PORTOLA DRIVE
& 38TH AVE.

SITE PLAN
PROJECT DATA

DATE: 01/11/2018
PROJECT NO: 18-001
SHEET NO: 1 OF 1



1 FIRST FLOOR PLAN
SCALE 1/8" = 1'-0"



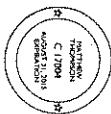
2 GARAGE FLOOR PLAN
SCALE 1/8" = 1'-0"



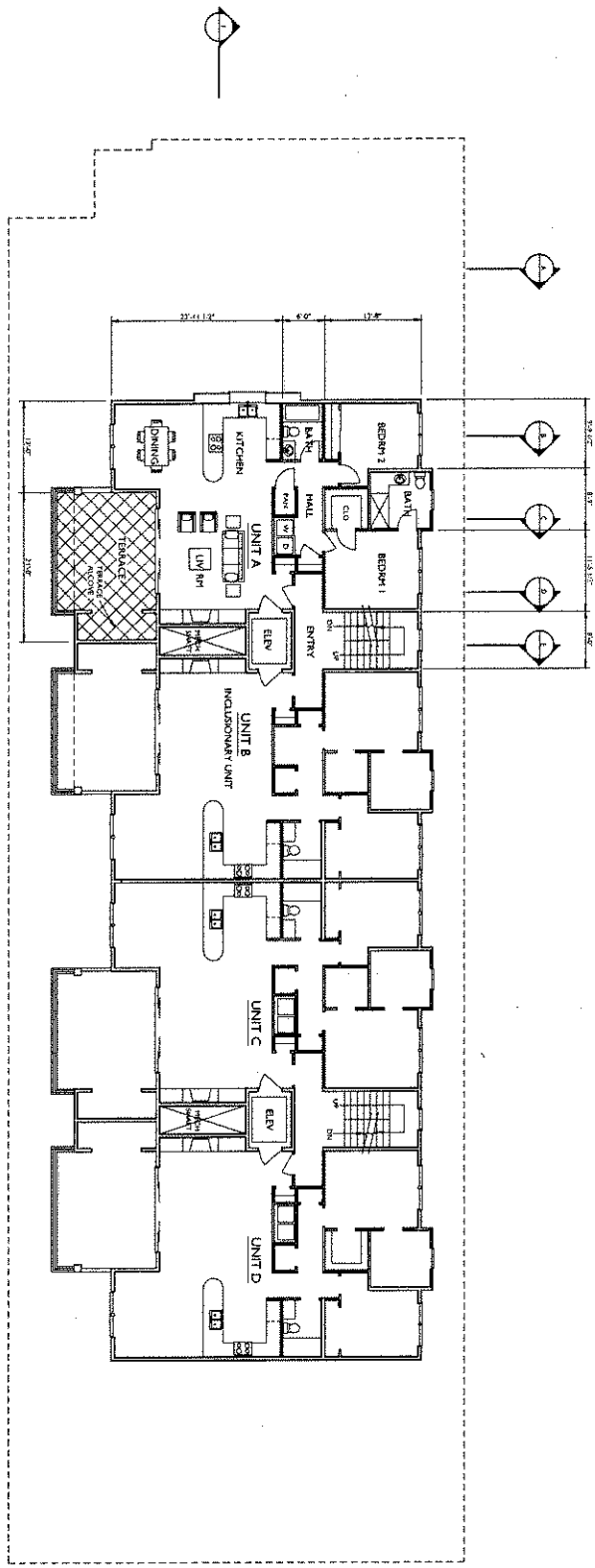
THACHER & THOMPSON ARCHITECTS
1000 W. 10TH ST., SUITE 100
DENVER, CO 80202
TEL: 303.733.1111
WWW.T&TARCHITECTS.COM

NORTHPOINT
ROTTLOFF
& BIRTH AVE.

FIRST FLOOR PLANS



REGISTERED ARCHITECT
MATTIE JOHNSON
NO. 12345
STATE OF COLORADO

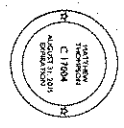


2 2ND FLOOR PLAN



THACHER & THOMPSON ARCHITECTS
 40 GARDEN STREET, SUITE 200
 PORTFOLIO DR
 & 38TH AVE
 NORTHPOINT
 PORTLAND, ME 04106

SECOND FLOOR PLANS



ME LICENSE NO. 12345
 CHRISTOPHER J. THACHER
 ARCHITECT
 1000 STATE STREET
 PORTLAND, ME 04102

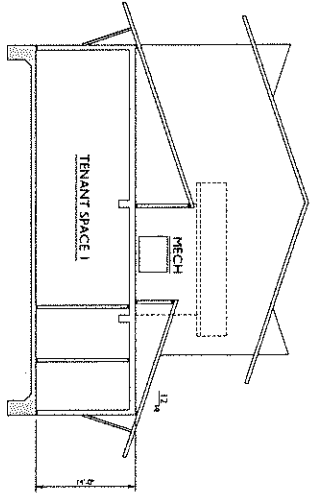
A4



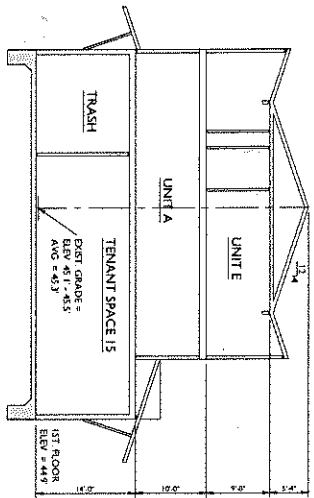
THACHER & THOMPSON ARCHITECTS
 1000 EAST 12TH AVENUE
 SUITE 1000 DENVER, CO 80202
 PHONE: (303) 733-1100
 WWW.TTARCH.COM

NORTHPOINT
 PORTLAND
 8/2011 (REV.)

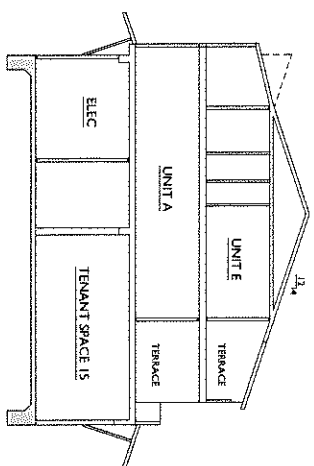
SECTIONS



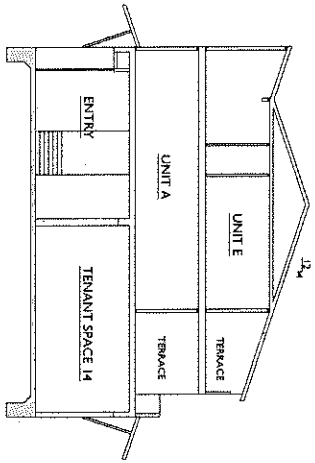
1 SECTION A
 SCALE: 1/8" = 1'-0"



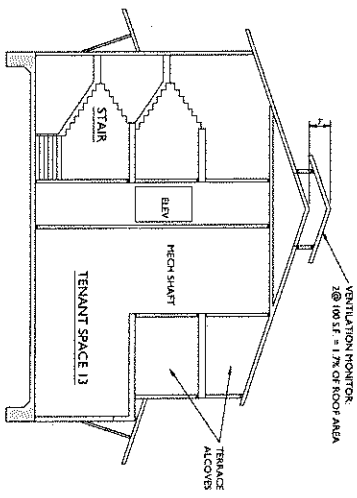
2 SECTION B
 SCALE: 1/8" = 1'-0"



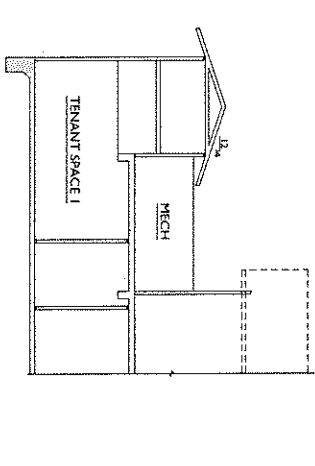
3 SECTION C
 SCALE: 1/8" = 1'-0"



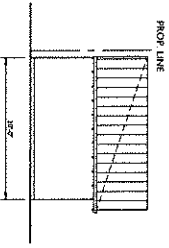
4 SECTION D
 SCALE: 1/8" = 1'-0"



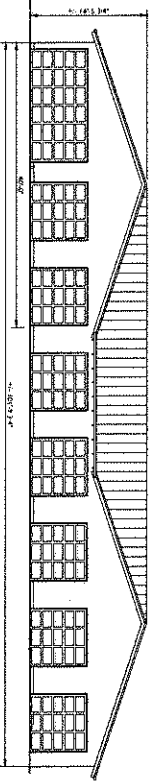
5 SECTION E
 SCALE: 1/8" = 1'-0"



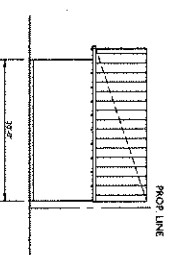
6 SECTION F
 SCALE: 1/8" = 1'-0"



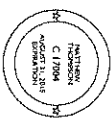
7 NORTH ELEVATION GARAGES
 SCALE: 1/8" = 1'-0"



8 WEST ELEVATION GARAGES
 SCALE: 1/8" = 1'-0"



9 SOUTH ELEVATION GARAGES
 SCALE: 1/8" = 1'-0"



DRAWING DATE: 08/2011
DESIGNED BY: NATHAN THOMPSON
CONSULTANT: NATHAN THOMPSON
CLIENT: PORTLAND
PROJECT NO.: 1238
SCALE: 1/8" = 1'-0"

EXISTING ONE STORY COMMERCIAL BUILDING

EXISTING PARKING LOT

EXISTING MARKET

EXISTING SINGLE FAMILY DWELLINGS

ANNOTATED BUILDING HEIGHTS ARE EXPRESSED AS THE DISTANCE ABOVE SEA LEVEL. THE PROPOSED MIXED USE BUILDING HEIGHT IS 55.12'

EXISTING SINGLE FAMILY DWELLINGS



38TH AVENUE

PORTOLA DRIVE

EXISTING ONE STORY AUTO SERVICE BUILDING

EXISTING COMMERCIAL BUILDING TO BE REMOVED

EXISTING 3 STORY COMMERCIAL BUILDING

EXISTING 3 STORY COMMERCIAL STORAGE BUILDING

EXISTING MOBILE HOME PARK



THACHER & THOMPSON ARCHITECTS
ARCHITECTS
1000 10TH AVENUE
SUITE 1000
PORTLAND, OR 97204
TEL: 503.255.1234
WWW.T&TARCH.COM

NORTHPOINT
PORTOLA DR
& 38TH AVE

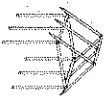
NEIGHBORHOOD CONTEXT

DYNAMIC DATE
JANUARY 9, 2013
SUBMITTED TO SEASIDE CITY PLANNING COMMISSION
PROJECT # 13-0001
NORTHPOINT DR #1



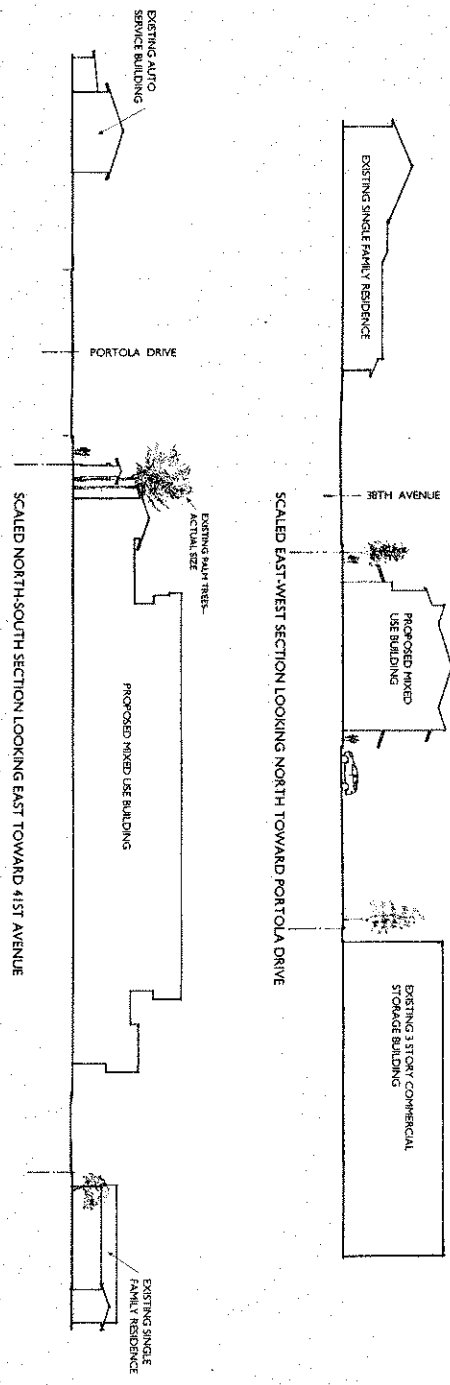
THIS PLAN AND ALL INFORMATION CONTAINED HEREIN ARE THE PROPERTY OF THACHER & THOMPSON ARCHITECTS. NO PART OF THIS PLAN OR INFORMATION SHALL BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF THACHER & THOMPSON ARCHITECTS.

A8

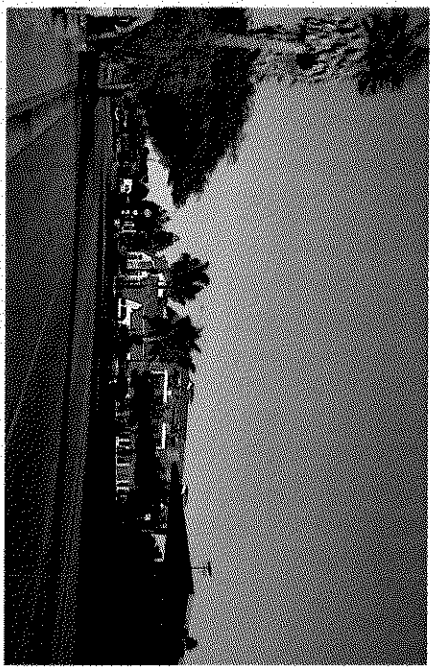


THACHER & THOMPSON ARCHITECTS
 401 OCEAN DRIVE, SUITE 100
 PORTOLA DRIVE & 38TH AVENUE
 SAN CARLOS, CA 94068
 TEL: 650.342.1000
 WWW.THACHERANDTHOMPSON.COM

SCALED EAST-WEST SECTION LOOKING NORTH TOWARD PORTOLA DRIVE



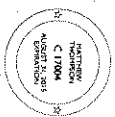
BUILDING HEIGHT CONTEXT



VIEW LOOKING EAST DOWN PORTOLA DRIVE SHOWING THE NEW MIXED USE BUILDING AT THE CORNER



VIEW LOOKING NORTH UP 38TH AVENUE TOWARD PORTOLA DRIVE SHOWING THE NEW MIXED USE BUILDING AT THE CORNER



DATE: JANUARY 7, 2015
PROJECT: 41ST STREET
LOCATION: 41ST STREET & PORTOLA DRIVE
SCALE: 1/8" = 1'-0"



JUNE 20TH 10 AM



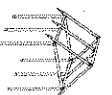
JUNE 20TH 2 PM



DECEMBER 20TH 10 AM



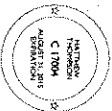
DECEMBER 20TH 2 PM



THACHER & THOMPSON ARCHITECTS
 1000 N. 10TH AVE., SUITE 100
 PORTLAND, OR 97227
 (503) 255-1100
 WWW.THACHERANDTHOMPSON.COM

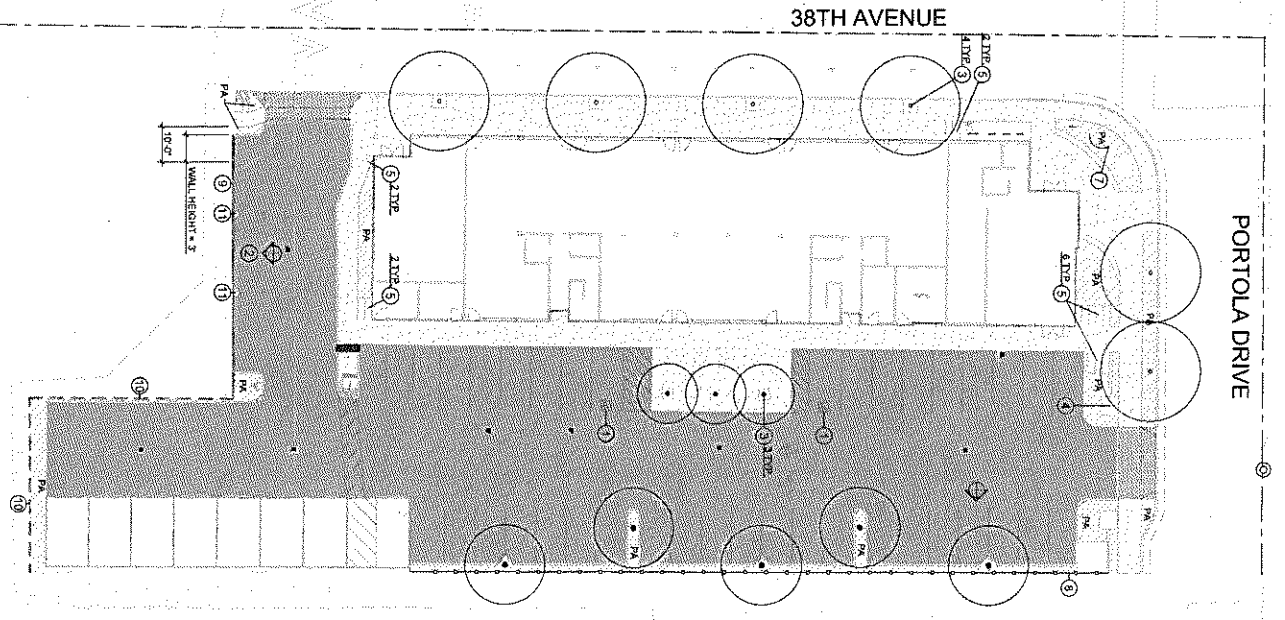
NORTHPOINT
 PORTLAND, OR
 8, 20TH AVE.

SHADING DIAGRAMS



THACHER & THOMPSON ARCHITECTS
 1000 N. 10TH AVE., SUITE 100
 PORTLAND, OR 97227
 (503) 255-1100
 WWW.THACHERANDTHOMPSON.COM

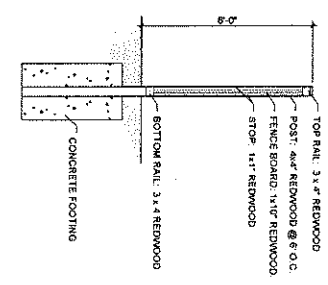
A10



PORTOLA DRIVE

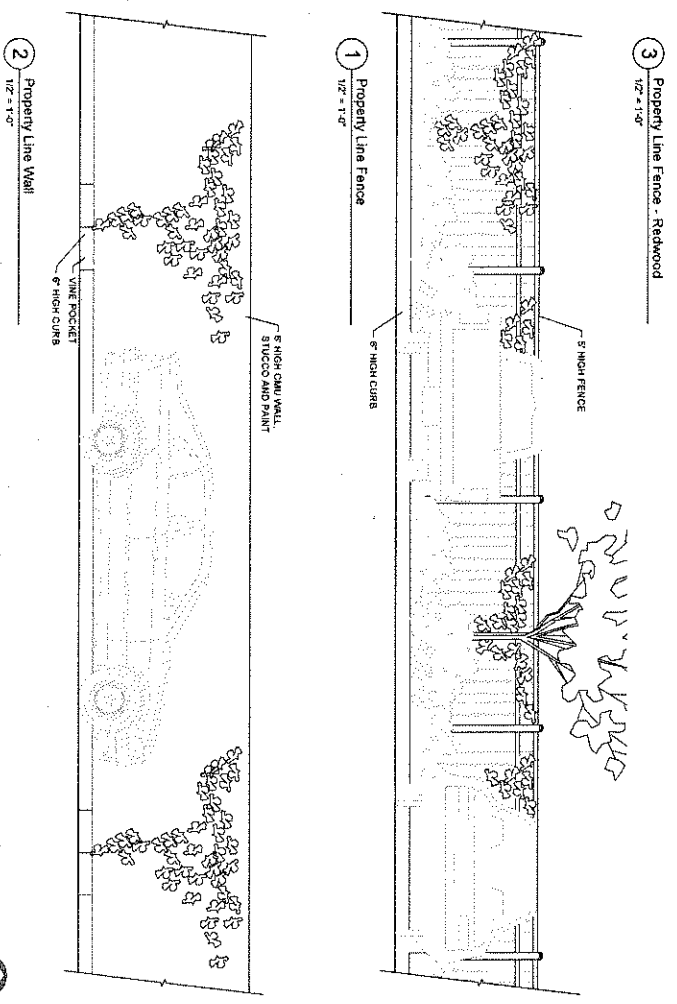
38TH AVENUE

- GENERAL NOTES**
1. Existing outdoor soil zoning per CBC 11B-003 existing surface, adjacent soil to be also retained.
 2. Call items that are in compliance with CBC 11B-005 Curb Ramp, Sloped Landings and Stairs.
 3. Signs, including legends, shall be in compliance with CBC 11B-005 Signs.
 4. Signs, including legends, shall be in compliance with CBC 11B-004 Signage.
 5. Accessible parking stalls shall be in compliance with CBC 11B-002 Parking spaces.
 6. Detectable warning surface shall be in compliance with CBC 11B-005 Detectable Warning and Detectable Directional Pavement.



- LEGEND**
- 1 Pedestrian Concrete Paving
 - 2 Vehicle Concrete Paving
 - 3 AC Paving
 - 4 Parking Area: See Parking Plan

- REFERENCE NOTES**
- 1 Accessible Parking Space
 - 2 Paved Parking
 - 3 Tree Grass, 4' square
 - 4 New Entry Sign
 - 5 Sign Bases
 - 6 Existing Concrete - Preserve and protect.
 - 7 Existing Tree - Preserve and protect.
 - 8 Property Line Fence 5' High. See (21-10)
 - 9 Property Line Wall 8' High. See (21-10)
 - 10 Property Line Fence 6' High. See (21-10)
 - 11 View Pocket



THACHER & THOMPSON ARCHITECTS
 425 HYDE STREET, SUITE 200
 PORTOLA DRIVE & 8TH AVE
 SAN FRANCISCO, CA 94102
 TEL: 415.774.1100
 WWW.THACHERANDTHOMPSON.COM

Construction Plan

L-1.10

DATE: JANUARY 23, 2015
 PROJECT: PORTOLA DRIVE RENOVATION
 PROJECT: 8th AVENUE NORTHPOINT 2014
 DRAWN BY: [Name]

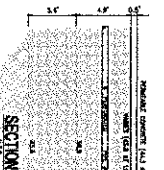
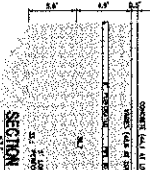
PORTOLA DRIVE

38TH AVENUE

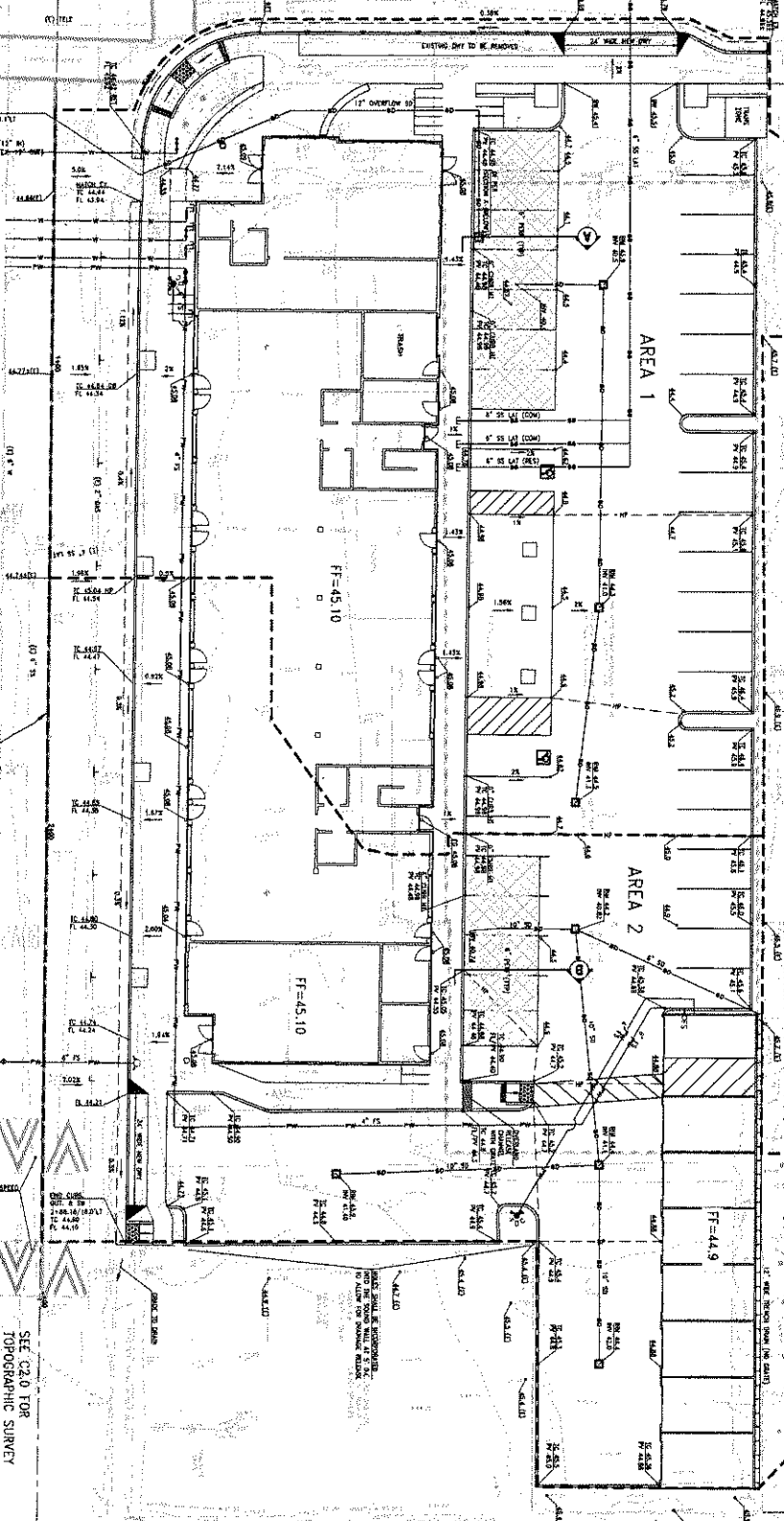
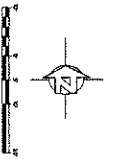
DRAINAGE BOUNDARY

SEE C10 FOR
TOPOGRAPHIC SURVEY
DOWN 38TH AVENUE

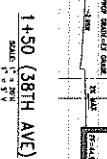
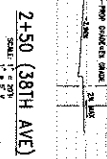
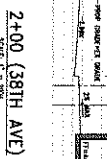
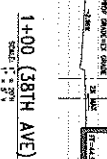
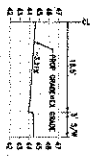
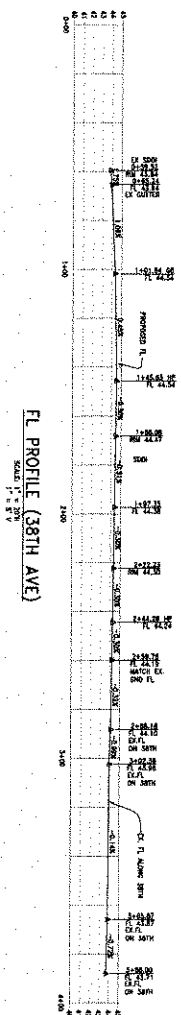
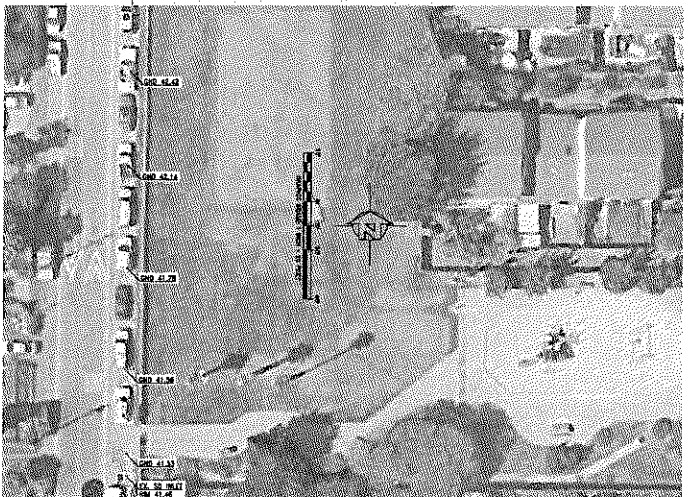
1. ALL DIMENSIONS, UNLESS OTHERWISE SPECIFIED, ARE IN FEET AND INCHES. DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE SPECIFIED.
2. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE SPECIFIED.
3. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE SPECIFIED.
4. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE SPECIFIED.
5. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE SPECIFIED.



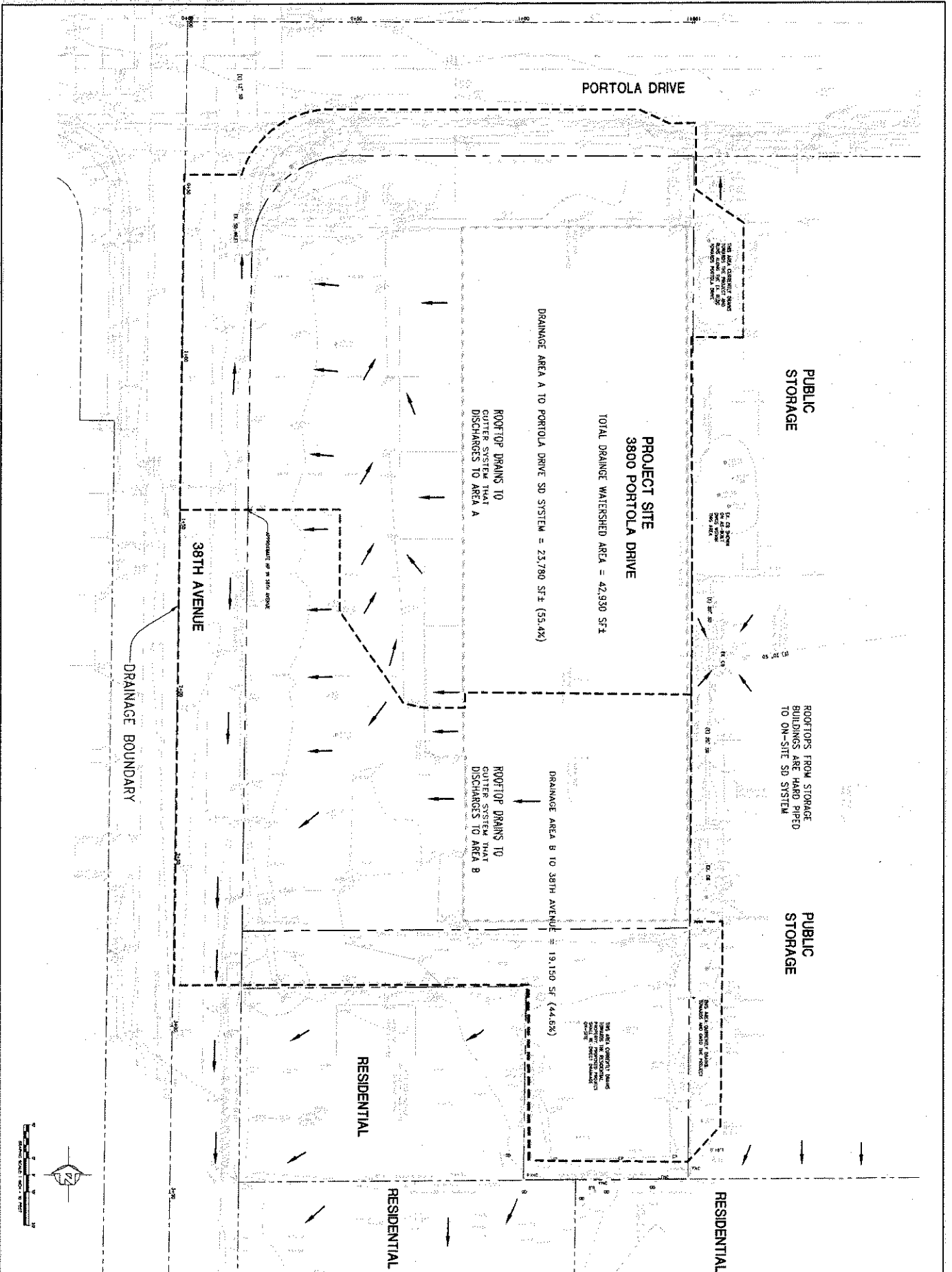
NOTES:
1. ALL DIMENSIONS OF THE CURB AND CHANNEL SHALL BE TO FACE UNLESS OTHERWISE SPECIFIED.
2. THE CHANNEL SHALL BE CONCRETE AND SHALL BE 12 INCHES WIDE AND 12 INCHES HIGH.
3. THE CHANNEL SHALL BE 12 INCHES WIDE AND 12 INCHES HIGH.
4. THE CHANNEL SHALL BE 12 INCHES WIDE AND 12 INCHES HIGH.
5. THE CHANNEL SHALL BE 12 INCHES WIDE AND 12 INCHES HIGH.



<p>C10</p> <p>DATE: 06/25/15</p> <p>BY: RICH TSO</p> <p>CHECKED: RICH TSO</p>	<p>3800 PORTOLA PLANNING SET</p>	<p>PRELIMINARY GRADING AND UTILITY PLAN</p> <p>NORTH POINT INVESTMENTS</p> <p>3800 PORTOLA DRIVE, SANTA CRUZ, CALIFORNIA</p>	<p>IRLAND ENGINEERS</p> <p>3800 ROYAL OAK BLVD STE 101 SANTA CRUZ, CA 95062 TEL: 831-450-8900 FAX: 831-450-8901 WWW.IRLANDENGINEERS.COM</p>	<p>DATE: _____</p> <p>BY: _____</p> <p>CHECKED: _____</p> <p>FOR PLAN CHECK ONLY</p>
	<p>SCALE: 1/8" = 1'-0"</p>	<p>DATE: _____</p> <p>BY: _____</p> <p>CHECKED: _____</p>	<p>DATE: _____</p> <p>BY: _____</p> <p>CHECKED: _____</p>	<p>DATE: _____</p> <p>BY: _____</p> <p>CHECKED: _____</p>



C20	3800 PORTOLA PLANNING SET	EXISTING TOPOGRAPHIC SURVEY ALONG 38TH AVENUE	NORTH POINT INVESTMENTS	IFLAND ENGINEERS <small>CIVIL ENGINEERING • LAND PLANNING • STRUCTURAL DESIGN</small>	6500 BOGERT AVE. SUITE 201 SANTA CRUZ, CA 95062 (857) 436-6284 FAX (857) 436-7200 www.iflandeng.com
	DATE: 06/25/15 DESIGN: RICH TSO DRAWN: RICH TSO	PROJECT: 3800 PORTOLA DRIVE, SANTA CRUZ, CALIFORNIA			FOR PLAN CHECK ONLY



C3.0 SHEET NO. 3 DATE: 06/23/15 DRAWN: RICH TSO CHECKED: RICH TSO	3800 PORTOLA PLANNING SET
	3800 PORTOLA DRIVE, SANTA CRUZ, CALIFORNIA

EXISTING DRAINAGE MAP AREA
NORTH POINT INVESTMENTS
 3800 PORTOLA DRIVE, SANTA CRUZ, CALIFORNIA

ISLAND ENGINEERS
 CIVIL ENGINEERING • LAND PLANNING • STRUCTURAL DESIGN

1000 RIVER AVE. SUITE 201
 SANTA CRUZ, CA 95062
 TEL: 408-254-5544 FAX: 408-254-5545
 WWW.ISLANDENGINEERS.COM

NO.	REVISION	DATE

DATE: 06/23/15
 PROJECT: 3800 PORTOLA DRIVE
 SHEET: C3.0 OF 3
 FOR PLAN CHECK ONLY

Symbol	Description	Quantity	Notes
A	15' TALL POLE MOUNTED LUMINAIRE	1	SEE PLAN FOR LOCATION
B	15' TALL POLE MOUNTED LUMINAIRE	1	SEE PLAN FOR LOCATION
C	15' TALL POLE MOUNTED LUMINAIRE	1	SEE PLAN FOR LOCATION
D	15' TALL POLE MOUNTED LUMINAIRE	1	SEE PLAN FOR LOCATION
E	15' TALL POLE MOUNTED LUMINAIRE	1	SEE PLAN FOR LOCATION
F	15' TALL POLE MOUNTED LUMINAIRE	1	SEE PLAN FOR LOCATION
G	15' TALL POLE MOUNTED LUMINAIRE	1	SEE PLAN FOR LOCATION
H	15' TALL POLE MOUNTED LUMINAIRE	1	SEE PLAN FOR LOCATION
I	15' TALL POLE MOUNTED LUMINAIRE	1	SEE PLAN FOR LOCATION
J	15' TALL POLE MOUNTED LUMINAIRE	1	SEE PLAN FOR LOCATION

Plan View
Scale: 1" = 10'

ALL POLE MOUNTED LUMINAIRES SHALL BE ON
POLE OF 15' HEIGHT MAXIMUM.

(C) PUBLIC
STORAGE
BUILDING

PROPOSED
BUILDING

PRIVATE
RESIDENCE

38TH AVENUE

**38th and Portola Development
Photometrics Study**

**PRIME
DESIGN
GROUP**
ELECTRICAL CONSULTING ENGINEERS

1800 GREEN HILLS RD. STE 100
800713 WILKEY CA 95060
PHONE: (925) 426-8000
FAX: (925) 426-8000
PDD PROJECT NO. 080177-00

Drawn by: [Name]
Checked by: [Name]
Date: [Date]
Project No.: 2015
As Noted
Drawing No.: [Number]
Revision: [Number]

Attachment 4



This page intentionally left blank.

PAUL A. HEADY III
Central Coast Bat Research Group
P.O. Box 1352 Aptos, CA 95001
(831) 359-8318
pheady3@earthlink.net

To: John Swift
Hamilton Swift and Associates Inc.
500 Chestnut St. Suite 100
Santa Cruz, CA 95060
831-459-9992
john@hamiltoswift.com

Report of Bat Survey Results for 3800 Portola Drive, Santa Cruz, CA

Introduction

The planned demolition of the large barn structure at 3800 Portola Drive necessitated a survey of the structure by a qualified bat biologist. On February 27, 2015 Paul Heady of Central Coast Bat Research Group conducted a visual survey of the building to determine if bat species are using any portion of the structure as a roost. An acoustic recording device was deployed in the building over the night of the 27th of February 2015 to determine if any bats were echolocating in the vicinity of the building.

Special-status bat species

There are fifteen bat species known to occur in the Santa Cruz County area. Seven of these species have some level of special-status (see Table 1). The focus of bat surveys was the Barn structure and out buildings at 3800 Portola Drive, Santa Cruz CA.

Roosts

Bats use structures, such as bridges and buildings, for roosting habitats, including day roosts, night roosts, and maternity roosts. Day roosts are areas where bats are able to spend the non-active period of the day resting or in torpor, depending on the weather conditions. Day roosts provide shelter from the elements and safety from predators. Night roosts are used by bats to rest between foraging bouts, to allow for digestion of prey, to escape from predators, as shelter from weather, and possibly for social purposes. Night roosts are typically sites that retain heat from the day to aid the bats in maintaining the higher metabolism necessary for digestion. Maternity roosts are sites that provide protection from the elements and predators and provide the correct thermal environment for reproduction. Maternity roost sites tend to be warmer in temperature because breeding females need to maintain a high metabolism to aid in lactation and juvenile bats need to keep warm to maintain a metabolic rate that allows for rapid growth. Winter roosts are usually areas that have a stable low temperature suitable for hibernating or prolonged periods of torpor.

METHODS

Building surveys

All of the buildings in the project were visually investigated to determine if bats are using the structure for day roosting, night roosting, or maternity roosts. The both the interior and exterior of the structure were surveyed during the day with bright lights and mirrors to for a day and maternity roost assessment. No bats or sign of bat use were observed. The building was acoustically monitored from sunset to sunrise and no echolocation calls of bats were recorded during the 12 hour period

Acoustic surveys for habitat assessment

Acoustic monitoring was done with Wildlife Acoustics SM2 bat detector and storage device to collect acoustic files of the echolocation calls of the bats. The Wildlife Acoustics SM2 system detects and records bat ultrasonic echolocation calls in the field and converts the detected signals into frequency/time graphs to be viewed on a laptop computer. The graphs are used to identify bat species. Species are identified by their vocal signature graphs by comparing calls recorded during previous mist-netting activities, calls recorded from bats that are visually identified at the time of recording, and by comparing calls with existing bat vocal signature library databases

Table 1. Bat Species Expected to Occur In the Santa Cruz County Region

Family VESPERTILIONIDAE (Plain-nosed or mouse-eared bats)	
<i>Myotis lucifugus</i>	Little brown myotis
<i>Myotis yumanensis</i>	Yuma myotis
<i>Myotis evotis</i>	Long-eared myotis
<i>Myotis thysanodes</i>	Fringed myotis
<i>Myotis volans</i>	Long-legged myotis
<i>Myotis californicus</i>	California myotis
<i>Myotis ciliolabrum</i>	W. small-footed myotis
<i>Lasiorycteris noctivagans</i>	Silver-haired bat
<i>Parastrellus hesperus</i>	Canyon bat
<i>Eptesicus fuscus</i>	Big brown bat
<i>Lasiurus blossevillii</i>	Western red bat
<i>Lasiurus cinereus</i>	Hoary bat
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat
<i>Antrozous pallidus</i>	Pallid bat
Family MOLOSSIDAE (Free-tailed bats)	
<i>Tadarida brasiliensis</i>	Mexican free-tailed bat

Table 2. Species known to use structure roosts

Species	Structure Roost Type
<i>M. yumanensis</i>	DR, NR
<i>M. evotis</i>	DR, NR
<i>M. thysanodes</i>	DR, NR
<i>M. volans</i>	DR, NR
<i>M. californicus</i>	DR, NR
<i>E. fuscus</i>	DR, NR
<i>C. townsendii</i>	DR, NR
<i>A. pallidus</i>	DR, NR
<i>L. noctivagans</i>	NR
<i>T. brasiliensis</i>	DR, NR
Species not associated with structures	
<i>L. cinereus</i>	Trees
<i>L. blossevilli</i>	Trees

NR = night roost; DR = day roost; WR = winter roost

Necessary Protective Measures

Because no sign of bat use was observed and no echolocation calls were recorded at the building no protective measures for bats are necessary during the demolition of the structure.

Paul Heady



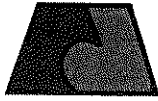
02/28/15

Attachment 5

GEOTECHNICAL INVESTIGATION
For
PROPOSED MIXED-USE RETAIL AND CONDOMINIUM PROJECT
3800 Portola Drive, Santa Cruz
APN 032-092-01, 05
Santa Cruz County, California

Prepared
For
NPI FUND II, LLC
% Hamilton Swift and Associates
Santa Cruz, California

Prepared By
DEES & ASSOCIATES, INC.
Geotechnical Engineers
Project No. SCR-0818
JULY 2014



Dees & Associates, Inc.
Geotechnical Engineers

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

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

July 31, 2014

Project No. SCR-0818

NPI FUND II, LLC
% Hamilton Swift and Associates
500 Chestnut Street, Suite 100
Santa Cruz, California 95060

Attention: John Swift

Subject: Geotechnical Investigation

Reference: Proposed Mixed-Use Retail and Condominium Project
3800 Portola Drive, Santa Cruz
APN 032-092-01, 05
Santa Cruz County, California

Dear Mr. Swift:

As requested, we have completed a Geotechnical Investigation for the new mixed retail and condominium project proposed at the referenced site. The purpose of our investigation was to evaluate the soil conditions at the site and provide geotechnical recommendations for design and construction of the proposed improvements.

This report presents the results, conclusions and recommendations of our investigation. If you have any questions regarding this report, please call our office.

Very truly yours,

DEES & ASSOCIATES, INC.

Rebecca L. Dees
Geotechnical Engineer
G.E. 2623



Copies: 4 to Addressee

TABLE OF CONTENTS

	<u>Page No.</u>
LETTER OF TRANSMITTAL	
GEOTECHNICAL INVESTIGATION	4
Introduction	4
Purpose and Scope	4
Project Location and Description	4
Field Investigation	5
Laboratory Testing	5
Subsurface Soil Conditions	5
Groundwater	6
Seismicity	6
Liquefaction	7
Landsliding	7
DISCUSSIONS AND CONCLUSIONS	8
RECOMMENDATIONS	9
General Site Grading	9
Foundations	10
Conventional Spread Footings	10
Stiffened Mat and Post Tensioned Slab-on-Grade Foundations	11
Interior Concrete Slabs-on-Grade	11
Exterior Concrete Slabs-on-Grade	12
Site Drainage	12
Plan Review, Construction Observation, and Testing	13
LIMITATIONS AND UNIFORMITY OF CONDITIONS	14
APPENDIX A	15
Site Vicinity Map	16
Boring Site Plan	17
Unified Soil Classification System	18
Logs of Test Borings	19
Laboratory Test Results	22

GEOTECHNICAL INVESTIGATION

Introduction

This report presents the results of our Geotechnical Investigation for the new mixed retail and condominium project proposed at the referenced site.

Purpose and Scope

The purpose of our investigation was to explore and evaluate surface and near surface soil conditions at the site and provide geotechnical recommendations for design and construction of the proposed improvements.

The specific scope of our services was as follows:

1. Site reconnaissance and review of available data in our files pertinent to the site and vicinity.
2. Exploration of subsurface conditions consisting of logging and sampling of three (3) exploratory borings drilled to 16.5 feet.
3. Laboratory testing to evaluate the engineering properties of the subsoils.
4. Engineering analysis and evaluation of the resulting field and laboratory test data. Based on our findings, we have developed geotechnical design criteria for general site grading, foundations, concrete slabs-on-grade, pavements and general site drainage.
5. Preparation of this report presenting the results of our investigation.

Project Location and Description

The nearly level site is located at 3800 Portola Drive in Santa Cruz County, California, Figure 1. The 0.81 acre combined parcel is bordered by Portola Drive to the north, 38th Avenue to the west, a single family residence to the south and commercial development to the east. The property is developed with an existing warehouse building and a combination of asphalt, oil and screen and gravel covering the remaining areas of the site.

The project consists of removing the existing improvements and constructing a new three story combined retail and condominium building and a detached garage. The building will have retail space on the ground floor and eight condominiums on the second and third floors. The three story building will be located on the western side of the parcel adjacent to 38th Avenue and the garages will be located in the southeast corner of the site. Paved parking and a driveway will be provided on the eastern side of the parcel. See Figure 2.

Field Investigation

Subsurface conditions at the site were explored on July 3, 2014 with three (3) exploratory borings drilled with 6-inch diameter continuous flight augers advanced with truck mounted drilling equipment. Our borings were drilled to 16.5 feet. The approximate locations of the exploratory borings are indicated on Figure 2.

The soils observed in the test borings were logged in the field and described in accordance with the Unified Soil Classification System (D2487 and D2488), Figures 3. The Test Boring Log denotes subsurface conditions at the locations and times observed, and it is not warranted it is representative of subsurface conditions at other locations or times.

Representative soil samples were obtained from the exploratory borings at selected depths, or at major strata changes. These samples were recovered using the 3.0-inch O.D. Modified California Sampler (L), 2.5-inch O.D. California Sampler (M), or the Standard Terzaghi Sampler (T). The penetration resistance blow counts for the (L), (M), and (T) noted on the boring logs were obtained as the sampler was dynamically driven into the in situ soil. The process was performed by dropping a 140-pound hammer a 30-inch free fall distance and driving the sampler 6 to 18 inches and recording the number of blows for each 6-inch penetration interval. The blows recorded on the boring logs present the accumulated number of blows that were required to drive the last 12 inches.

Laboratory Testing

The laboratory testing program was directed toward a determination of the physical and engineering properties of the soils underlying the site. Moisture content and dry densities were performed on representative soil samples to determine the consistency of the soil and the moisture variation throughout the explored soil profile. Atterberg Limit tests were performed to evaluate the relative shrink/swell potential of the foundation zone soils. The results of our field and laboratory testing appear on the "Logs of Test Borings", opposite the sample tested.

Subsurface Soil Conditions

The Santa Cruz County Geologic Map indicates the site is underlain by Terrace deposits, undifferentiated (Pleistocene), which is described as, "Weakly consolidated to semiconsolidated heterogeneous deposits of moderately to poorly sorted silt, silty clay, sand, and gravel. Mostly deposited in a fluvial environment. Thickness highly variable; locally as much as 60 ft thick. Some of the deposits are relatively well indurated in upper 10 ft of weathered zone".

The soils encountered in our borings were consistent with Terrace Deposits and consisted of thinly bedded silty sand, clayey sand, clay and silt over sand with varying amounts of gravel to the depths explored. The top 2 feet of soil consisted of loose to medium dense silty sand over a 1.5 to 2 foot thick layer of highly expansive stiff clay. The soils from 3.5 to 10 feet generally consisted of thin discontinuous layers of medium

dense to dense silty sand, clayey, sand, silt, clay and gravel. The soils below 10 feet generally consisted of well graded sand with varying amounts of gravel. Visual examination of the soils indicates the samples collected from 10 to 15 feet varied from about 25 to 60 percent gravel. The soils below the site are classified as a Site Class "D" for analysis using the 2013 California Building Code.

Groundwater

Groundwater was not encountered in our borings. The Test Boring Log denotes groundwater conditions at the location and time observed, and it is not warranted it is representative of groundwater conditions at other locations or times. Groundwater levels can vary due to seasonal variations and other factors not evident during our investigation.

Seismicity

The project site is located in a seismically active region and several active and potentially active faults are located in the vicinity of the site. The following is a general discussion of seismicity in the project area. A more detailed discussion of faulting and seismicity is beyond the scope of our services.

The closest faults to the site are the Zayante Fault, the offshore Monterey-Tularcitos Fault, the San Andreas Fault and the offshore San Gregorio Fault. The San Andreas Fault is the largest and most active of the faults in the site vicinity. However, each fault is considered capable of generating moderate to severe ground shaking. It is reasonable to assume that the proposed development will be subject to at least one moderate to severe earthquake from one of the faults during the next fifty years.

Structures designed according to the 2013 California Building Code may use the following parameters in their analysis. The following ground motion parameters may be used in seismic design and were determined using the USGS Ground Motion Parameter Calculator.

Ss	S1	SMs	SM1	SDs	SD1
1.500 g	0.600 g	1.500 g	0.900 g	1.000 g	0.600 g

PGAm	0.5 g
Seismic Design Category (SDC) Occupancy Categories I and II	D

	Zayante Fault	Monterey Bay-Tularcitos Fault	San Andreas Fault	San Gregorio Fault
Distance Miles	6.4	8.4	9.6	11.5
Distance Kilometers	10.5	13.7	15.6	18.8

Liquefaction

Liquefaction occurs when saturated fine grained sands, silts and sensitive clays are subject to shaking during an earthquake and the water pressure within the pores builds up leading to loss of strength. There is a low potential for liquefaction to affect the proposed development due to the density of the subsoils and lack of a groundwater table.

Landsliding

The site is nearly level and there are no slopes in the project vicinity. There is no potential for landslides to affect the proposed development.

DISCUSSIONS AND CONCLUSIONS

Based on the results of our investigation, the proposed development at the site is feasible provided the recommendations presented in this report are incorporated into the design and construction of the project.

Primary geotechnical concerns for the project include mitigating shrink/swell of the expansive clays, controlling site drainage and designing structures to resist strong seismic shaking.

There is an 18 to 24 inch thick highly expansive clay layer located 2 feet below the ground surface. The clay should be removed from below foundations and concrete slab-on-grade floors. As an alternative, a mat foundation designed to resist shrink/swell of the foundation soils may be used.

If the expansive clays are removed, the top 3 feet of soil should be removed and replaced with non-expansive fill. The fill should consist of non-expansive, well graded soil with low permeability. A conventional foundation system embedded into the engineered fill may be used to support the building.

A mat slab foundation may also be used to support buildings. The top 12 inches of subgrade below the foundation should be compacted to provide a firm base for slab support and the mat slab should be designed to resist movement associated with shrinking and swelling of the subsoils.

Surface runoff should be controlled and not allowed to pond or flow adjacent to foundations. We understand runoff from improvements will be collected and retained on-site.

Structures should be designed to resist strong seismic shaking. Structures designed in accordance with current seismic design requirements should react well to seismic shaking.

RECOMMENDATIONS

The following recommendations should be used as guidelines for preparing project plans and specifications:

General Site Grading

1. The soil engineer should be notified **at least four (4) working days** prior to any site clearing or grading so that the work in the field can be coordinated with the grading contractor and arrangements for testing and observation can be made. The recommendations of this report are based on the assumption that the soil engineer will perform the required testing and observation during grading and construction. It is the owner's responsibility to make the necessary arrangements for these required services.
2. Grading is expected to consist of foundation excavations, subgrade preparation below concrete slabs and pavements, and minor grading to obtain positive drainage. No other earthwork should be performed without further geotechnical review.
3. Engineered fill should be moisture conditioned, placed in thin lifts less than 8-inches in loose thickness and compacted. Where referenced in this report, Percent Relative Compaction and Optimum Moisture Content shall be based on ASTM Test Designation D1557.
4. Soils used for engineered fill should be granular, have a Plasticity Index less than 15, be free of organic material, and contain no rocks or clods greater than 6 inches in diameter, with no more than 15 percent larger than 4 inches. The coarse sands located in the top 2 feet of the site are suitable for use as engineered fill. The clay 2 feet below the ground surface is not suitable for use as engineered fill.
5. Engineered fill should be moisture conditioned to about 1 to 2 percent over optimum moisture content and compacted to at least 90 percent relative compaction.
6. At a minimum, the upper 12 inches of subgrade below concrete slabs-on-grade floors, walkways and patios should be moisture conditioned to about 1 to 2 percent over optimum moisture content and compacted to at least 90 percent relative compaction to provide a firm uniform base for slab support. Refer to the *Exterior Concrete Slabs-On-Grade* section for more information regarding subgrade preparation below exterior concrete slabs-on-grade.
7. The upper 12 inches of subgrade below driveway pavement or slabs should be moisture conditioned to about 1 to 2 percent over optimum moisture content and compacted to at least 95 percent relative compaction.
8. Engineered fill should be observed and tested by our firm. In-place density tests should be performed as follows: one test for every 12 vertical inches of material for backfill in trenches or around structures, one test for every 2,000 square feet of area

and one test whenever there is a definite suspicion of a change in the quality of moisture control or effectiveness in compaction.

9. After the earthwork operations have been completed and the soil engineer has finished their observation of the work, no further earthwork operations shall be performed except with the approval of and under the observation of the soil engineer.

Foundations

10. To mitigate damage to foundations and concrete slab-on-grade floors from expansion of the clayey soils we recommend removing the highly expansive clays or designing the structure to resist soil expansion.

11. If the expansive clays are removed, the top 3 feet of soil should be removed and replaced with engineered fill. The fill should extend at least 5 feet beyond the perimeter of the foundation. Conventional spread footings may then be used to support the structure.

12. As an alternative a mat slab foundation may be used to resist swelling and prevent structural damage to the structure. Deflections and racking of the structure should be controlled to maintained usability and serviceability of the structure.

Conventional Spread Footings

13. Conventional spread footings may be used as long as the footings are embedded into engineered fill as recommended above.

14. One-story footings should be at least 12 inches deep and 12 inches wide, two-story footings should be at least 18 inches deep and 15 inches wide and three-story footings should be at least 18 inches deep and 18 inches wide. Footing depths shall be measured from the lowest adjacent grade.

15. Foundations designed in accordance with the above may be designed for an allowable soil bearing pressure of 2,000 psf for foundations embedded into engineered fill. The allowable bearing capacity may be increased by 1/3 for short term seismic and wind loads.

16. Total and differential settlements are anticipated to be less than 1 inch and 1/2 inch respectively for footings designed and constructed in accordance with the above.

17. Lateral sliding resistance for structures supported on footings may be developed between the foundation bottom and the supporting subgrade. Where foundations are poured neat against the adjacent subgrade surface, an allowable lateral bearing pressure of 275 pcf, equivalent fluid weight may be used.

18. Utility trenches and footings should not extend within an imaginary 1.5:1 plane projected downward from the bottom edge of adjacent footings. Utility trenches that

pass below the foundation should be backfilled with lean concrete slurry to prevent infiltration of water below the structure.

19. The foundation excavations should be kept moist from the time of excavation and thoroughly wetted prior to placing concrete.

20. Prior to placing concrete, foundation excavations should be observed by the soils engineer.

Stiffened Mat and Post-Tensioned Slab-on-Grade Foundations

21. Slab-on-grade should be expected to have up to 1.5 inches of total movement and 0.75 inches of differential movement from shrink/swell of the clayey soils. Slab-on-grade foundations should be designed to reduce deformation to within allowable levels. Allowable deflections should be determined by your designer.

22. The soil parameters provided below may be used in slab design.

Edge Lift (e_m) = 7.7 ft	Maximum Differential Heave (y_m) = 1.5 in	Subgrade Modulus (k_s) = 100 lbs/in ³
Center Lift (e_m) = 3.8 ft	Coefficient of Friction (f_s) = 0.30	Poisson's Ratio (μ) = 0.2

23. The top 12 inches of subgrade soil below mat slabs should be moisture conditioned to 1 to 2 percent over optimum moisture content and compacted to 90 percent relative compaction to provide a firm, uniform base for slab support.

24. Dees & Associates are not experts in the field of moisture proofing and vapor barriers. Therefore, in areas where floor wetness would be undesirable, an expert, experienced with moisture transmission and vapor barriers should be consulted. At a minimum, a blanket of four (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 equivalent to Stego® (10 mil or thicker) should be placed over the gravel.

Interior Concrete Slabs-on-Grade

25. The top 3 feet of soil below the base of interior floor slabs should be removed and replaced with non-expansive engineered fill as recommended above or the floor slab should be part of a mat slab foundation design to resist differential movement from shrink/swell of the clayey soils.

26. All slabs-on-grade can be expected to suffer some cracking and movement. However, thickened exterior edges, a well prepared subgrade including pre-moistening prior to pouring concrete, adequately spaced expansion joints and good workmanship should reduce cracking and movement.

27. Dees & Associates, Inc. are not experts in the field of moisture proofing and vapor barriers. In areas where floor wetness would be undesirable, an expert, experienced with moisture transmission and vapor barriers should be consulted. 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 equivalent to Stego® (minimum 10 mil) should be placed over the gravel. The membrane should be properly sealed along the edges and at all perforations.

Exterior Concrete Slabs-on-Grade

26. The top 3 feet of soil below the base of exterior concrete slabs should be removed and replaced with non-expansive engineered fill as recommended above or the exterior slabs may move with shrink/swell of the underlying clayey soils. If the top 3 feet of soil is not replaced and slabs are allowed to move, the slabs should be adequately sloped to take into account the potential movement to prevent runoff from being directed towards foundations in the future.

27. At a minimum, the upper 12 inches of subgrade below exterior non-load bearing concrete slabs-on-grade should be moisture conditioned to about 1 to 2 percent over optimum moisture content and compacted to at least 90 percent relative compaction to provide a firm, uniform base for support.

28. The upper 12 inches of subgrade below concrete slabs used for driveways or parking should be moisture conditioned to about 1 to 2 percent over optimum moisture content and compacted to at least 95 percent relative compaction.

29. All slabs-on-grade can be expected to suffer some cracking and movement. However, thickened exterior edges, a well prepared subgrade including pre-moistening prior to pouring concrete, adequately spaced expansion joints and good workmanship should reduce cracking and movement.

Site Drainage

30. Controlling surface and subsurface runoff is important to the performance of the project.

31. Surface drainage should include provisions for positive gradients so that surface runoff is not permitted to pond adjacent to foundations or other improvements. Where bare soil or pervious surfaces are located next to the foundation, the ground surface within 10 feet of the structure should be sloped at least 5 percent away from the foundation. Where impervious surfaces are used within 10 feet of the foundation, the impervious surface within 10 feet of the structure should be sloped at least 2 percent away from the foundation. Swales should be used to collect and remove surface runoff where the ground cannot be sloped the full 10 foot width away from the structure. Swales should be sloped at least 2 percent towards the discharge point.

32. Full roof gutters should be placed around the eaves of structures. Discharge from the roof gutters should be conveyed away from the downspouts and discharged in a controlled manner.

33. Concentrated runoff may be directed to storm drain facilities or retained on site. If water is retained on site discharge locations should be located at least 10 feet from foundations and at least 5 feet from utility trenches.

Plan Review, Construction Observation, and Testing

34. Dees & Associates, Inc. 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 & Associates, Inc. also requests 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.

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 they are 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 soil engineer.

APPENDIX A

Site Vicinity Map

Boring Site Plan

Unified Soil Classification System

Logs of Test Borings

Laboratory Test Results

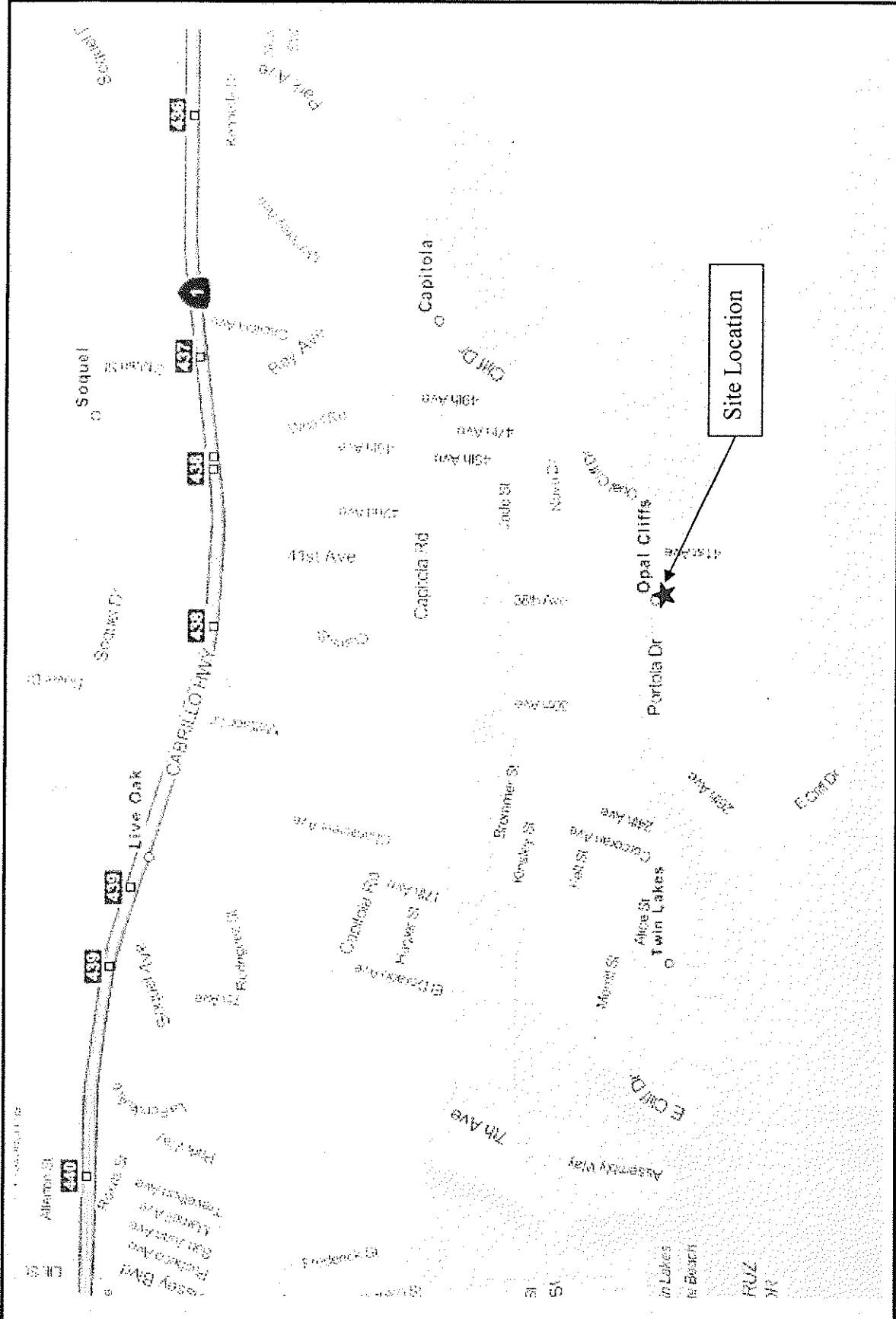


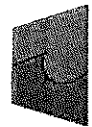
Figure: 1

Project Number: SCR-0818

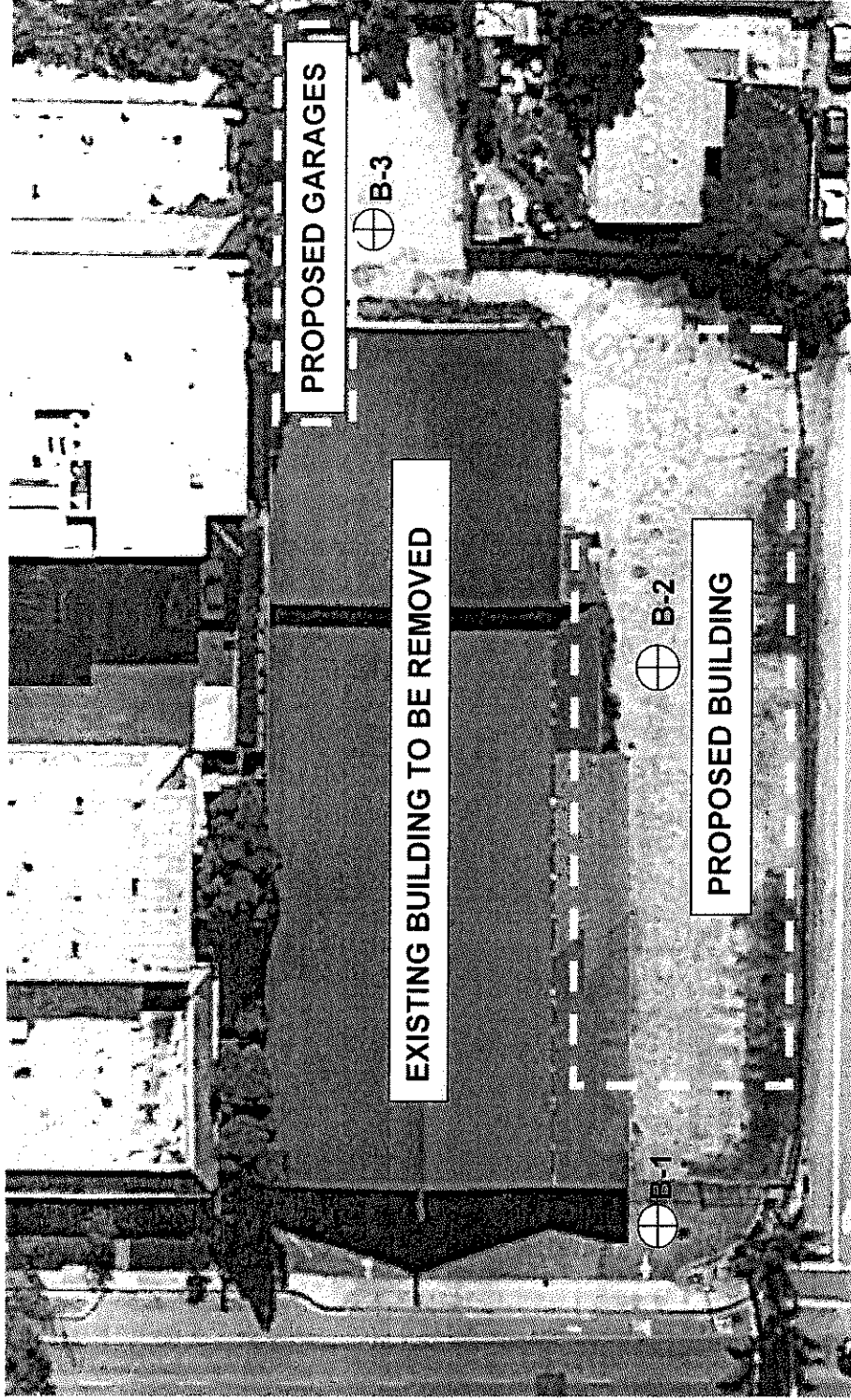
Scale: N.T.S. July 2014

SITE VICINITY MAP

3800 Portola Drive
Santa Cruz County, California



Dees & Associates, Inc.
Geotechnical Engineers



BORING SITE PLAN

Figure: 2

3800 Portola Drive
 Santa Cruz County, California

Project Number: SCR-0818

Scale: N.T.S. July 2014

Dees & Associates, Inc.
 Geotechnical Engineers



THE UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS		GROUP SYMBOLS	TYPICAL NAMES	CLASSIFICATION CRITERIA																															
COARSE-GRAINED SOILS** MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE (THE NO. 200 SIEVE SIZE IS ABOUT THE SMALLEST PARTICLE VISIBLE TO THE NAKED EYE)	GRAVELS MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE	CLEAN GRAVELS (< 5% FINES)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines	Wide range in grain sizes and substantial amounts of all intermediate particle sizes																														
		GRAVELS WITH FINES (> 12% FINES)	GP	Poorly graded gravels, gravel-sand mixtures, little or no fines	Predominantly one size or a range of sizes with some intermediate sizes missing																														
		GRAVELS WITH FINES (> 12% FINES)	GM	Silty gravels, gravel-sand-silt mixtures	Non plastic fines or fines with low plasticity Atterberg limits below "A" line or $PI < 4$	Above "A" line with $4 < PI < 7$ are borderline cases requiring use of dual symbols																													
			GC	Clayey gravels, gravel-sand-clay mixtures	Plastic fines Atterberg limits above "A" line with $PI > 7$																														
	SANDS MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE SIZE	CLEAN SANDS (< 5% FINES)	SW	Well-graded sands, gravelly sands, little or no fines	Wide range in grain sizes and substantial amounts of all intermediate sizes missing																														
		SANDS WITH FINES (> 12% FINES)	SP	Poorly graded sands, gravelly sands, little or no fines	Predominantly one size or a range of sizes with some intermediate sizes missing																														
		SANDS WITH FINES (> 12% FINES)	SM	Silty sands, sand-silt mixtures	Non plastic fines or fines with low plasticity Atterberg limits below "A" line or $PI < 4$	Limits plotting in hatched zone with $4 < PI < 7$ are borderline cases requiring use of dual symbols																													
			SC	Clayey sands, sand-clay mixtures	Plastic fines Atterberg limits above "A" line with $PI > 7$																														
	FINE-GRAINED SOILS MORE THAN HALF OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE (THE NO. 200 SIEVE SIZE IS ABOUT THE SMALLEST PARTICLE VISIBLE)	SILTS AND CLAYS (LIQUID LIMIT < 50)	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> **Gravels and sands with 5% to 12 % fines are borderline cases requiring use of dual symbols. </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">RELATIVE DENSITY OF SANDS AND GRAVELS</th> </tr> <tr> <th style="text-align: left;">DESCRIPTION</th> <th style="text-align: left;">BLOW / FT*</th> </tr> </thead> <tbody> <tr> <td>VERY LOOSE</td> <td>0 - 4</td> </tr> <tr> <td>LOOSE</td> <td>4 - 10</td> </tr> <tr> <td>MEDIUM DENSE</td> <td>10 - 30</td> </tr> <tr> <td>DENSE</td> <td>30 - 50</td> </tr> <tr> <td>VERY DENSE</td> <td>OVER 50</td> </tr> </tbody> </table> </div> <div style="border: 1px solid black; padding: 5px;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">CONSISTENCY OF SILTS AND CLAYS</th> </tr> <tr> <th style="text-align: left;">DESCRIPTION</th> <th style="text-align: left;">BLOWS / FT*</th> </tr> </thead> <tbody> <tr> <td>VERY SOFT</td> <td>0 - 2</td> </tr> <tr> <td>SOFT</td> <td>2 - 4</td> </tr> <tr> <td>FIRM</td> <td>4 - 8</td> </tr> <tr> <td>STIFF</td> <td>8 - 16</td> </tr> <tr> <td>VERY STIFF</td> <td>16 - 32</td> </tr> <tr> <td>HARD</td> <td>OVER 32</td> </tr> </tbody> </table> <p style="font-size: small; margin-top: 5px;">*Number of blows of 140 pound hammer falling 30 inches to drive a 2 inch O.D. 12 vertical inches.</p> </div>	RELATIVE DENSITY OF SANDS AND GRAVELS		DESCRIPTION	BLOW / FT*	VERY LOOSE	0 - 4	LOOSE	4 - 10	MEDIUM DENSE	10 - 30	DENSE	30 - 50	VERY DENSE	OVER 50	CONSISTENCY OF SILTS AND CLAYS		DESCRIPTION	BLOWS / FT*	VERY SOFT	0 - 2	SOFT	2 - 4	FIRM	4 - 8	STIFF	8 - 16	VERY STIFF	16 - 32	HARD	OVER 32
			RELATIVE DENSITY OF SANDS AND GRAVELS																																
DESCRIPTION			BLOW / FT*																																
VERY LOOSE		0 - 4																																	
LOOSE		4 - 10																																	
MEDIUM DENSE		10 - 30																																	
DENSE		30 - 50																																	
VERY DENSE	OVER 50																																		
CONSISTENCY OF SILTS AND CLAYS																																			
DESCRIPTION	BLOWS / FT*																																		
VERY SOFT	0 - 2																																		
SOFT	2 - 4																																		
FIRM	4 - 8																																		
STIFF	8 - 16																																		
VERY STIFF	16 - 32																																		
HARD	OVER 32																																		
CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays																																		
OL	Organic silts and organic silty clays of low plasticity																																		
SILTS AND CLAYS (LIQUID LIMIT > 50)	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts																																	
	CH	Inorganic clays of medium to high plasticity, organic silts																																	
	OH	Organic clays of medium to high plasticity, organic silts																																	

L	M	T	B
SAMPLE TYPES REFERENCED ON BORING LOGS			

TEST BORING LOGS

LOGGED BY: CL

DATE DRILLED: 7-3-14

BORING TYPE: 6" Solid Stem

BORING NO: 1

DEPTH (FEET)	SAMPLE NO.	SOIL DESCRIPTION	USC SOIL TYPE	BLOW COUNT (350 Ft. Lb)	BLOWS PER FOOT *	DRY DENSITY (PCF)	MOISTURE IN-SITU	COHESION (PSF)	PHI ANGLE	% PASSING 200 SIEVE	PLASTICITY INDEX	MISC. LAB RESULTS
1	1-1-1	4" Asphalt over 4 inches Baserock Yellow brown coarse Silty SAND, moist, loose	SP	5								
2	L	Olive brown grading to brown CLAY, moist, stiff	CH	6 11	9	98.6	24.4				48.4	LL = 65.5
3	1-2			5								
4	T	Light yellow brown Sandy SILT to Silty SAND, damp, dense Approximate contact	SM	12 25	27		15.3					
5	1-3	Yellow brown fine to coarse Silty SAND, moist, dense	SW/	20								
6	T	Yellow brown Sandy GRAVEL lenses, damp, dense	GP	23 28	51		10.9					
7												
8												
9												
10	1-4	Presumed contact based on Borings 2 and 3										
11	T	Dark yellowish brown fine to coarse Gravelly SAND, moist, dense	SW	20 22 24	46		10.9					
12												
13												
14												
15	1-5			17								
16	T	Yellow Brown coarse Gravelly SAND, moist to wet, dense	SW	20 20	40		14.2					
17												
18		Boring terminated at 16.5 feet. No groundwater encountered. Soils becoming wet at 15 feet.										
19												
20												
21												
22												
23												
24												
25												
26												

DEES & ASSOCIATES, INC

501 MISSION ST. STE. 8A
SANTA CRUZ, CA 95060

Ph: (831) 427-1770 Fax: (831) 427-1794

Project No. SCR-0818

* Blow count converted
L = Field Blow Count/2

TEST BORING LOGS

LOGGED BY: CL

DATE DRILLED: 7-3-14

BORING TYPE: 6" Solid Stem

BORING NO: 2

DEPTH (FEET)	SAMPLE NO.	SOIL DESCRIPTION	USC SOIL TYPE	BLOW COUNT (350 Ft. Lb)	BLOWS PER FOOT *	DRY DENSITY (PCF)	MOISTURE IN-SITU	COHESION (PSF)	PHI ANGLE	% PASSING 200 SIEVE	PLASTICITY INDEX	MISC. LAB RESULTS
1	2-1-2	2" Asphalt over 3 inches Baserock Yellow brown coarse Silty SAND, moist, medium dense	SM	10								
2	L	Dark gray to dark brown CLAY, moist, stiff	CH	11	10		8.2					
3	2-2			9								
4	T	Dark brown and olive brown Silty CLAY, moist, very stiff	CH/ CL	3	16		18.8					
5	2-3	Olive brown SILT/CLAY to fine Sandy SILT, moist, very stiff	CL	5								
6				11								
7	T			6	27		17.2					
8				10								
9				17								
10	2-4	Olive brown fine Silty SAND, moist, medium dense	SM	9	23		18.3					
11	T			11								
12		Contact per drillers		12								
13												
14												
15	2-5	Olive brown Silty SAND with Gravel, very moist to wet, dense	SM	15	40		19.2					
16	T			20								
17				20								
18		Boring terminated at 16.5 feet. No groundwater encountered. Soils becoming wet at 16.5 feet.										
19												
20												
21												
22												
23												
24												
25												
26												

DEES & ASSOCIATES, INC

501 MISSION ST. STE. 8A
SANTA CRUZ, CA 95060

Ph: (831) 427-1770 Fax: (831) 427-1794

Project No. SCR-0818

* Blow count converted
L = Field Blow Count/2

TEST BORING LOGS

LOGGED BY: CL

DATE DRILLED: 7-3-14

BORING TYPE: 6" Solid Stem

BORING NO: 3

DEPTH (FEET)	SAMPLE NO.	SOIL DESCRIPTION	USC SOIL TYPE	BLOW COUNT (350 Ft. Lb)	BLOWS PER FOOT *	DRY DENSITY (PCF)	MOISTURE IN-SITU	COHESION (PSF)	PHI ANGLE	% PASSING 200 SIEVE	PLASTICITY INDEX	MISC. LAB RESULTS
1	3-1-1	½ inch Chipseal over 7 inches of Baserock Yellow brown coarse SAND, moist, medium dense	SP	6								
2	L	Olive brown CLAY, moist, very stiff	CH	10	11	111.2	26.1					
3	3-2	Light brownish gray CLAY, moist, very stiff		11								
4	T			4								
5				5								
6	3-3	Olive brown Clayey SAND with lenses of Clayey GRAVEL, moist, medium dense	SC/ GP	15	20		18.8					
7	T			8								
8				16								
9				16	32		11.8					
10				16								
11		Contact based on drilling resistance per drillers										
12												
13												
14												
15	3-4			10	24		15.3					
16	T	Light olive brown fine Sandy CLAY/SILT with Gravels, very moist to wet	ML/ CL	11								
17				13								
18		Boring terminated at 16.5 feet. No groundwater encountered. Soils becoming wet at 15 feet.										
19												
20												
21												
22												
23												
24												
25												
26												

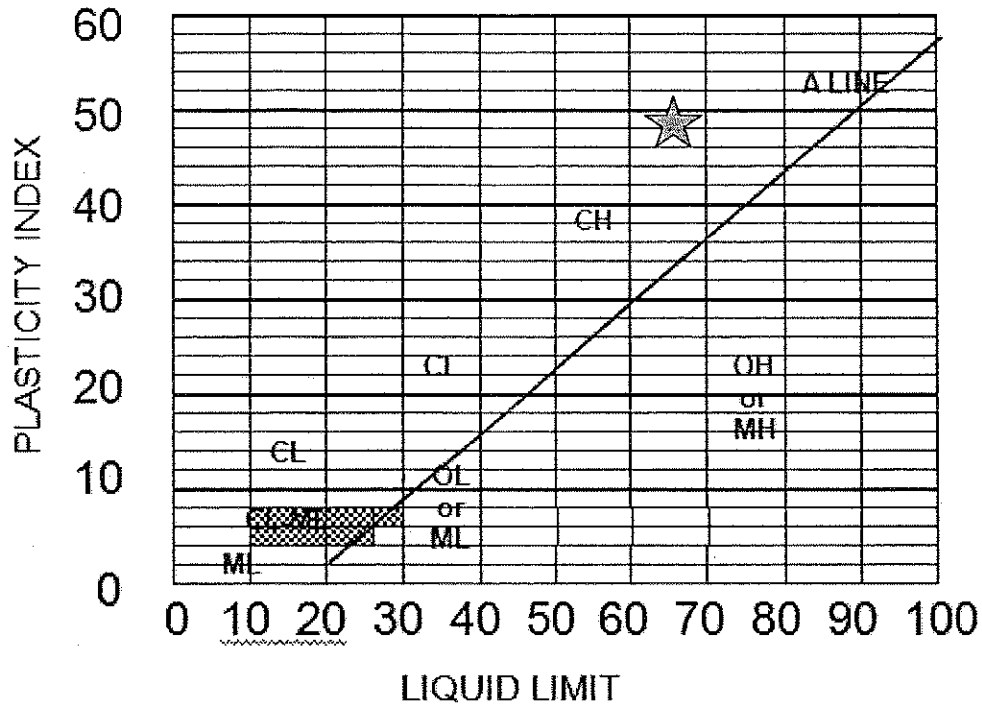
DEES & ASSOCIATES, INC

501 MISSION ST. STE. 8A
SANTA CRUZ, CA 95060

Ph: (831) 427-1770 Fax: (831) 427-1794

Project No. SCR-0818

* Blow count converted
L = Field Blow Count/2



MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts	ML	Inorganic silts and very fine sands, rock flour, silty clayey fine sands or clayey silts with slight plasticity
CH	Inorganic clays of medium to high plasticity, organic silts, fat clays	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
OH	Organic clays of medium to high plasticity, organic silts	OL	Organic silts and organic silty clays of low plasticity
Pt	Peat and other highly organic soils		

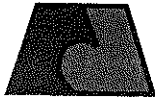
PLASTICITY DATA

SYMBOL	SAMPLE NO.	DEPTH (FEET)	IN-SITU MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTIC LIMIT (%)	PLASTICITY INDEX (%)	LIQUIDITY INDEX (W-PL)/(LL-PL)	UNIFIED SOIL CLASSIFICATION SYMBOL
★	1-1-1	2.0	25.4	65.5	17.1	48.4	0.17	CH

Attachment 6



This page intentionally left blank.



Dees & Associates, Inc.
Geotechnical Engineers

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

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

February 12, 2015

Project No. SCR-0818.1

NPI FUND II, LLC
% Hamilton Swift Land Use Consultants
500 Chestnut Street, Suite 100
Santa Cruz, California 95060

Subject: Revised Percolation Test Results

Reference: Proposed Mixed-Use Retail and Condominium Project
3800 Portola Drive
APN 032-092-01, 05
Santa Cruz County, California

Dear Mr. Swift:

The percolation rate presented in our letter dated October 2, 2014 represented the raw field data from our test. The percolation rate to be used in design of the retention system should represent the actual infiltration rate of the soil. We have revised our calculations and the actual infiltration rates to be used design are presented below.

PERCOLATION TEST DATA				
TEST BORING NUMBER	BORING DEPTH (ft)	PERCOLATION RATE		TEST DATE
		(INCHES/HR)	(MIN/IN)	
1	10.5	.0002	300,000	7/8/14
2	15.0	3.56	16.9	7/8/14
3	15.0	6.19	9.7	7/8/14
4	10.3	.0003	200,000	7/8/14

DEES & ASSOCIATES, INC.

Rebecca L. Boyd

Rebecca L. (Dees) Boyd
Geotechnical Engineer
G.E. 2623



Attachments

Copies: 3 to Addressee
1 to Ifland Engineers

PERCOLATION RATE CALCULATIONS

Project No.	SCR-0818.1	Percolation Test Method
Project Name:	Portola Drive	Falling Head <input checked="" type="checkbox"/>
Date:	2/12/15	Constant Head <input type="checkbox"/>
Performed By:	BB	
Test No:	1	

Boring Diameter (inches)	6
Diameter of Insert Pipe (inches)	3
Void Ratio of Annulus Fill	0.4
Measured Flow in Field (in/hr)	0.0339
Depth of Infiltration Zone (ft)	9.9

Design Percolation Rate (Q/A*Δt)

0.0002 in/hr

Measured Flow in Field has been adjusted for area and volume.

Constant Head Test Method

Volume of water infiltrated in 1 hour (cf/hr)	0.00
Surface area of infiltration zone (sf)	0.00

Falling Head Test Method

Volume of water infiltrated in 1 hour (cf/hr)	0.0002
Depth of Infiltration Zone = Average Perc Depth	9.9

Area of boring (sf)	0.196
Area of insert pipe (sf)	0.049
Area of Annulus (sf)	0.147
Volume of voids (sf)	0.059
Volume per foot (cf)	0.108

Correction factor = volume of voids/volume of boring 0.55

PERCOLATION RATE CALCULATIONS

Project No.	SCR-0818.1	Percolation Test Method	
Project Name:	Portola Drive	Falling Head	<input checked="" type="checkbox"/>
Date:	2/12/15	Constant Head	<input type="checkbox"/>
Performed By:	BB		
Test No:	2		

Boring Diameter (inches)	6
Diameter of Insert Pipe (inches)	3
Void Ratio of Annulus Fill	0.4
Measured Flow in Field (in/hr)	263.9
Depth of Infiltration Zone (ft)	4.4

Design
Percolation Rate
($Q/A \cdot \Delta t$)

3.56 in/hr

Constant Head Test Method

Volume of water infiltrated in 1 hour (cf/hr)	0.00
Surface area of infiltration zone (sf)	0.00

Falling Head Test Method

Volume of water infiltrated in 1 hour (cf/hr)	1.31
Depth of Infiltration Zone = Average Perc Depth	4.4

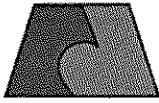
Area of boring (sf)	0.196
Area of insert pipe (sf)	0.049
Area of Annulus (sf)	0.147
Volume of voids (sf)	0.059
Volume per foot (cf)	0.108

Correction factor = volume of voids/volume of boring 0.55

Top 10.5 feet of soil has an infiltration rate of .0003 or less and was neglected in the depth of infiltration.

PERCOLATION RATE CALCULATIONS		
Project No.	SCR-0818.1	Percolation Test Method
Project Name:	Portola Drive	Falling Head <input checked="" type="checkbox"/>
Date:	2/12/15	Constant Head <input type="checkbox"/>
Performed By:	BB	
Test No:	3	
Boring Diameter (inches)	6	Design Percolation Rate (Q/A*Δt) 6.19 in/hr
Diameter of Insert Pipe (inches)	3	
Void Ratio of Annulus Fill	0.4	
Measured Flow in Field (in/hr)	458.6	
Depth of Infiltration Zone (ft)	4.4	
Constant Head Test Method		
Volume of water infiltrated in 1 hour (cf/hr)		0.00
Surface area of infiltration zone (sf)		0.00
Falling Head Test Method		
Volume of water infiltrated in 1 hour (cf/hr)		2.27
Depth of Infiltration Zone = Average Perc Depth		4.4
Area of boring (sf)	0.196	
Area of insert pipe (sf)	0.049	
Area of Annulus (sf)	0.147	
Volume of voids (sf)	0.059	
Volume per foot (cf)	0.108	
Correction factor = volume of voids/volume of boring		0.55

PERCOLATION RATE CALCULATIONS		
Project No.	SCR-0818.1	Percolation Test Method
Project Name:	Portola Drive	Falling Head <input checked="" type="checkbox"/>
Date:	2/12/15	Constant Head <input type="checkbox"/>
Performed By:	BB	
Test No:	4	
Boring Diameter (inches)	6	Design Percolation Rate (Q/A*Δt)
Diameter of Insert Pipe (inches)	3	
Void Ratio of Annulus Fill	0.4	
		0.0003 in/hr
Measured Flow in Field (in/hr)	0.0432	
Depth of Infiltration Zone (ft)	9.4	
Constant Head Test Method		
Volume of water infiltrated in 1 hour (cf/hr)		0.00
Surface area of infiltration zone (sf)		0.00
Falling Head Test Method		
Volume of water infiltrated in 1 hour (cf/hr)		0.0002
Depth of Infiltration Zone = Average Perc Depth		9.4
Area of boring (sf)	0.196	
Area of insert pipe (sf)	0.049	
Area of Annulus (sf)	0.147	
Volume of voids (sf)	0.059	
Volume per foot (cf)	0.108	
Correction factor = volume of voids/volume of boring		0.55



Dees & Associates, Inc.
Geotechnical Engineers

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

Phone: 831 427-1770

Fax: 831 427-1794

June 29, 2015

Project No. SCR-0818.1

NPI FUND II, LLC
% Hamilton Swift Land Use Consultants
500 Chestnut Street, Suite 100
Santa Cruz, California 95060

Subject: Proposed Retention System

Reference: 3800 Portola Drive
APN 032-092-01, 05
Santa Cruz County, California

Dear Mr. Swift:

The soil at the site transition from thinly bedded silty sand, clayey, sand, silt, clay and gravel to well graded sand with varying amounts of gravel around 10 feet below grade. The transition to the sand with gravel was observed in a sample retrieved 10 to 11.5 feet below grade in Boring 1. The contact to the sand with gravel was estimated to be 11 to 12 feet below grade in Borings 2 and 3 based on the effect on the auger during drilling. The augers chatter and bounce when drilling gravelly soils.

The 10 feet deep test holes did not penetrate into the sandy gravelly soils and therefore had a slow infiltration rate. The 15 feet deep test holes did penetrate into the sandy gravelly soils and had a suitable infiltration rate. Although our test hole was performed at a depth of 15 feet, the same soil exists at shallower depths and the infiltration rate at 15 feet is suitable to use at shallower depths.

Because the top of the sandy gravelly layer varies across the site from 10 to 12 feet in depth, our firm will be on-site to observe the base of the retention system and verify the bottom of the trench exposes the sandy gravelly soil. The trench will be deepened as necessary to penetrate the sandy gravelly soils.

DEES & ASSOCIATES, INC.

Rebecca L. (Dees) Boyd
Geotechnical Engineer
G.E. 2623

Copies: 4 to Addressee

Attachment 7



This page intentionally left blank.



COUNTY OF SANTA CRUZ

PLANNING DEPARTMENT

701 OCEAN STREET, 4TH FLOOR, SANTA CRUZ, CA 95060
(831) 454-2580 FAX: (831) 454-2131 TDD: (831) 454-2123
KATHLEEN MOLLOY PREVISICH, PLANNING DIRECTOR

September 12, 2014

Hamilton Swift
Attn: John Swift
500 Chestnut Street, Ste. 100
Santa Cruz, CA 95060

**Subject: Review of Geotechnical Investigation by Dees and Associates, Inc.
Dated July 31, 2014, Project No. SCR-0818
APN 032-092-01, Application No. REV141076**

Dear Mr. Swift,

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

1. All construction shall comply with the recommendations of the report.
2. Final plans shall reference the report and include a statement that the project shall conform to the report's recommendations.
3. Prior to building permit issuance, please submit a signed and stamped *Soils (Geotechnical) Engineer Plan Review Form* to Environmental Planning. *Please note that the plan review form must reference the final plan set by last revision date. Any updates to report recommendations necessary to address conflicts between the report and plans must be provided via a separate addendum to the soils report.*

The author of the report shall sign and stamp the completed form. An electronic copy of this form may be found on our website: www.sccoplanning.com, under "Environmental", "Geology & Soils", "Assistance & Forms", "Soils Engineer Plan Review Form".

4. Please submit two original, wet-signed copies of the soils report with the building permit application.
5. The soils report includes recommendations for excavation of expansive clays and placement of engineered fill beneath the structure and hardscape. The depth and lateral extents of overexcavation should be shown on building permit application plans, along with a note stating the compaction requirements for engineered fill. Also, the plans must include the earthwork volumes required for this work, as it is considered grading under County Code.

(over)

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

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

1. **When a project has engineered fills and / or grading**, a letter from your soils engineer must be submitted to the Environmental Planning section of the Planning Department prior to foundations being excavated. This letter must state that the grading has been completed in conformance with the recommendations of the soils report. Compaction reports or a summary thereof must be submitted.
2. **Prior to placing concrete for foundations**, a letter from the soils engineer must be submitted to the building inspector and to Environmental Planning stating that the soils engineer has observed the foundation excavation and that it meets the recommendations of the soils report.
3. **At the completion of construction**, a *Soils (Geotechnical) Engineer Final Inspection Form* from your soils engineer is required to be submitted to Environmental Planning that includes copies of all observations and the tests the soils engineer has made during construction and is stamped and signed, certifying that the project was constructed in conformance with the recommendations of the soils report.

If the *Final Inspection Form* identifies any portions of the project that were not observed by the soils engineer, you may be required to perform destructive testing in order for your permit to obtain a final inspection. The soils engineer then must complete and initial an *Exceptions Addendum Form* that certifies that the features not observed will not pose a life safety risk to occupants

Attachment 8



This page intentionally left blank.



W A T E R D E P A R T M E N T

212 Locust Street, Suite C, Santa Cruz CA 95060 Phone (831) 420-5210 Fax (831) 420-5201

July 16, 2014

Hamilton Swift & Associates
500 Chestnut Street
Santa Cruz, CA 95060

Re: **PROPOSED CONSTRUCTION OF AN 8-UNIT CONDOMINIUM COMPLEX WITH BOTTOM FLOOR RETAIL SPACE AT 3800 PORTOLA DRIVE; TWO LOTS TO BE COMBINED (ONE WITH AN EXISTING WATER SERVICE); APNs 032-092-05 and 032-092-01**

Dear Mr. Swift:

This letter is to advise you that the subject parcel 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 the parcel 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 are not complete; 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 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.

Sincerely,

Rosemary Menard
Water Director

Attachment 9



This page intentionally left blank

PROJECT: 3800 Portola Drive - Area 1

Calc by: RCT

Date: 11/20/2014

RUNOFF DETENTION BY THE MODIFIED RATIONAL METHOD

Data Entry: PRESS TAB & ENTER DESIGN VALUES SS Ver: 1.0

Site Location P60 Isopleth:	1.40	Fig. SWM-2 in County Design Criteria
Rational Coefficients Cpre:	0.30	See note # 2
Cpost:	0.90	See note # 2
Impervious Area:	23780 ft ²	See note # 2 and # 4

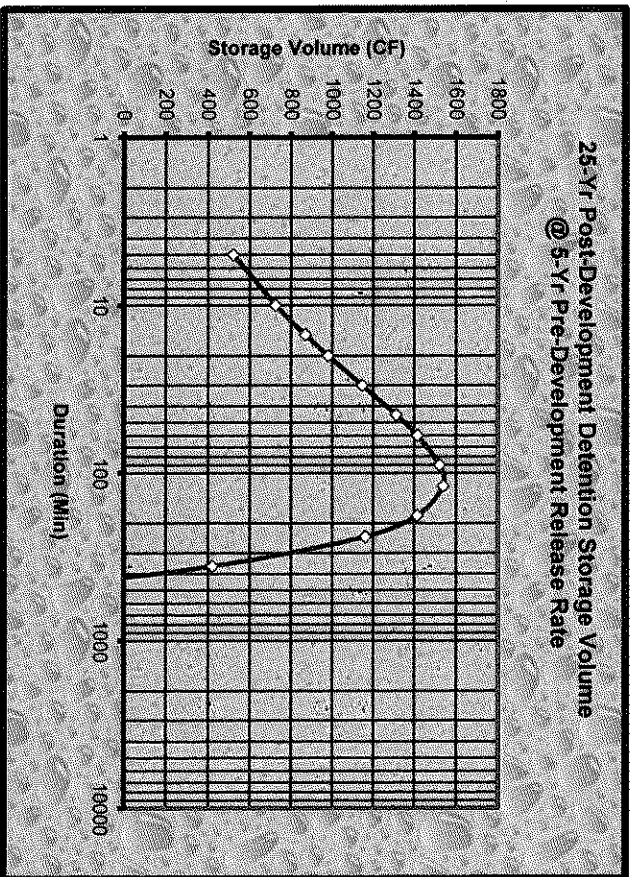
STRUCTURE DIMENSIONS FOR DETENTION

1538	ft ³ storage volume calculated		
40	% void space assumed		
3846	ft ³ excavated volume needed		
Structure Ratios	Length	Width*	Depth*
	51.00	15.50	4.90
Dimen. (ft)	50.88	15.46	4.89

*For pipe, use the square root of the sectional area

25 - YEAR DESIGN STORM

Storm Duration (min)	5 - Yr.			Detention Rate To Storage (cfs)	Specified Storage Volume (cf)
	25 - Year Intensity (in/hr)	Release Qpre (cfs)	25 - Year Qpost (cfs)		
1440	0.28	0.033	0.139	-0.099	-10729
1200	0.30	0.036	0.151	-0.088	-7909
960	0.33	0.039	0.166	-0.073	-5224
720	0.38	0.044	0.188	-0.050	-2725
480	0.45	0.053	0.224	-0.014	-514
360	0.51	0.060	0.254	0.016	421
240	0.61	0.072	0.303	0.064	1161
180	0.69	0.081	0.343	0.105	1415
120	0.83	0.097	0.409	0.171	1538
90	0.94	0.110	0.464	0.225	1522
60	1.12	0.131	0.553	0.315	1416
45	1.27	0.148	0.627	0.388	1311
30	1.51	0.177	0.748	0.509	1145
20	1.80	0.210	0.891	0.653	979
15	2.04	0.239	1.010	0.772	868
10	2.43	0.284	1.205	0.966	725
5	3.29	0.384	1.628	1.389	521



Notes & Limitations 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 areas both on and off-site, resulting from the proposed project. Pervious areas shall not be included in detention volume sizing; an exception may be made for incidental pervious areas less than 10% of the total area.
- 3) Gravel packed 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 bored, drilled, or driven shaft, or dug hole that is deeper than its widest surface dimension, or an improved sinkhole, 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 Criteria, for complete method criteria.

PROJECT: 3800 Portola Drive - Area 1

Calc by: RCT

Date: 11/20/2014

RUNOFF RETENTION BY THE STORAGE PERCOLATION METHOD

Data Entry: PRESS TAB KEY & ENTER DESIGN VALUES

Notes & Limitations on Use:

SS Ver.1.0

Site Location P60 Isoleth:	1.40	Fig. SWM-2
Rational Coefficients Cpre:	0.30	
Cpost:	0.90	
Impervious Area:	23780	ft ²
Saturated Soil Permeability:	3.60	in/hr

Saturated soil permeability values may be used conservatively from the USDA-NRCS soil survey, or use actual test values. Site selection and design shall give proper consideration to the path for excess flows downstream of the designated retention area. Retention site location on, or immediately above, slopes exceeding 15% will require consulting a geotechnical engineer. Gravel packed structures shall use washed, angular, uniformly graded aggregate providing not less than 35% void space. Refer to the County of Santa Cruz Design Criteria, Stormwater Management - Section H, for complete method criteria.

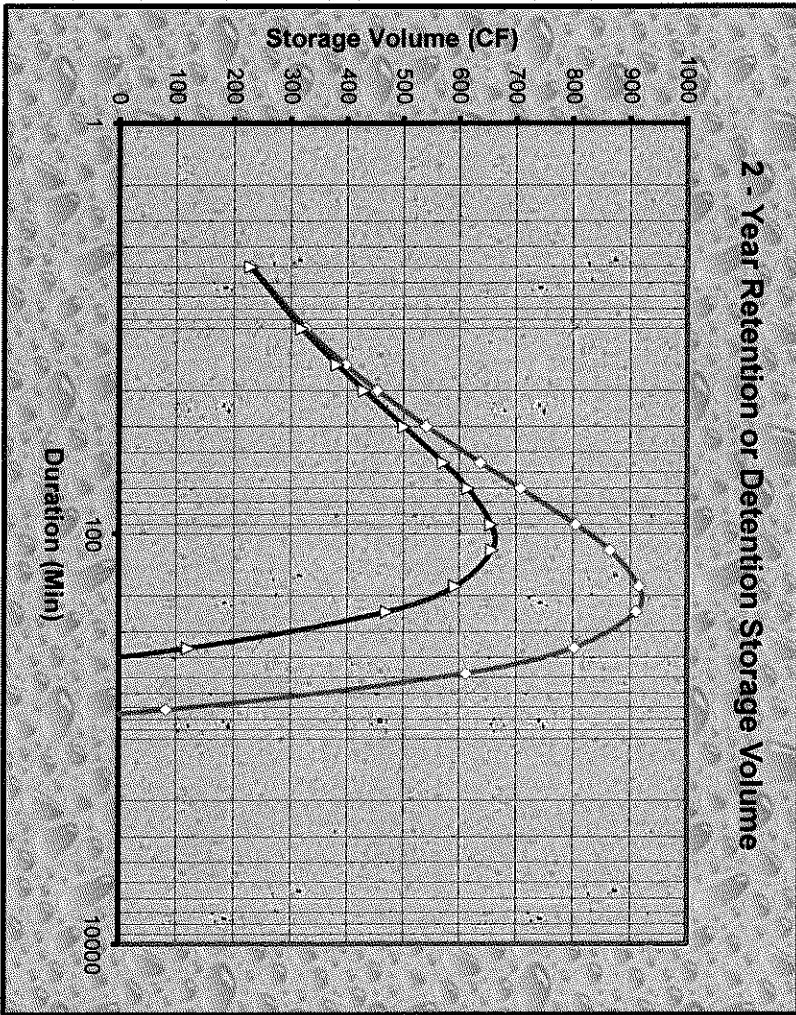
2 - YEAR DESIGN STORM				RETENTION @ 120 MIN.				STRUCTURE DIMENSIONS FOR RETENTION				DETENTION @ 60 MIN.		
Storm Duration (min)	2 - Year Intensity (in/hr)	Qpre (cfs)	Qpost (cfs)	Retention Rate To Storage (cfs)	Specified Retained Volume (cf)	659 ft ³ storage volume calculated	40 % void space assumed	1647 ft ³ excavated volume needed	Structure Ratios	Length	Width*	Depth**	Detention Rate To Storage (cfs)	Specified Detained Volume (cf)
1440	0.15	0.025	0.074	0.001	-5005	51.00	15.50	2.10	-0.024	-2085				
1200	0.16	0.027	0.080	0.008	-3714	50.87	15.46	2.09	-0.018	-1298				
960	0.18	0.030	0.089	0.016	-2483	1064	ft ² internal surface area		-0.010	-567				
720	0.20	0.033	0.100	0.027	-1335	745	ft ² effective surface area		0.002	83				
480	0.24	0.040	0.120	0.047	-313	2.9	hrs estimated structure drainage time		0.021	612				
360	0.27	0.045	0.136	0.063	121				0.037	803				
240	0.33	0.054	0.162	0.089	470				0.063	911				
180	0.37	0.061	0.183	0.110	594				0.085	915				
120	0.44	0.073	0.218	0.146	659				0.120	864				
90	0.50	0.082	0.247	0.175	657				0.149	805				
60	0.60	0.098	0.295	0.222	616				0.197	708				
45	0.67	0.111	0.334	0.262	572				0.236	637				
30	0.80	0.133	0.399	0.326	501				0.300	541				
20	0.96	0.158	0.475	0.403	430				0.377	453				
15	1.09	0.180	0.539	0.466	381				0.440	396				
10	1.30	0.214	0.642	0.570	319				0.544	326				
5	1.75	0.289	0.868	0.795	230				0.770	231				

* For pipe, use the square root of the sectional area.
 ** If cell values displayed are corrupted, enter zero for depth, then re-enter a positive numeric value within allowed range.

STRUCTURE DIMENSIONS FOR DETENTION

915	ft ³ storage volume calculated		
40	% void space assumed		
2288	ft ³ excavated volume needed		
Structure Ratios	Length	Width*	Depth*
	25.00	2.00	2.00
Dimen. (ft)	70.98	5.68	5.68

2 - Year Retention or Detention Storage Volume



PROJECT: 3800 Portola Drive - Area 2

Calc by: RCT

Date: 12/1/2014

RUNOFF DETENTION BY THE MODIFIED RATIONAL METHOD

Data Entry: PRESS TAB & ENTER DESIGN VALUES SS Ver: 1.0

Site Location P60 Isopleth: 1.40 Fig. SWM-2 in County Design Criteria
 Rational Coefficients Cpre: 0.30 See note # 2
 Cpost: 0.90 See note # 2
 Impervious Area: 19150 ft² See note # 2 and # 4

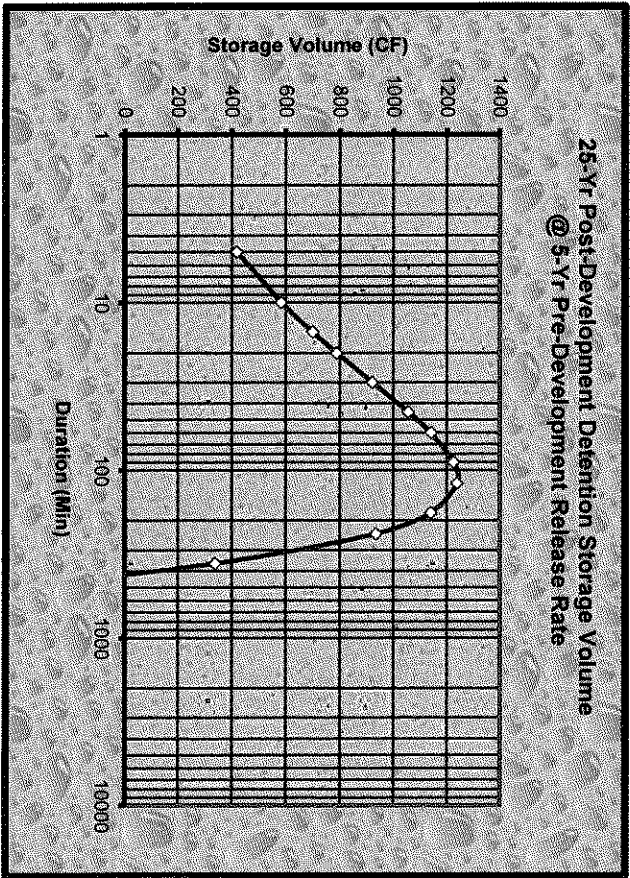
STRUCTURE DIMENSIONS FOR DETENTION

1239	ft ³ storage volume calculated
40	% void space assumed
3097	ft ³ excavated volume needed
Structure Ratios	Length Width* Depth*
	40.50 16.00 4.90
Dimen. (ft)	40.16 15.87 4.86

*For pipe, use the square root of the sectional area

25 - YEAR DESIGN STORM

Storm Duration (min)	25 - Year Intensity (in/hr)	5 - Yr. Release Qpre (cfs)	25 - Year Qpost (cfs)	Detention Rate To Storage (cfs)	Specified Storage Volume (cf)
1440	0.28	0.026	0.112	-0.080	-8640
1200	0.30	0.029	0.121	-0.071	-6369
960	0.33	0.032	0.134	-0.058	-4207
720	0.38	0.036	0.151	-0.041	-2195
480	0.45	0.043	0.181	-0.011	-414
360	0.51	0.048	0.205	0.013	339
240	0.61	0.058	0.244	0.052	935
180	0.69	0.065	0.276	0.084	1140
120	0.83	0.078	0.330	0.138	1239
90	0.94	0.088	0.374	0.182	1225
60	1.12	0.105	0.446	0.253	1141
45	1.27	0.119	0.505	0.313	1056
30	1.51	0.142	0.602	0.410	922
20	1.80	0.170	0.718	0.526	789
15	2.04	0.192	0.813	0.621	699
10	2.43	0.229	0.970	0.778	584
5	3.29	0.309	1.311	1.119	420



Notes & Limitations 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 areas both on and off-site, resulting from the proposed project. Pervious areas shall not be included in detention volume sizing; an exception may be made for incidental pervious areas less than 10% of the total area.
- 3) Gravel packed 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 bored, drilled, or driven shaft, or dug hole that is deeper than its widest surface dimension, or an improved sinkhole, 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 Criteria, for complete method criteria.

PROJECT: 3800 Portola Drive - Area 2

Calc by: RCT

Date: 12/1/2014

RUNOFF RETENTION BY THE STORAGE PERCOLATION METHOD

Data Entry: PRESS TAB KEY & ENTER DESIGN VALUES

Notes & Limitations on Use:

SS Ver. 1.0

Site Location P60 Isoleth:	1.40	Fig. SWM-2
Rational Coefficients Cpre:	0.30	
Cpost:	0.90	
Impervious Area:	19150	ft ²
Saturated Soil Permeability:	3.60	in/hr

Saturated soil permeability values may be used conservatively from the USDA-NRCS soil survey, or use actual test values. Site selection and design shall give proper consideration to the path for excess flows downstream of the designated retention area. Retention site location on, or immediately above, slopes exceeding 15% will require consulting a geotechnical engineer. Gravel packed structures shall use washed, angular, uniformly graded aggregate providing not less than 35% void space. Refer to the County of Santa Cruz Design Criteria, Stormwater Management - Section H, for complete method criteria.

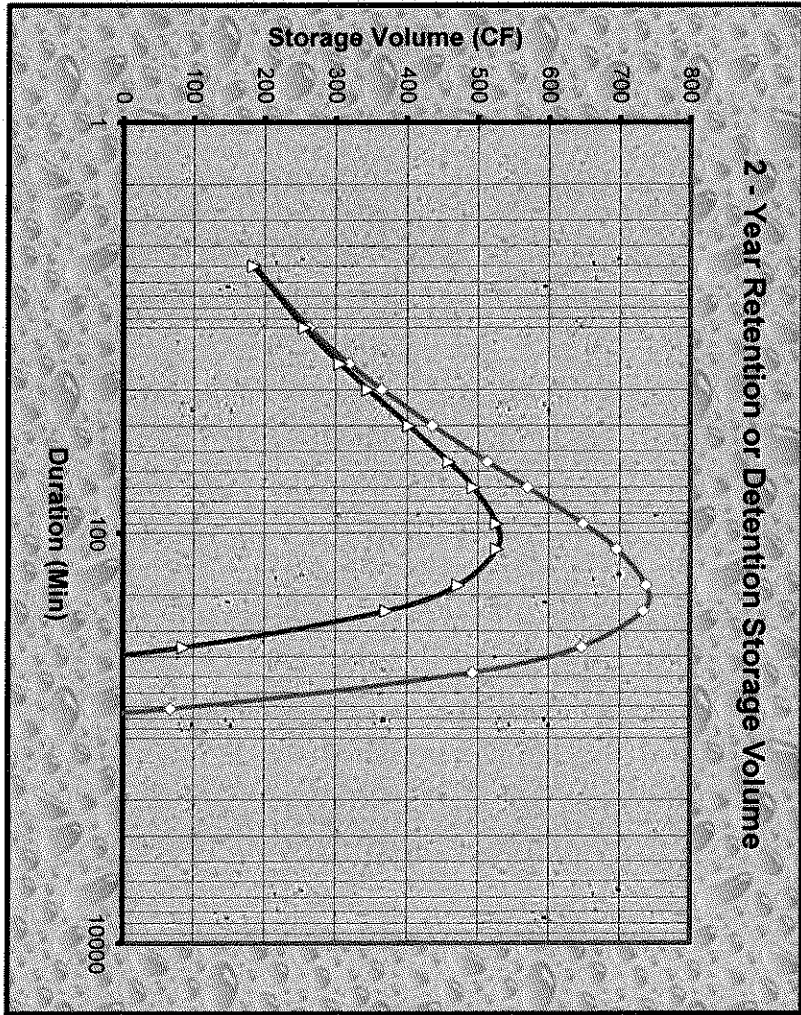
2 - YEAR DESIGN STORM				RETENTION @ 120 MIN.			STRUCTURE DIMENSIONS FOR RETENTION			DETENTION @ 60 MIN.			
Storm Duration (min)	2 - Year Intensity (in/hr)	Qpre (cfs)	Qpost (cfs)	Retention Rate To Storage (cfs)	Specified Retained Volume (cf)	527 ft ³ storage volume calculated	40 % void space assumed	1317 ft ³ excavated volume needed	Structure Length	Width*	Depth**	Detention Rate To Storage (cfs)	Specified Detained Volume (cf)
1440	0.15	0.020	0.060	0.001	-4076	527	40	1317	40.50	16.00	2.10	-0.019	-1679
1200	0.16	0.022	0.065	0.006	-3029	866	606	2.9	40.06	15.83	2.08	-0.015	-1045
960	0.18	0.024	0.071	0.013	-2030	866	606	2.9	40.06	15.83	2.08	-0.008	-457
720	0.20	0.027	0.081	0.022	-1098	866	606	2.9	40.06	15.83	2.08	0.002	67
480	0.24	0.032	0.096	0.038	-268	866	606	2.9	40.06	15.83	2.08	0.017	493
360	0.27	0.036	0.109	0.051	86	866	606	2.9	40.06	15.83	2.08	0.030	646
240	0.33	0.043	0.130	0.072	371	866	606	2.9	40.06	15.83	2.08	0.051	733
180	0.37	0.049	0.147	0.089	472	866	606	2.9	40.06	15.83	2.08	0.068	737
120	0.44	0.059	0.176	0.117	527	866	606	2.9	40.06	15.83	2.08	0.097	696
90	0.50	0.066	0.199	0.141	526	866	606	2.9	40.06	15.83	2.08	0.120	648
60	0.60	0.079	0.238	0.179	494	866	606	2.9	40.06	15.83	2.08	0.158	570
45	0.67	0.090	0.269	0.211	459	866	606	2.9	40.06	15.83	2.08	0.190	513
30	0.80	0.107	0.321	0.262	403	866	606	2.9	40.06	15.83	2.08	0.242	435
20	0.96	0.128	0.383	0.324	345	866	606	2.9	40.06	15.83	2.08	0.304	364
15	1.09	0.145	0.434	0.375	307	866	606	2.9	40.06	15.83	2.08	0.355	319
10	1.30	0.172	0.517	0.459	256	866	606	2.9	40.06	15.83	2.08	0.438	263
5	1.75	0.233	0.699	0.640	185	866	606	2.9	40.06	15.83	2.08	0.620	186

* For pipe, use the square root of the sectional area.
 ** If cell values displayed are corrupted, enter zero for depth, then re-enter a positive numeric value within allowed range.

STRUCTURE DIMENSIONS FOR DETENTION

737	ft ³ storage volume calculated	
40	% void space assumed	
1843	ft ³ excavated volume needed	
Structure Length	Width*	Depth*
Ratios 25.00	2.00	2.00
Dimen. (ft) 66.03	5.28	5.28


2 - Year Retention or Detention Storage Volume



Attachment 10



This page intentionally left blank.



Development at Portola Drive/38th Avenue Santa Cruz County, CA

TRAFFIC IMPACT STUDY

JANUARY 14, 2015

Prepared For:

Hamilton Swift and Associates
500 Chestnut Street, Suite 100
Santa Cruz, CA 95060

Prepared By:

Kimley»»Horn

100 West San Fernando Street, Suite 250
San Jose, CA 95113

Contents

INTRODUCTION	1
Study Methodology	1
Study Intersections Included in Analysis	6
EXISTING CONDITIONS	7
Existing Roadway Network	7
Existing Peak-Hour Turning Movement Volumes	8
Existing Transit Facilities	8
Existing Pedestrian and Bicycle Facilities	9
Existing Level of Service at Study Intersections	9
PROPOSED PROJECT	11
Proposed Site Use	11
Project Trip Generation	12
Project Trip Distribution and Assignment	15
Existing Plus Project Level of Service at Study Intersections	17
NEAR-TERM (2016) CONDITIONS	20
Planned Roadway Projects in Vicinity of Site	20
Approved & Pending Development Projects in Vicinity of Site/Near Term Conditions	20
NEAR-TERM (2016) TRAFFIC CONDITIONS	21
Near-Term Intersection Level of Service	21
Near-Term Plus Project Intersection Level of Service	23
CUMULATIVE (2035) CONDITIONS	26
Cumulative Lane Configurations and Traffic Control	26
Year 2035 Forecast Model Volumes	26
CUMULATIVE (2035) TRAFFIC CONDITIONS	27
Cumulative Intersection Level of Service	27
Cumulative Plus Project Intersection Level of Service	29
POTENTIAL EFFECTS ON TRANSIT, BICYCLE, AND PEDESTRIAN MOBILITY	32
SITE ACCESS AND CIRCULATION	33

TRAFFIC IMPACT FEES	33
SUMMARY OF IMPACTS	33
APPENDIX.....	34

Figures

Figure 1 – Project Vicinity Map and Site Plan.....	3
Figure 2 – Project Trip Distribution	16
Figure 3 – Existing (2014) and Existing Plus Project Conditions	19
Figure 4 – Near-Term (2016) and Near-Term Plus Project Conditions	25
Figure 5 – Cumulative (2035) and Cumulative Plus Project Conditions.....	31

Tables

Table 1 – Intersection Level of Service Definitions	5
Table 2 – Existing (2014) Intersection Level of Service Summary	10
Table 3 - Project Trip Generation	14
Table 4 - Project Trip Reductions by Land Use	15
Table 5 – Existing (2014) Plus Project Intersection Level of Service Summary	18
Table 6 – Near-Term (2016) Intersection Level of Service Summary	22
Table 7 – Near-Term (2016) Plus Project Intersection Level of Service Summary	24
Table 8 – Cumulative (2035) Intersection Level of Service Summary.....	28
Table 9 – Cumulative (2035) Plus Project Intersection Level of Service Summary.....	30

INTRODUCTION

This traffic study presents the findings of the traffic analysis for the proposed specialized mixed use residential, office and retail project, which will be located on the southeast corner of Portola Drive and 38th Avenue in Santa Cruz County. A vacant warehouse building is currently located on the site. The building was previously a retail lumber and hardware sales facility owned by Pleasure Point Lumber Company, which began operations on the site in 1948. The site has in the recent past been used by Wellington Energy for storing and processing SMART gas meters for installation in the area. Various other tenants have also occupied the site since it was last used for lumber and hardware sales. The site currently has a full access driveway onto Portola Avenue and one onto 38th Avenue.

The proposed project will accommodate on-site parking for both bicycles and passenger vehicles and have one full access driveway from both Portola Drive and one full access driveway from 38th Avenue. The project includes a specialized retail/local market development with residential units that operates on a day to day basis and will be occupied by several vendor types seven days a week between the hours of 8:00 AM and 5:00 PM for office uses, 9:00 AM and 8:00 PM for retail uses, and 7:00 AM and 10:00 PM for restaurants, cafes, and wine bars, depending on the specific use. The new building to be on site is proposed to include the following uses:

- 3,200 square feet of food service uses such as coffee house, craft beer, wine bar, ice cream shop, or restaurant uses.
- 3,200 square feet of retail non-food services uses such as clothing/skin care product or art gallery uses, and retail food related uses such as candy or chocolate shop, butcher shop, wine shop, flower shop, or fruit and vegetable stands.
- 3,200 square feet of office and service commercial uses such as beauty salon, computer repair, or pet grooming uses.
- Eight (8) residential condominium units of two bedrooms each.

Figure 1 illustrates the location of the project site in relation to other streets in Santa Cruz County.

This traffic study was prepared based on discussions with Santa Cruz County, as well as on comments provided by County Staff on the project application. It also complies with traffic impact study guidelines and criteria set forth by Santa Cruz County.

STUDY METHODOLOGY

DEVELOPMENT CONDITIONS

This traffic impact study was based on the following development conditions:

- Existing (2014) Conditions – Based on current traffic counts taken in October 2014 and existing roadway geometry and traffic control.
- Existing (2014) plus Proposed Project Conditions – Based on existing traffic volumes, existing roadway geometry and traffic control and traffic generated by the proposed project.
- Near-Term/Background (2016) Conditions – Based on future year traffic forecasts estimated for developments anticipated to occur at the time the project is constructed in approximately the year 2016. These forecasts were found by applying an historic average annual percent growth rate for

two years out from year 2014. The growth rate was determined using Santa Cruz County Regional Transportation Commission (SCCRTC) historic ADT data.

- Near-Term (2016) plus Proposed Project Conditions – Proposed Project traffic was added to the 2016 base year/Background traffic.
- Cumulative (2035) Conditions – Future year traffic forecasts estimated for developments anticipated to occur through the year 2035. These forecasts were calculated by applying an average annual percent growth rate from year 2014 through year 2035, utilizing historic growth rates on Portola Drive and 41st Avenue.
- Cumulative (2035) plus Proposed Project Conditions – The proposed project traffic was added to the base Cumulative year traffic volumes.

Portola Drive/38th Avenue Project, Santa Cruz County, CA - Traffic Impact Study

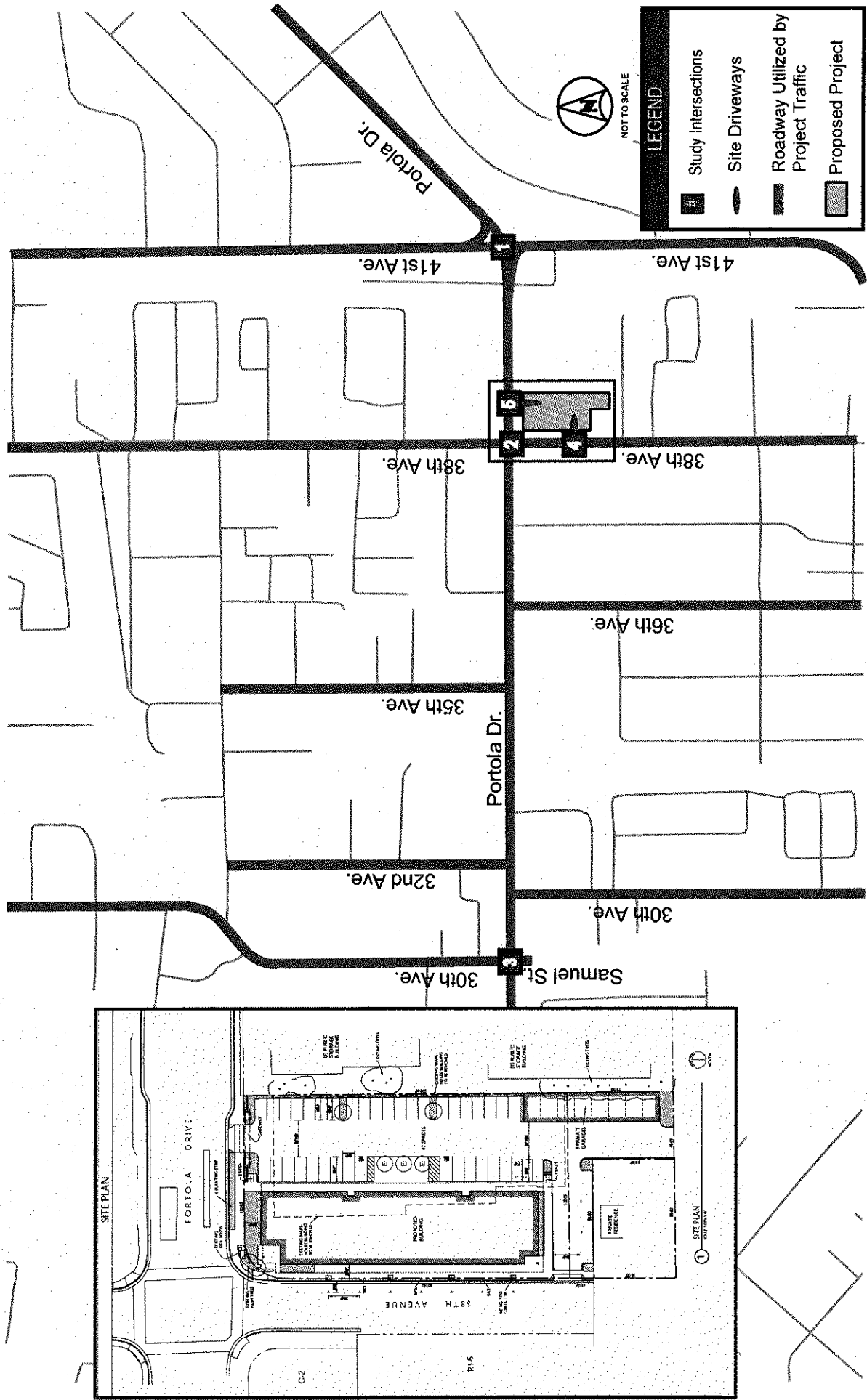


FIGURE 1
Project Vicinity Map & Site Plan

OPERATING CONDITIONS AND CRITERIA FOR INTERSECTIONS

Analysis of potential environmental impacts at intersections is based on the concept of Level of Service (LOS). The LOS of an intersection is a qualitative measure used to describe operational conditions. LOS ranges from A (best), which represents minimal delay, to F (worst), which represents heavy delay and a facility that is operating at or near its functional capacity. Levels of Service for this study were determined using methods defined in the *Highway Capacity Manual, 2010* (HCM) and Synchro 8 traffic analysis software.

The HCM 2010 methodologies included procedures for analyzing side-street stop-controlled (SSSC), all-way stop-controlled (AWSC), and signalized intersections. The SSSC procedure defines LOS as a function of average control delay for each minor street approach movement. Conversely, the AWSC and signalized intersection procedures define LOS as a function of average control delay for the intersection as a whole. **Table 1** relates the operational characteristics associated with each LOS category for signalized and unsignalized intersections.

Table 1 – Intersection Level of Service Definitions

Level of Service	Description	Signalized	Unsignalized
		(Avg. control delay per vehicle sec/veh.)	(Avg. control delay per vehicle sec/veh.)
A	Free flow with no delays. Users are virtually unaffected by others in the traffic stream	< 10	≤ 10
B	Stable traffic. Traffic flows smoothly with few delays.	> 10 – 20	> 10 – 15
C	Stable flow but the operation of individual users becomes affected by other vehicles. Modest delays.	> 20 – 35	> 15 – 25
D	Approaching unstable flow. Operation of individual users becomes significantly affected by other vehicles. Delays may be more than one cycle during peak hours.	> 35 – 55	> 25 – 35
E	Unstable flow with operating conditions at or near the capacity level. Long delays and vehicle queuing.	> 55 – 80	> 35 – 50
F	Forced or breakdown flow that causes reduced capacity. Stop and go traffic conditions. Excessive long delays and vehicle queuing.	> 80	> 50

Sources: Transportation Research Board, *Highway Capacity Manual 2010*, National Research Council,

Project impacts are determined by comparing conditions without the proposed project to those with the proposed project. Significant impacts for intersections are created when traffic from the proposed project causes the LOS to fall below the County LOS threshold and causes any impacted intersections to deteriorate further per the criteria indicated below.

Consistent with the significant impact criteria documented in the Santa Cruz County General Plan, the County considers LOS C as the objective, but accepts LOS D as the minimum acceptable at signalized and unsignalized study intersections (where costs, right-of-way requirements, or environmental impacts of maintaining LOS under this policy are excessive, capacity enhancement may be considered infeasible). Therefore the following conditions would result in a significant impact at a County intersection:

1. If the intersection operates at an acceptable LOS (i.e. LOS A, B, C or D) without the project during the weekday peak hour and degrades to an unacceptable LOS (i.e. LOS E or F) with the project during the weekday peak hour, then it is a significant impact.
2. If the intersection operates at an unacceptable LOS (i.e. LOS D, E, or F) without the project during the weekday peak hour, and the volume/capacity (v/c) ratio of the sum of all critical movements at the intersection increases by 1%, then it is a significant impact.

STUDY INTERSECTIONS INCLUDED IN ANALYSIS

The proposed project will generate new vehicular trips that will increase traffic volumes on the nearby street network. To assess changes in traffic conditions associated with the proposed project, the following intersections, listed with the applicable jurisdiction, were selected by Santa Cruz County for evaluation in this traffic study:

1. Portola Drive / 41st Avenue (All-Way Stop Controlled)
2. Portola Drive / 38th Avenue (All-Way Stop Controlled)
3. Portola Drive / 30th Avenue (*north leg*) (All-Way Stop Controlled)

These study intersections are illustrated in **Figure 1**.

EXISTING CONDITIONS

EXISTING ROADWAY NETWORK

Below is a description of the principal roadways included in this study:

Portola Drive

Portola Drive is a four-lane east-west arterial roadway that connects 17th Avenue from the west to 41st Avenue in the east. It serves as the local connector of many residential, retail, and commercial land uses. The posted speed limit in the project vicinity is 30 miles per hour.

41st Avenue

41st Avenue is a north-south arterial roadway with one to three lanes in each direction that spans from Soquel Drive in the City of Capitola in the north to Portola Drive as well as to East Cliff Drive in the south, which runs along the coast. 41st Avenue also provides interchange access to SR-1 and connects many residential, retail, and commercial land uses. Between the SR-1 interchange and Reposa Avenue, 41st Avenue has three lanes in each direction and a posted speed limit of 35 miles per hour. South of Reposa Avenue and within the project vicinity, 41st Avenue has one through lane in each direction and the posted speed limit in the project vicinity is 30 miles per hour.

38th Avenue

38th Avenue is a two-lane north-south collector connecting Brommer Street in the north to East Cliff Drive in the south, which runs along the coast. 38th Avenue connects the residential uses in the neighborhood to various commercial and retail land uses near the study area. The posted speed limit on 38th Avenue is 25 miles per hour.

30th Avenue

30th Avenue is a two-lane north-south collector that connects Capitola Road in the north to Portola Drive in the south. East of this intersection with Portola Drive, it continues south and ends at East Cliff Drive along the coast. 30th Avenue connects the residential uses in the neighborhood to various commercial and retail land uses near the study area. The posted speed limit on 30th Avenue is 25 miles per hour.

Existing Study Intersections

1. **Portola Drive / 41st Avenue** is an all-way stop controlled (AWSC) intersection with marked crosswalks on all four legs. It has one shared left, through, and right lane in the northbound direction; one shared left and through lane and one right lane in the southbound direction; one left lane, one through lane, and one channelized right lane in the eastbound direction; and one shared left and through lane and one channelized right lane in the westbound direction.
2. **Portola Drive / 38th Avenue** is an all-way stop controlled (AWSC) intersection with marked crosswalks on all four legs. It has one shared left, through, and right lane in both the northbound and southbound directions; and one shared left and through lane and one shared through and right lane in both the eastbound and westbound directions.

3. **Portola Drive / 30th Avenue (north leg)** is an all-way stop controlled (AWSC) intersection with marked crosswalks on all four legs. The southern leg, Samuel Street, is a private driveway. It has one shared left, through, and right lane in the southbound direction; and one shared left and through lane and one shared through and right lane in both the eastbound and westbound directions.

These intersections were selected based on the low project trip generation and potential resultant impacts on the street network.

EXISTING PEAK-HOUR TURNING MOVEMENT VOLUMES

Weekday intersection turning movement volumes for the three existing study intersections, not including the future project driveways, were collected in October 2014. These counts include vehicles, bicycles, and pedestrians. Volumes for Intersections were collected during the AM and PM peak periods of 6:00-8:00 AM and 4:30-6:30 PM, respectively. These traffic counts were taken in the weekday when local schools were in session and the weather was fair. Existing turning movements are shown in **Figure 3**. Intersection volume data sheets for all traffic counts are provided in **Appendix A**.

EXISTING TRANSIT FACILITIES

The Santa Cruz Metropolitan Transit District (METRO) provides transit services throughout Santa Cruz County and between the Cities of Santa Cruz, Capitola, Watsonville, and Scotts Valley. The vicinity of the proposed project lies within the Live Oak service region, which provides three transit lines that operate along Portola Drive, 38th Avenue, and 41st Avenue. The descriptions of the three routes are described below:

1. The **Live Oak via 17th Route (Route 66)** operates along Front Street, Water Street, Soquel Avenue, 7th Avenue, Brommer Street, and 17th Avenue to the west and along Portola Drive, 41st Avenue, Capitola Road, Brommer Street, and 38th Avenue, and continues along Portola Drive, 38th Avenue, and 41st Avenue to the east and north of the proposed project. In the vicinity of the proposed project, this service route has a bus stop on 38th Avenue north of Avis Lane in the northbound direction, which is within 500 feet of the project site and within walking distance. Another bus stop lies along Portola Drive just west of 37th Avenue in the westbound direction, which is also within 500 feet of the project site and is within walking distance. There is also a bus stop at this location in the eastbound direction. The route operates on a frequency of 60- to 65-minute headways from Monday through Friday, and up to 75-minute headways from Saturday to Sunday.
2. The **Live Oak via 17th Night Route (Route 66N)** operates along Front Street, Soquel Avenue, 7th Avenue, Brommer Street, and 17th Avenue to the west and along Portola Drive, 38th Avenue, and 41st Avenue to the east and north of the proposed project. In the vicinity of the proposed project, this service route has a bus stop on 38th Avenue north of Avis Lane in the northbound direction, which is within 500 feet of the project site and within walking distance. Another bus stop lies along Portola Drive just west of 37th Avenue in the westbound direction, which is within 500 feet of the project site and is within walking distance. The route operates only once per night Monday through Friday, and operates twice per night Saturday to Sunday with a 65- to 70-minute headway.

3. The **Live Oak via Broadway/Portola Route (Route 68)** operates along San Lorenzo Boulevard, Broadway Street, Seabright Avenue, 7th Avenue, and East Cliff Drive/Portola Drive to the west, and along 41st Avenue to the east of the proposed project. In the vicinity of the proposed project, this service route has a bus stop on Portola Drive west of 40th Avenue in both the westbound and eastbound directions, which is within 500 feet of the project site and within walking distance. Another bus stop lies on Portola Drive west of 37th Avenue in both the westbound and eastbound directions, which is within 500 feet of the project site and within walking distance. The route operates on a frequency of 60- to 75-minute headways Monday through Sunday.

Sheltered bus stops are provided just west of 41st Avenue on Portola Drive, approximately 450 feet from the project site. The close proximity to the bus stops and the public bus system will provide opportunities for transit users to travel to and from the site.

EXISTING PEDESTRIAN AND BICYCLE FACILITIES

Pedestrians: In the immediate project vicinity, there are currently sidewalks located on both sides of Portola Drive. Along the project frontage the sidewalk is not Americans with Disabilities Act (ADA) compliant. On the west side of 38th Avenue immediately south of Portola Drive, sidewalk is provided along one property frontage. Sidewalks do not currently exist further south along 38th Avenue. North on 30th Avenue, sidewalks only continue north of Avis Lane. The intersection closest to the project, Portola Drive / 38th Street (Intersection #2) is all-way stop controlled (AWSC) and has stamped concrete crosswalks and striping on all four legs of the intersection. ADA ramps at the intersection are non-compliant. The project will provide ADA sidewalk facilities as part of its street frontage improvements.

Bicycles: Class II bicycle facilities (bicycle lanes) are striped and signed along Portola Drive and 41st Avenue, in both directions. The Santa Cruz County Bike Map (2010) also identifies these streets with bicycle lanes present. 38th Avenue is not a bicycle facility, though bicycles are present along this arterial and approach the proposed project site intersection with approximately 54 bicycles heading westbound and 35 bicycles heading eastbound along Portola Drive.

EXISTING LEVEL OF SERVICE AT STUDY INTERSECTIONS

Traffic operations were evaluated at the study intersections under existing traffic conditions. Results of the analysis are presented in **Table 2**. As shown in **Table 2**, the intersection of Portola Drive/41st Avenue currently operates at LOS E during the PM peak hour and does not meet the County criteria for acceptable operations.

Analysis sheets are provided in **Appendix C**.

Table 2 – Existing (2014) Intersection Level of Service Summary

#	Intersection	Control Type	Weekday Peak			
			AM		PM	
			Delay	LOS	Delay	LOS
1	Portola Drive / 41st Avenue	AWSC	14.0	B	36.1	E
2	Portola Drive / 38th Avenue	AWSC	12.0	B	19.8	C
3	Portola Drive / 30th Avenue (North Leg)	AWSC	14.5	B	18.2	C

Notes:

1. Analysis performed using HCM 2010 methodologies.
2. Delay indicated in seconds/vehicle.
3. Overall level of service (LOS) standard for the County is D.
4. Intersections that fall below County standard are shown in **bold**.

PROPOSED PROJECT

PROPOSED SITE USE

The proposed project will comprise a mixed use development consisting of residential, office and retail uses. All the activities will be located in one building. The retail space will include typical small shops and "market" type vendors. The retail space will operate during normal business hours and not be a farmers market set up, which operates once or twice a week for only a few hours of retail activity, but instead generate typical specialty retail traffic flow to and from the site, consistent with ITE trip generation rates. The unique features of the project, such as the market, will attract local residents, which may choose to bike or walk to the site. The proposed project will be located on the southeast corner of Portola Drive and 38th Avenue and replace the existing building (previously a retail lumber and hardware sales facility). Though the site is no longer in use, it has been frequently occupied by other tenants over the past few years and has continued to generate traffic to the site. The proposed project site will contain on-site parking for 50 vehicles (2 ADA spaces) and 20 bicycles (in racks and in garages), private garages, and one building which is proposed to include the following uses:

- 3,200 square feet of food service uses such as coffee house, craft beer, wine bar, ice cream shop, or restaurant uses.
- 3,200 square feet of retail non-food services uses such as clothing/skin care product or art gallery uses, and retail food related uses such as candy or chocolate shop, butcher shop, wine shop, flower shop, or fruit and vegetable stands.
- 3,200 square feet of office and service commercial uses such as beauty salon, computer repair, or pet grooming uses.
- Eight (8) residential condominium units of two bedrooms each.

Hours of operation for the above uses would vary, with office uses expected to operate between 8:00 AM and 5:00 PM, retail uses between 9:00 AM and 8:00PM, and restaurants, cafes, and wine bars between 7:00 AM and 10:00 PM depending on the specific use.

The project would have one stop - controlled driveway onto 38th Avenue, and a stop- controlled "gateway" driveway on Portola Drive, the latter of which would be the project's main driveway. The project site plan is presented in **Figure 1**. The project assumes 8 on-street spaces along the 38th Avenue frontage, which will be used to offset 4 residential spaces.

As part of the proposed project, frontage improvements will be constructed along Portola Drive and 38th Avenue. These improvements will include construction of one project driveway along 38th Avenue and one project "gateway" driveway along Portola Drive as illustrated in the site plan shown in **Figure 1**. The proposed project driveway on Portola Drive will be located along the easterly boundary of the site, which is an improvement from the exiting wide driveway, which extends along the entire frontage along Portola Drive. The stop-controlled intersection of Portola Drive/38th Avenue will provide gaps for vehicles to enter and exit the site.

PROJECT TRIP GENERATION

Trip generation for the project was selected based on the description above and was calculated using the Institute of Transportation Engineer's publication, *Trip Generation 9th Edition*.¹ *Trip Generation* is a standard reference, which is used by jurisdictions throughout the county for the estimation of trip generation. The retail activities will either be located in a store or street market type format with shopping counters facing the outsides of the building where shoppers would buy goods. The stores will have typical shopping hours as mentioned (9:00 AM to 8:00 PM) and will not generate specific peak traffic such as that for a farmers market, which has significantly different trip generation characteristics. In addition, the small vendors and specialty retail items will attract local residents who may walk or bike to the site.

A trip is defined in *Trip Generation* as a single or one-directional vehicle movement with either the origin or destination at the project site. In other words, a trip can be either "to" or "from" the site. In addition, a single customer visit to a site is counted as two trips (i.e., one to and one from the site).

For purposes of determining the worst-case impacts of traffic on the surrounding street network, the trips generated by a proposed development are typically estimated between the hours of 7:00-9:00 AM and 4:00-6:00 PM on a weekday. While the project itself may generate more traffic during some other time of the day such as around noon, the peak of "adjacent street traffic" represents the time period when the uses generally contribute to the greatest amount of congestion, with the PM peak commonly being the greatest congestion period.

Marquez Transportation Engineering conducted the trip generation study for this proposed project and used the general breakdown of uses listed in the previous section. The memorandum prepared for Hamilton Swift and Associates, which details the trip generation analysis, can be found in **Appendix B**. Kimley-Horn reviewed the trip generation estimate prepared by Marquez Transportation Engineering and found it to be appropriate for the site.

Trip generation calculations prepared per ITE methodology are based on gross floor area of the building. Gross floor area includes the sum of the floor area in square feet "including any cellars, basements, mezzanines, penthouses, corridors, lobbies, stores and offices that are within the principle outside faces of exterior walls." ITE specifies that "unroofed areas and unenclosed roofed-over spaces, except those contained within the principle out-side faces of exterior walls, should be excluded from the area calculations."²

Internal capture reductions were considered to account for the interaction of separate uses within a multi-use/mixed use development. A key characteristic of such development is that trips among the various land uses can be made on-site, thus resulting in internal trips that would not affect the offsite roadway network. Internal capture calculations were conducted following ITE methodologies contained in *Trip Generation Handbook*³ for the proposed office service commercial and residential condominium uses

¹ *Trip Generation, 9th Edition*, Institute of Transportation Engineers, 2012.

² *Trip Generation, 9th Edition*, Institute of Transportation Engineers, 2012.

³ *Trip Generation Handbook, 2nd Edition*, Institute of Transportation Engineers, June 2004.

during the AM peak hour, PM peak hour, and daily periods. The internal capture rates utilizing ITE methodologies resulted in an internal capture rate of 11 percent for each of these uses.

Linked trip reductions were considered to account for trips that can be made to access more than one use at the site with a single stop. The nonresidential uses (non-food retail and office service commercial) may be reduced by 25 percent due to linked trips.

Pass-by trip reductions are typically considered to account for trips that will already be on the road and will likely stop as they pass by the site. This reduction was applied only to food service commercial uses proposed for the site and results in a 20 percent reduction.

This initial trip generation was calculated based on the previous discussions. **Table 3** presents the trip generation for the proposed project, while **Table 4** presents the reductions due to internal capture, linked trips, and pass-by trips. Additional reductions were also taken into account and are reflected in the table as well, and are as follows:

- Reductions are assumed for trips taken to and from the site via walking and bicycling because of the nature of the retail activities and the location to the adjacent residential areas. As noted in **Table 3**, the project will generate approximately 41 trips in the AM and 41 trips in the PM peak once adjusted using the reductions in **Table 4**. Bicycle and pedestrian reductions account for 10% of these adjusted AM and PM trips, or 4 trips per peak hour period.
- Reductions are also assumed when accounting for trip credits associated with the site's most recent tenant use. The site, though currently vacant, was previously a retail lumber and hardware sales facility, and has in the recent past been used by Wellington Energy for storing and processing SMART gas meters for installation in the area. Various other tenants have also occupied the site since it was last used for lumber and hardware sales. The Wellington Energy use corresponds with the Light Industrial ITE land use code 110 and results in a trip credit of 13 trips in the AM and 15 trips in the PM.
- It should be noted that if a retail lumber/hardware facility trip credit would be applied, the corresponding ITE land use code would be code 812 (Building Materials and Lumber Store). The trip reduction therefore would have been much greater, resulting in 36 trips in the AM and 62 trips in the PM. Given the historical presence of the Pleasure Point Lumber Company, these trips have been part of the traffic pattern in the Pleasure Point and Live Oak area for over 53 years.

With all described reductions considered, the project would generate 24 net new trips in the AM peak hour and 22 net new trips in the PM peak hour.

Table 3 - Project Trip Generation

TRIP GENERATION RATES	ITE Land Use Code	Project Size	WEEKDAY			AM PEAK HOUR			PM PEAK HOUR		
			Daily Trips Rate	Total Peak Hour	% Of ADT	IN	OUT	Total Peak Hour	% Of ADT	IN	OUT
Proposed Project Uses											
Food Service Commercial	932		127.5	10.81	8%	55%	45%	9.85	8%	60%	40%
Non-Food Retail	826		44.32	2	5%	48%	52%	2.71	6%	44%	56%
Office Service Commercial	715		11.65	1.8	15%	89%	11%	1.74	15%	15%	85%
Residential Condominiums	231		7.4	0.67	9%	25%	75%	0.78	11%	58%	42%
Pre-Project Use¹											
Light Industrial	110		6.97	0.92	13%	88%	12%	0.97	14%	12%	88%
PROJECT TRIPS											
Food Service Commercial	932	3.2 KSF	408	35	9%	19	16	32	8%	19	13
Non-Food Retail	826	3.2 KSF	142	6	4%	3	3	9	6%	5	4
Office Service Commercial	715	3.2 KSF	37	6	16%	3	3	6	16%	4	2
Residential Condominiums	231	8 DU	59	5	8%	3	2	6	11%	4	2
Food Service Commercial Trip Reductions	0	3.2 KSF	(82)	(7)	9%	(4)	(3)	(6)	8%	(4)	(2)
Non-Food Retail Trip Reductions	932	3.2 KSF	(36)	(2)	4%	(1)	(1)	(2)	6%	(1)	(1)
Office Service Commercial Trip Reductions	826	3.2 KSF	(13)	(2)	16%	(1)	(1)	(2)	16%	(1)	(1)
Residential Condominiums Trip Reductions	715	8 DU	(6)	(1)	8%	0	(1)	(1)	12%	0	(1)
Adjusted Trips²			509	41		22	19	41		25	16
Credit for Bike/Pedestrian Trips (10% of Adjusted AM/PM Trips)			----	(4)		(3)	(1)	(4)		(3)	(1)
Credit for Trip Gen for Pre-Project Use (Light Industrial)	110	13.9 KSF	(97)	(13)		(11)	(2)	(15)		(2)	(13)
Net New Trips⁴			412	24		8	16	22		20	2

Notes:

1. Trip generation rates published by Institute of Transportation Engineers (ITE), "Trip Generation," 9th Edition, 2012.
2. Most recent pre-project use is considered light industrial, site was previously occupied by Wellington Energy.
3. Trips are adjusted due to Internal Reduction, Linked Trip Reduction, and Pass-By Trip Reduction by land use, per ITE "Trip Generation Handbook," 2nd Edition. Refer to Table 4 for trip reduction rates applied.
4. Net new trips refers to the number of AM and PM peak project trips after bike/pedestrian trip and pre-project use credits. Distribution of trips going in and out of the site are based only on the proposed project uses.

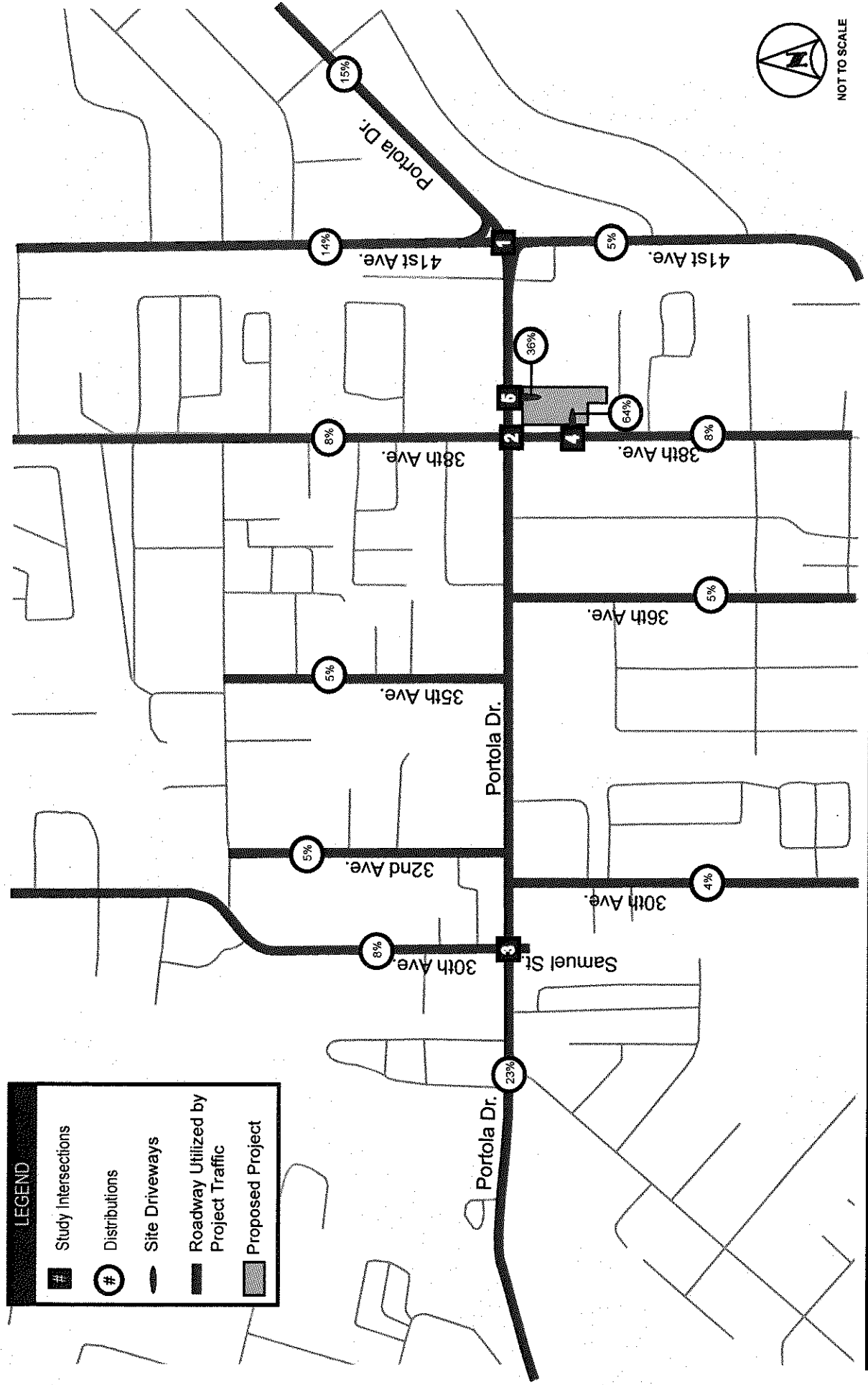
Table 4 - Project Trip Reductions by Land Use

Proposed Project Uses	ITE Land Use Code	Trip Reduction Rates		
		Internal Reduction	Linked Trip Reduction	Pass-by Trip Reduction
Food Service Commercial	932	0%	0%	20%
Non-Food Retail	826	0%	25%	0%
Office Service Commercial	715	11%	25%	0%
Residential Condominiums	231	11%	0%	0%

PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

Because of the unique nature of the development, most customers to the office, commercial and retail stores are expected to travel predominantly from the local Santa Cruz County area and from the residential neighborhoods. Existing travel patterns during the AM and PM peak hours at the study intersections were used to determine the trip distribution and assignment. Applying the directional distribution of ITE Land Use Codes for the office, residential and retail trips, the gross trips to and from the site were calculated. Approximately 50% of the project trips would distribute westwards along Portola Drive and 34% eastwards, redistributing at 41st Avenue, and 8% of the project trips would distribute north and south respectively on 38th Avenue. In the morning peak 24 peak hour trips will be generated, of which 8 trips will enter the site and 16 trips exit the site. In the afternoon peak hour 22 trips will be generated, of which 20 trips will enter the site and 2 trips will exit the site. **Figure 2** presents the traffic distribution and assignment for this analysis.

Portola Drive/38th Avenue Project, Santa Cruz County, CA - Traffic Impact Study



LEGEND

- # Study Intersections
- # Distributions
- Site Driveways
- Roadway Utilized by Project Traffic
- ▨ Proposed Project



NOT TO SCALE

EXISTING PLUS PROJECT LEVEL OF SERVICE AT STUDY INTERSECTIONS

Traffic operations were evaluated at the study intersections under existing conditions plus traffic generated by the project as seen on **Figure 3**. Results of the analysis are presented in **Table 5**. Locations operating unacceptably are bolded.

As shown in **Table 5**, Intersection #1 – Portola Drive / 41st Avenue will continue to operate at unacceptable LOS E. The addition of the project trips increases the v/c by 0.89%, which is less than the County threshold of 1%, and therefore is not considered a significant impact by the County.

The other study intersections will continue to operate at acceptable LOS per the County threshold.

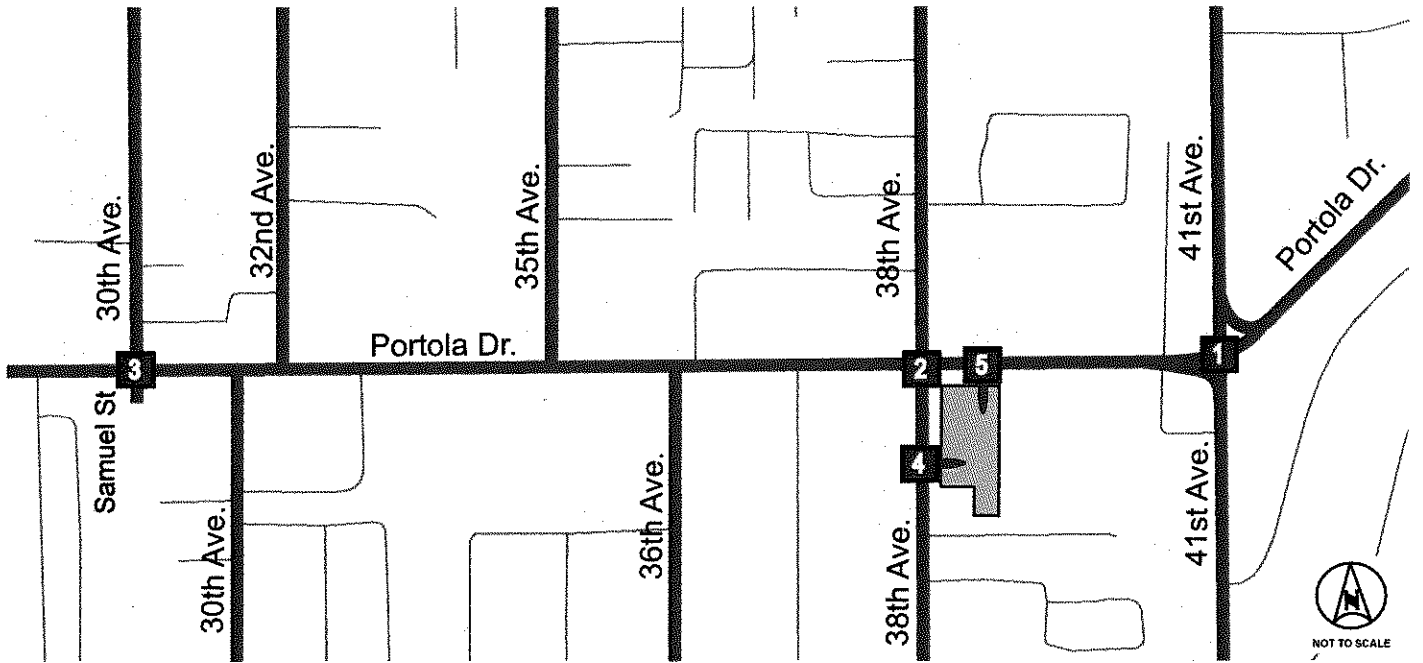
Intersection v/c for the Portola Drive / 41st Avenue intersection were determined using Traffix software. Analysis sheets from Synchro and from Traffix are provided in **Appendix D** and **Appendix J**.

Table 5 – Existing (2014) Plus Project Intersection Level of Service Summary

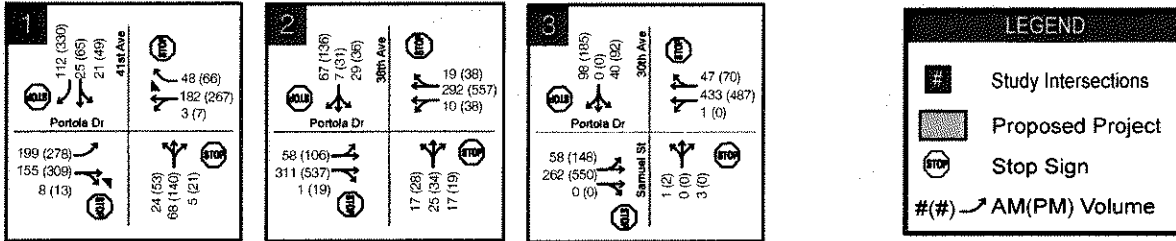
#	Intersection	Control Type	Movement	Existing Conditions				Existing Plus Project Conditions				% Increase v/c				
				AM Peak Hour Delay	AM Peak Hour LOS	PM Peak Hour Delay	PM Peak Hour LOS	AM Peak Hour Delay	AM Peak Hour LOS	PM Peak Hour Delay	PM Peak Hour LOS	AM Peak Hour	PM Peak Hour			
1	Portola Drive / 41st Avenue	AWSC	Overall	14.0	B	36.1	E	0.900	-	14.2	B	37.1	E	0.908	-	0.89%
2	Portola Drive / 38th Avenue	AWSC	Overall	12.0	B	19.8	C	-	-	12.2	B	20.3	C	-	-	-
3	Portola Drive / 30th Avenue	AWSC	Overall	14.5	B	18.2	C	-	-	14.7	B	18.4	C	-	-	-
4	38th Avenue / Driveway 1	SSSC	Overall	-	-	-	-	-	-	1.3	-	0.5	-	-	-	-
			Worst Approach	-	-	-	-	-	-	8.7	A	8.7	A	-	-	-
5	Portola Drive / Gateway	SSSC	Overall	-	-	-	-	-	-	0.1	-	0.1	-	-	-	-
			Worst Approach	-	-	-	-	-	-	11.9	B	20.1	C	-	-	-

Notes:

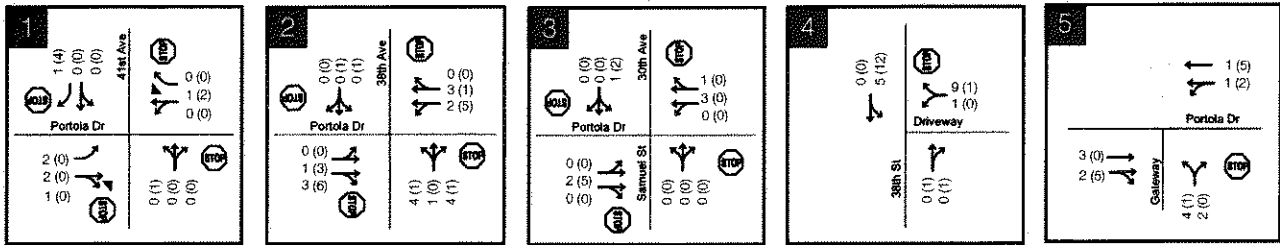
1. Analysis performed using HCM 2010 methodologies.
2. Delay indicated in seconds/vehicle.
3. Overall level of service (LOS) standard for the County is D.
4. Intersections that fall below County standard are shown in **bold**.



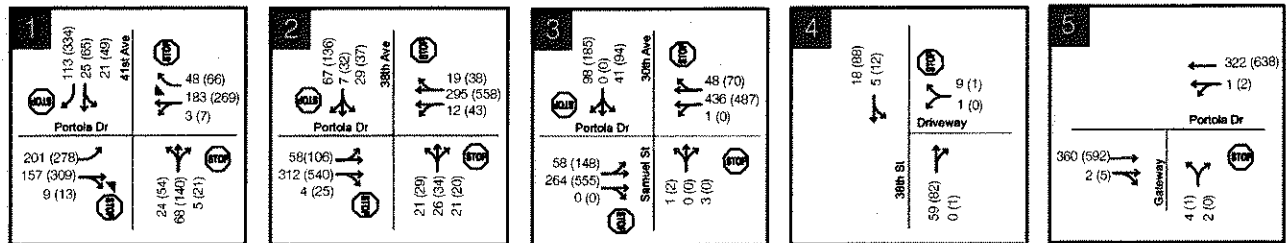
Existing Volumes



Project Volumes



Existing Plus Project Volumes



NEAR-TERM (2016) CONDITIONS

PLANNED ROADWAY PROJECTS IN VICINITY OF SITE

Per discussion with the County, and as documented in the County's Regional Transportation Plan (RTP)⁴, there are no programmed network improvements in the project study area and intersections expected to be constructed prior to opening the project that have not already been completed. **Figure 4** illustrates the intersection geometry and traffic control assumed in the Near-Term 2016 analysis, which are the same as existing conditions. Also, no future signalization is planned for any of the study intersections.

APPROVED & PENDING DEVELOPMENT PROJECTS IN VICINITY OF SITE/NEAR TERM CONDITIONS

Near Term conditions usually describes the conditions when the project would open its doors to the public. For purposes of this analysis it was assumed to be in year 2016. Near term conditions can either be calculated by assuming that approved but not yet constructed projects would add traffic to the road network by 2016 or future volumes could be estimated by assuming some growth in traffic volumes, based on historical and future projections. Kimley-Horn coordinated with County staff to determine if there were any development projects in the vicinity of the project site that are in various stages of planning, approval, or development. No specific projects were provided by County Staff that included land uses, project size, or date of completion or operation. Therefore, average daily volumes (ADTs) obtained from the Santa Cruz County Regional Transportation Commission (SCCRTC) were used to estimate the growth from potential projects for the Near-Term 2016 conditions as discussed below. Calculations to support this volume growth estimate can be found in **Appendix I**.

The most recent bi-directional ADTs, whose years vary across roadway segments in the County, were compared against the oldest ADTs of each pertinent roadway. Year 2016 turning movement volumes were calculated by adding the growth increment to the current year (2014) traffic count to calculate the final adjusted roadway link forecast volume. Under these methods, it was calculated that volumes along Portola Drive within the vicinity of the project would increase by 0.66% per annum, while volumes along 41st Avenue would increase by 0.13% per annum.

⁴ *Santa Cruz County Regional Transportation Commission (SCCRTC) 2014 Regional Transportation Plan (RTP)*, Santa Cruz County Regional Transportation Commission, June 2014.

NEAR-TERM (2016) TRAFFIC CONDITIONS

Traffic operations were evaluated under the following development conditions:

- Near-Term Conditions
- Near-Term plus Project Conditions

Near-term (2016) volumes were calculated by using the annual growth rates between the existing volumes and the 2035 volumes calculated from the provided SCCRTC average daily traffic volumes. Growth rates were determined only for the through movements along Portola Drive and along 41st Avenue. All other movements along other segments were kept constant at existing volumes since land use along these roadways segments is assumed to be already built out. The growth rates were applied to the existing counts in 2014 and grown to 2016.

NEAR-TERM INTERSECTION LEVEL OF SERVICE

Year 2016 volumes were evaluated at the study intersections and are presented in **Figure 4**. Results are presented in **Table 6**. As shown in **Table 6**, Intersection #1 – Portola Drive / 41st Avenue would continue to operate at unacceptable LOS E. Analysis sheets are provided in **Appendix E**.

Table 6 – Near-Term (2016) Intersection Level of Service Summary

#	Intersection	Control Type	Weekday Peak			
			AM		PM	
			Delay	LOS	Delay	LOS
1	Portola Drive / 41st Avenue	AWSC	14.1	B	37.8	E
2	Portola Drive / 38th Avenue	AWSC	12.1	B	20.0	C
3	Portola Drive / 30th Avenue (North Leg)	AWSC	14.7	B	18.5	C

Notes:

1. Analysis performed using HCM 2010 methodologies.
2. Delay indicated in seconds/vehicle.
3. Overall level of service (LOS) standard for the County is D.
4. Intersections that fall below County standard are shown in **bold**.

NEAR-TERM PLUS PROJECT INTERSECTION LEVEL OF SERVICE

Traffic operations were evaluated at the study intersections under near-term conditions plus traffic generated by the project as seen on **Figure 4**. Results of the analysis are presented in **Table 7**. Locations operating unacceptably are bolded.

As shown in **Table 7**, Intersection #1 – Portola Drive / 41st Avenue would operate unacceptably with a LOS E in the Near-Term Project Conditions. The addition of the project trips increases the v/c by 0.87%, which is less than the County threshold of 1%, and therefore is not considered a significant impact by the County.

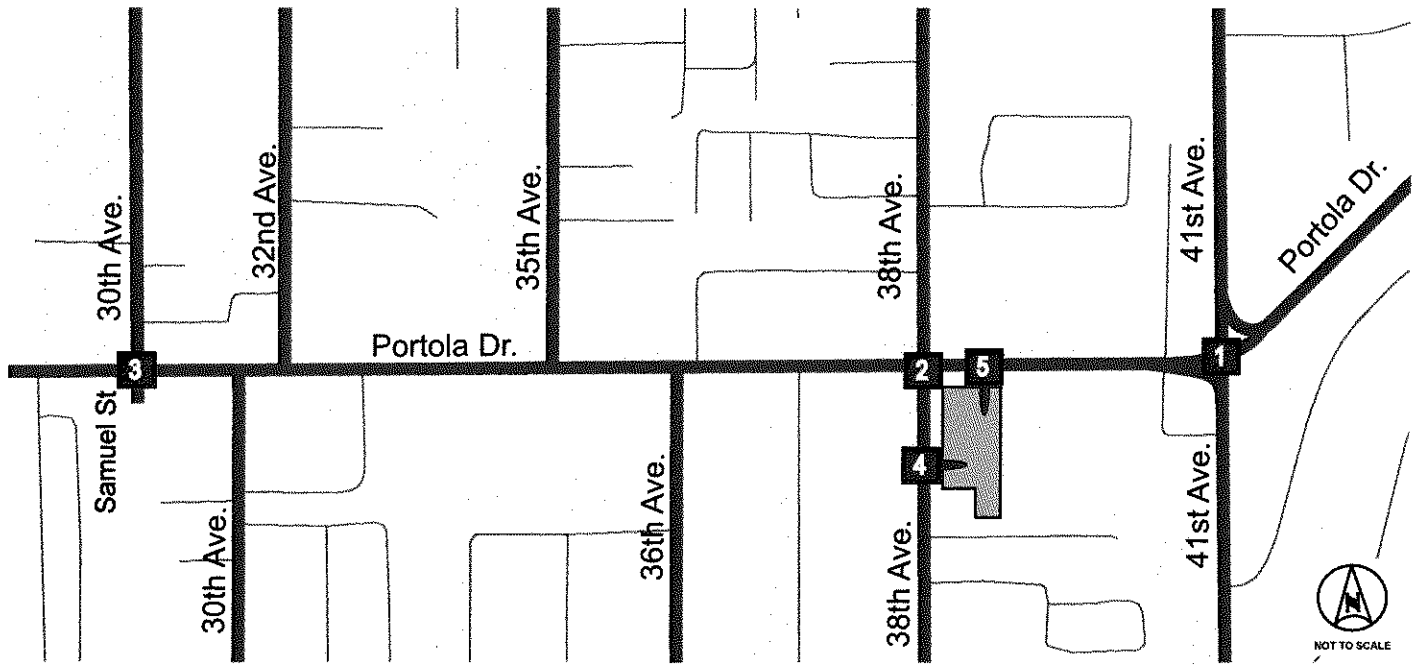
Analysis sheets from Synchro and from Traffix are provided in **Appendix F and Appendix J**.

Table 7 – Near-Term (2016) Plus Project Intersection Level of Service Summary

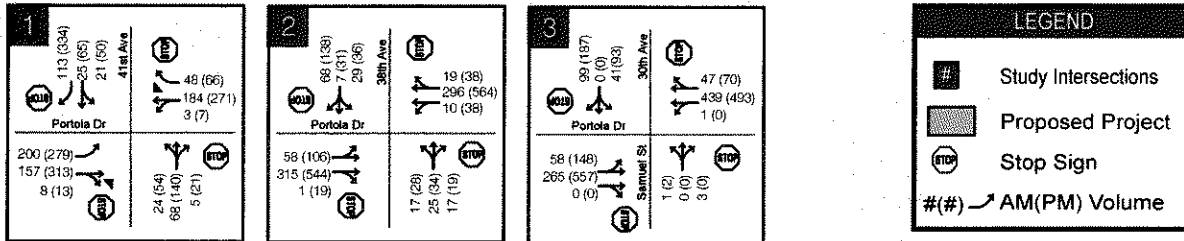
#	Intersection	Control Type	Movement	Near-Term (2016) Conditions				Near-Term (2016) Plus Project Conditions				% Increase v/c					
				AM Peak Hour Delay	LOS	Delay	LOS	PM Peak Hour Delay	LOS	AM Peak Hour Delay	LOS	PM Peak Hour Delay	LOS	AM Peak Hour	PM Peak Hour		
1	Portola Drive / 41st	AWSC	Overall	14.1	B	37.8	E	0.915	-	14.2	B	-	38.9	E	0.923	-	0.87%
2	Portola Drive / 38th	AWSC	Overall	12.1	B	20.0	C	-	-	12.3	B	-	20.7	C	-	-	-
3	Portola Drive / 30th	AWSC	Overall	14.7	B	18.5	C	-	-	14.9	B	-	18.8	C	-	-	-
4	38th Avenue / Driveway 1	SSSC	Overall	-	-	-	-	-	-	1.3	-	-	0.5	-	-	-	-
			Worst Approach	-	-	-	-	-	WB	8.7	A	WB	8.7	A	-	-	-
5	Portola Drive / Gateway	SSSC	Overall	-	-	-	-	-	-	0.1	-	-	0.1	-	-	-	-
			Worst Approach	-	-	-	-	-	NB	11.9	B	NB	20.3	C	-	-	-

Notes:

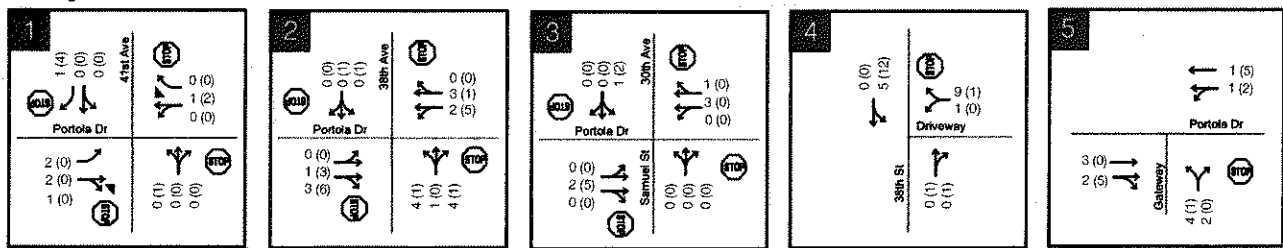
1. Analysis performed using HCM 2010 methodologies
2. Delay indicated in seconds/vehicle
3. Overall level of service (LOS) standard for the County is D
4. Intersections that fall below County standard are shown in **bold**.



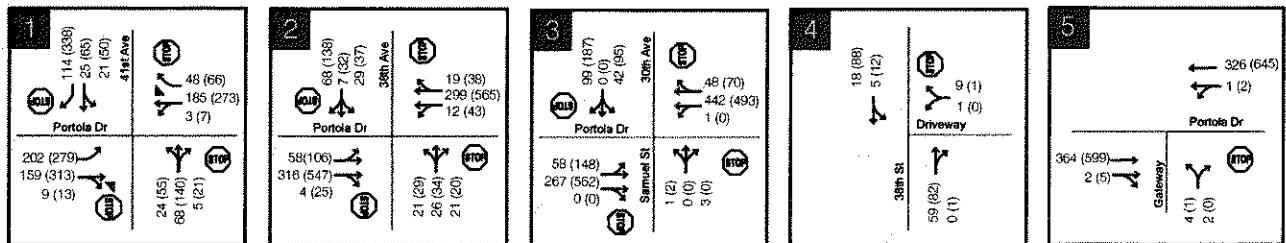
Near-Term Volumes



Project Volumes



Near-Term Plus Project Volumes



CUMULATIVE (2035) CONDITIONS

CUMULATIVE LANE CONFIGURATIONS AND TRAFFIC CONTROL

Per the County's Regional Transportation Plan (RTP)⁵ no future roadway improvements or other programmed network improvements in the immediate project area and study intersections have been identified that are expected to be completed by 2035. **Figure 5** illustrates the intersection geometry and traffic control assumed in the Cumulative (2035) analysis. Thus for cumulative (with no project) conditions, the roadway geometry and control is assumed to remain the same as for existing conditions.

YEAR 2035 FORECAST MODEL VOLUMES

Year 2035 roadway link volumes were calculated in a similar method to the Near-term 2016 volumes. The most recent bi-directional ADTs, whose years vary across roadway segments in the County, were compared against the oldest ADTs of each pertinent roadway. Year 2035 turning movement volumes were calculated by adding the growth increment to the current year (2014) traffic count to calculate the final adjusted roadway link forecast volume. Under these methods, it was again assumed that volumes along Portola Drive within the vicinity of the project would increase by 0.66% per annum, while volumes along 41st Avenue in the vicinity of Portola Drive would increase by 0.13% per annum. The growth assumption is based on historic data. The County General Plan does not indicate any major future development in this area that would result in increased volumes that would result in growth of 1% per annum, or approximately 20% through 2035.

⁵ *Santa Cruz County Regional Transportation Commission (SCCRTC) 2014 Regional Transportation Plan (RTP)*, Santa Cruz County Regional Transportation Commission, June 2014.

CUMULATIVE (2035) TRAFFIC CONDITIONS

Traffic operations were evaluated under the following cumulative conditions:

- Cumulative (2035) Conditions
- Cumulative (2035) plus Project Conditions

Results of the analysis are presented in **Table 8**. Additional detail is provided in **Appendix G**.

CUMULATIVE INTERSECTION LEVEL OF SERVICE

Cumulative traffic volumes were evaluated at study intersections and are presented in **Figure 5**. As shown in **Table 8**, Intersection #1 – Portola Drive / 41st Avenue would operate at unacceptable LOS F. Analysis sheets are provided in **Appendix G**.

Table 8 – Cumulative (2035) Intersection Level of Service Summary

#	Intersection	Control Type	Weekday Peak			
			AM		PM	
			Delay	LOS	Delay	LOS
1	Portola Drive / 41st Avenue	AWSC	15.9	C	55.0	F
2	Portola Drive / 38th Avenue	AWSC	13.5	B	27.9	D
3	Portola Drive / 30th Avenue	AWSC	17.9	C	24.7	C

Notes:

1. Analysis performed using HCM 2010 methodologies
2. Delay indicated in seconds/vehicle
3. Overall level of service (LOS) standard for the County is D
4. Intersections that fall below County standard are shown in **bold**.

CUMULATIVE PLUS PROJECT INTERSECTION LEVEL OF SERVICE

The project traffic was added to the cumulative conditions traffic at the study intersections and analyzed. The Cumulative plus traffic generated by the project as seen on **Figure 5**. Results of the analysis are presented in **Table 9**. Locations operating unacceptably are bolded.

As shown in **Table 9**, Intersection #1 – Portola Drive / 41st Avenue would operate unacceptably with a LOS E in the Near Term project conditions. The addition of the project trips increases the v/c by 0.85%, which is less than the County threshold of 1%, and therefore is not considered a significant impact by the County.

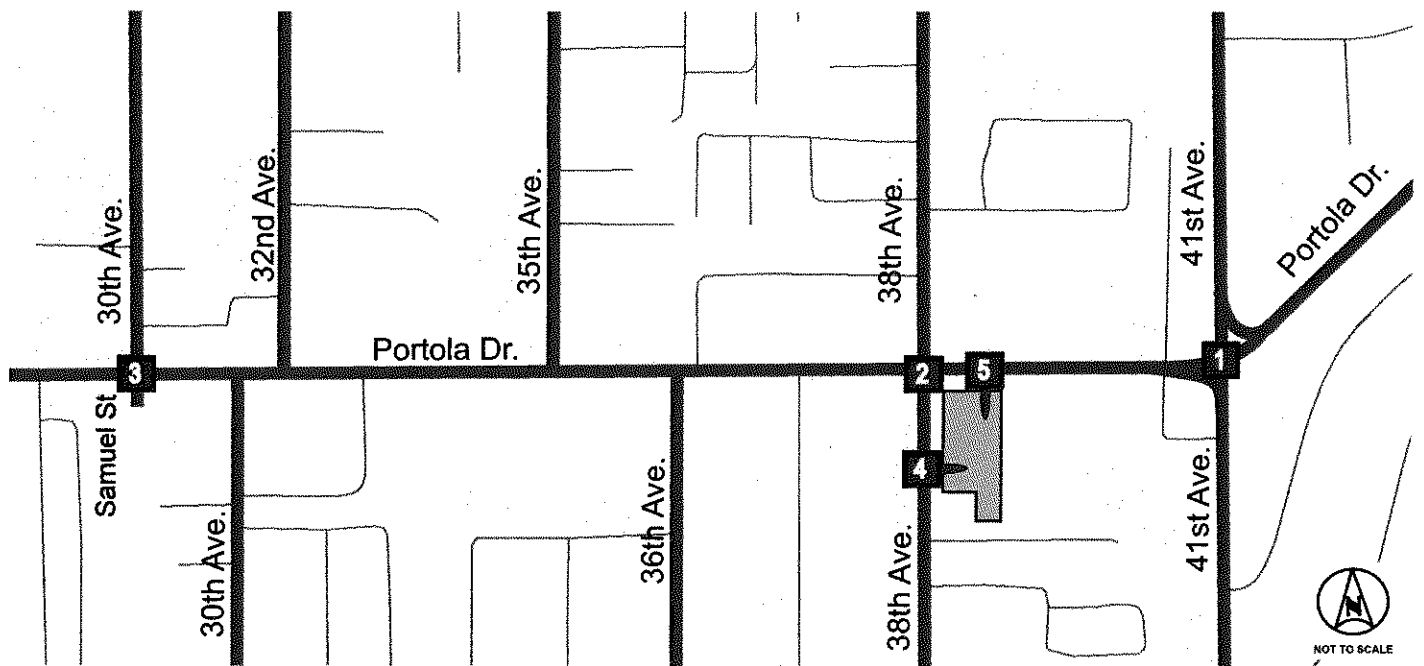
Analysis sheets from Synchro and from Traffix are provided in **Appendix H and Appendix J**.

Table 9 – Cumulative (2035) Plus Project Intersection Level of Service Summary

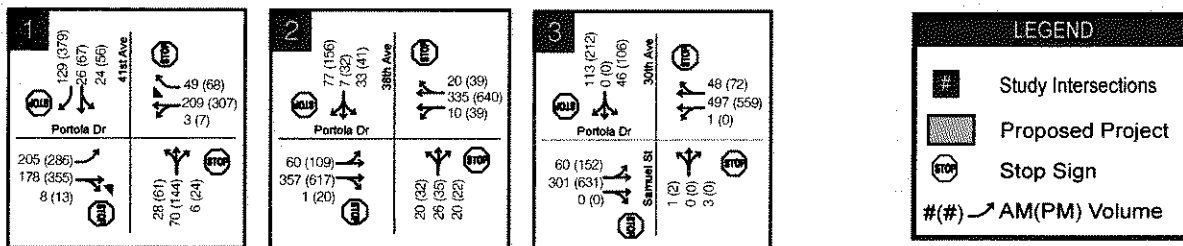
#	Intersection	Control Type	Movement	Cumulative (2035) Conditions				Cumulative Plus Project Conditions				% Increase v/c					
				AM Peak Delay	AM Peak LOS	PM Peak Delay	PM Peak LOS	V/C	AM Peak Delay	AM Peak LOS	PM Peak Delay	PM Peak LOS	V/C	AM Peak Hour	PM Peak Hour		
1	Portola Drive / 41st Avenue	AWSC	Overall	15.9	C	55.0	F	1.065	-	16.1	C	-	F	55.9	-	-	0.85%
2	Portola Drive / 38th Avenue	AWSC	Overall	13.5	B	27.9	D	-	13.8	B	-	-	D	28.9	-	-	-
3	Portola Drive / 30th Avenue	AWSC	Overall	17.9	C	24.7	C	-	18.2	C	-	-	D	25.1	-	-	-
4	38th Avenue / Driveway 1	SSSC	Overall	-	-	-	-	-	1.3	-	-	-	0.5	-	-	-	-
			<i>Worst Approach</i>	-	-	-	-	-	8.7	A	WB	A	8.8	A	-	-	-
5	Portola Drive / Gateway	SSSC	Overall	-	-	-	-	-	0.1	-	-	-	0.1	-	-	-	-
			<i>Worst Approach</i>	-	-	-	-	-	12.6	B	NB	B	23.7	C	-	-	-

Notes:

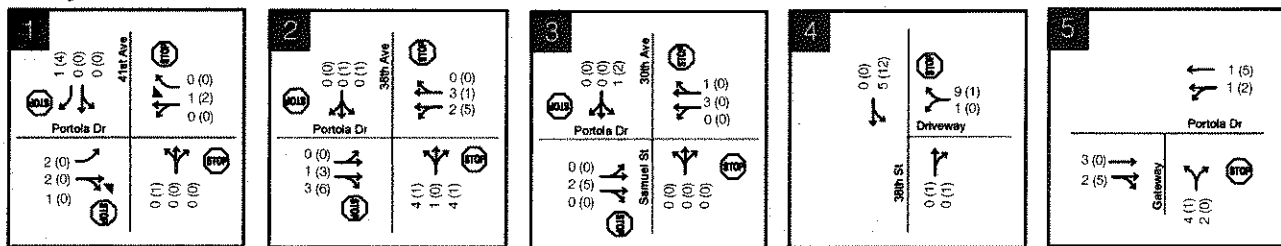
1. Analysis performed using HCM 2010 methodologies
2. Delay indicated in seconds/vehicle
3. Overall level of service (LOS) standard for the County is D
4. Intersections that fall below County standard are shown in **bold**.



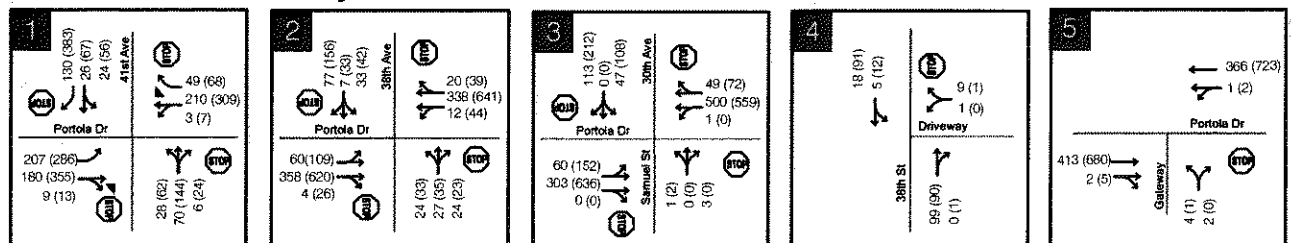
Cumulative Volumes



Project Volumes



Cumulative Plus Project Volumes



POTENTIAL EFFECTS ON TRANSIT, BICYCLE, AND PEDESTRIAN MOBILITY

The proposed project was evaluated to determine if it would adversely affect adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks) or generate pedestrian, bicycle, or transit travel demand that would not be accommodated by transit, bicycle, or pedestrian facilities and plans.

Patrons to the development have the option of driving, taking transit, walking, or bicycling. Those patrons that choose to take transit have the option of three transit services that operate along Portola Drive, 38th Street and 41st Street with bus stops near the project site. According to 2006-2010 U.S. Census data cited by the SCCRTC's Regional Transportation Plan, approximately 3% of Santa Cruz County residents use transit to travel to work. This typically represents the highest level of transit ridership during the day, with other periods being lower such as when shoppers commonly travel to the store. If it is conservatively assumed (from the standpoint of transit demand) that 3% percent of the patrons and employees of the development will use transit during the peak hours of the day, it represents approximately one passenger both in the weekday AM peak period and weekday PM peak period, which has negligible adverse impact on transit mobility, accessibility, or safety at any of the study intersections. Bus stops are located within 500 feet from the project site.

Patrons choosing to walk to the site would also have negligible adverse impact on pedestrian mobility, accessibility, or safety at the study intersections once frontage improvements are constructed. Only up to two pedestrian and/or bicycle trips both in the weekday AM peak period and weekday PM peak period are anticipated for the project. Per the current site plan, sidewalks will be installed along the 38th Avenue frontage. There is existing curb on the proposed frontage along Portola Avenue. The proposed frontage improvements, which include sidewalks, driveways, and landscaping such as planting strips and tree grates, would extend the existing sidewalk along the south side of Portola Drive to the east side of 38th Avenue up to the southerly project limit, which abuts a private residence.

Internal pedestrian connections would link the proposed site's entrance with the parking areas, the Portola Drive and 38th Avenue frontages. These sidewalks would be installed along the east and south perimeter of the proposed building. These on-site elements will allow patrons, condominium residents and employees to conveniently walk from nearby destinations.

Patrons choosing to bike to the site would also have negligible adverse impact on bicyclist mobility, accessibility, or safety. Only up to two pedestrian and/or bicycle trips both in the weekday AM peak period and weekday PM peak period are anticipated for the project. Class II bicycle facilities along Portola Drive provides bicycle access to the site. The intersection of 38th Avenue/Portola Drive provides crossings for pedestrian on all four corners.

Given these circumstances, the site plan in **Figure 1** indicates the construction of the necessary on-site sidewalks, walkways, bicycle parking, and other amenities in compliance with adopted policies, plans and programs; thus, the project's impact on transit, pedestrian or bicycle facilities is determined to be less than significant.

SITE ACCESS AND CIRCULATION

On site circulation was evaluated at the project's two driveways, which are along the 38th Avenue frontage (Intersection #4) and along the Portola Drive frontage (Intersection #5).

The driveway along 38th Avenue (Intersection #4) would provide ease of entry to the site primarily for patrons visiting from the neighboring residences and would accommodate a majority of the project trips (64%) as indicated in **Figure 2**.

An existing speed hump is located on 38th Avenue where the proposed project driveway (Intersection #4) would be located. This hump will impact vehicle maneuvers in and out of the site. It will affect the entering and exit speeds of vehicles in and out of the driveway and also result in discomfort for turning vehicles due to the skew angle of these vehicles when driving over it. This hump should be relocated, preferable to just north of the driveway, but without impacting other driveways and drainage. The small relocation is not anticipated to impact the rate of reduction of the speeds of through traffic on 38th Avenue. This relocation may have to be coordinated with the neighbors.

The "gateway" driveway along Portola Drive (Intersection #5) would provide adequate entry to the proposed site via an eastbound right (EBR) or a westbound left (WBL) movement. However, the driveway may pose difficulties on exiting the site via a northbound left (NBL) movement. While still feasible, it is for this reason that fewer project trips (36%) are anticipated to use this driveway.

TRAFFIC IMPACT FEES

Because the project adds traffic to the County wide roadway system, it will be required to pay the County Traffic Impact Fees. The Fee will be based on the net trip generation.

SUMMARY OF IMPACTS

Based on the results of the traffic analysis and evaluation of the proposed site plan, Intersection #1 – Portola Drive / 41st Avenue is the only intersection that operates at an unacceptable level of service in existing conditions and continues to operate at unacceptable conditions during the PM peak hours in the near-term and cumulative conditions. However, the project traffic does not increase the critical v/c by more than 1%. Therefore, the addition of the project traffic does not cause a significant impact that should be mitigated.

APPENDIX

A: TURNING MOVEMENT VOLUMES

B: TRIP GENERATION MEMO – MARQUEZ TRANSPORTATION ENGINEERING

C: EXISTING TRAFFIC CONDITIONS ANALYSIS SHEETS

D: EXISTING PLUS PROJECT TRAFFIC CONDITIONS ANALYSIS SHEETS

E: NEAR-TERM (2016) TRAFFIC CONDITIONS ANALYSIS SHEETS

F: NEAR-TERM (2016) PLUS PROPOSED PROJECT TRAFFIC CONDITIONS ANALYSIS SHEETS

G: CUMULATIVE (2035) TRAFFIC CONDITIONS ANALYSIS SHEETS

H: CUMULATIVE (2035) PLUS PROPOSED PROJECT TRAFFIC CONDITIONS ANALYSIS SHEETS

I: CALCULATION OF NEAR-TERM AND CUMULATIVE CONDITION VOLUMES

J: TRAFFIX ANALYSIS SHEETS (FOR IMPACTED INTERSECTIONS ONLY)

A: TURNING MOVEMENT VOLUMES

ALL TRAFFIC DATA

(916) 771-8700

orders@aldrtraffic.com

City of Santa Cruz
 All Vehicles on Unshifted
 Peds & Bikes on Bank 1
 Nothing on Bank 2

File Name : 14-7679-003 41st Avenue-Portola Drive.ppd
 Date : 10/16/2014

Unshifted Count = All Vehicles

START TIME	41st Avenue Southbound					Portola Drive Westbound					41st Avenue Northbound					Portola Drive Eastbound					Total	Uturn Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
06:00	2	2	10	0	14	0	8	2	0	10	4	10	3	0	17	23	5	1	0	29	70	0
06:15	0	2	8	0	10	1	7	2	0	10	1	11	1	0	13	23	6	0	0	29	62	0
06:30	4	4	29	0	37	1	14	6	0	21	2	2	0	12	37	37	6	0	0	43	113	0
06:45	4	5	22	0	31	0	32	4	0	36	6	12	4	0	22	29	13	1	0	43	132	0
Total	10	13	69	0	92	2	61	14	0	77	13	43	8	0	64	112	30	2	0	144	377	0
07:00	1	6	34	0	41	0	25	10	0	35	3	12	1	0	16	42	27	0	0	69	161	0
07:15	6	3	24	0	33	1	40	9	0	50	2	15	0	0	17	33	38	4	0	75	175	0
07:30	7	11	34	0	52	1	55	13	0	69	8	12	2	0	22	53	37	1	0	91	234	0
07:45	7	5	20	0	32	1	62	16	0	79	11	29	2	0	42	71	53	3	0	127	280	0
Total	21	25	112	0	158	3	182	48	0	233	24	68	5	0	97	199	155	8	0	362	850	0
16:30	11	17	81	0	109	0	61	17	0	78	12	39	7	0	58	70	69	2	0	141	386	0
16:45	13	14	85	0	112	2	76	18	0	96	17	32	8	0	57	66	81	3	0	150	415	0
17:00	16	11	79	0	106	2	59	12	0	73	12	28	4	0	44	63	82	3	0	148	371	0
17:15	9	23	85	0	117	3	71	19	0	93	12	41	2	0	55	79	77	5	0	161	426	0
Total	49	65	330	0	444	7	267	66	0	340	53	140	21	0	214	278	309	13	0	600	1598	0
17:30	15	17	64	0	96	1	53	18	0	72	11	36	2	0	49	67	63	7	0	137	354	0
17:45	13	7	67	0	87	0	54	12	0	66	10	30	2	0	42	50	57	5	0	112	307	0
18:00	15	8	84	0	107	3	55	18	0	76	13	23	4	0	40	62	58	1	0	121	344	0
18:15	8	10	64	0	82	2	46	9	0	57	14	35	3	0	52	49	37	6	0	92	283	0
Total	51	42	279	0	372	6	208	57	0	271	48	124	11	0	183	228	215	19	0	462	1288	0

Grand Total	131	145	790	0	1066	18	718	185	0	921	138	375	45	0	568	817	709	42	0	1568	4113	0
Approach Total %	12.3%	13.6%	74.1%	0.0%	25.9%	2.0%	78.0%	20.1%	0.0%	22.4%	24.7%	67.2%	8.1%	0.0%	13.6%	52.1%	45.2%	2.7%	0.0%	38.1%	100.0%	0
Total %	3.2%	3.5%	19.2%	0.0%	25.9%	0.4%	17.5%	4.5%	0.0%	22.4%	3.4%	9.1%	1.1%	0.0%	13.6%	19.9%	17.2%	1.0%	0.0%	38.1%	100.0%	0

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

City of Santa Cruz
 All Vehicles on Unshifted
 Peds & Bikes on Bank 1
 Nothing on Bank 2

File Name : 14-7679-003 41st Avenue-Portola Drive.ppd
 Date : 10/16/2014

Unshifted Count = All Vehicles

AM PEAK HOUR	41st Avenue Southbound				Portola Drive Westbound				41st Avenue Northbound				Portola Drive Eastbound					
	START TIME	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	APP. TOTAL	LEFT	THRU	RIGHT	APP. TOTAL	LEFT	THRU	RIGHT	APP. TOTAL	Total	
07:00	1	6	34	0	0	25	10	0	35	3	12	1	0	16	42	27	0	69
07:15	6	3	24	0	1	40	9	0	50	2	15	0	0	17	33	38	4	75
07:30	7	11	34	0	1	55	13	0	69	8	12	2	0	22	53	37	1	91
07:45	7	5	20	0	1	62	16	0	79	11	29	2	0	42	71	53	3	127
Total Volume	21	25	112	0	3	182	48	0	233	24	68	5	0	97	189	155	8	362
% App Total	13.3%	15.8%	70.9%	0.0%	1.3%	78.1%	20.6%	0.0%	73.7	24.7%	70.1%	5.2%	0.0%	57.7	55.0%	42.8%	2.2%	0.0%
PHF	.750	.568	.824	.000	.750	.734	.750	.000	.737	.545	.586	.625	.000	.577	.701	.731	.500	.000

PM PEAK HOUR	41st Avenue Southbound				Portola Drive Westbound				41st Avenue Northbound				Portola Drive Eastbound					
	START TIME	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	APP. TOTAL	LEFT	THRU	RIGHT	APP. TOTAL	LEFT	THRU	RIGHT	APP. TOTAL	Total	
16:30	11	17	81	0	0	61	17	0	78	12	39	7	0	58	70	69	2	141
16:45	13	14	85	0	2	76	18	0	96	17	32	8	0	57	66	81	3	150
17:00	16	11	79	0	2	59	12	0	73	12	28	4	0	44	63	82	3	148
17:15	9	23	85	0	3	71	19	0	93	12	41	2	0	55	79	77	5	161
Total Volume	49	65	330	0	7	267	66	0	340	53	140	21	0	214	278	309	13	600
% App Total	11.0%	14.6%	74.3%	0.0%	2.1%	78.5%	19.4%	0.0%	88.5	24.8%	65.4%	9.8%	0.0%	92.2	46.3%	51.5%	2.2%	0.0%
PHF	.766	.707	.971	.000	.583	.878	.868	.000	.885	.779	.854	.656	.000	.922	.880	.942	.850	.000

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

City of Santa Cruz
 All Vehicles on Unshifted
 Peds & Bikes on Bank 1
 Nothing on Bank 2

File Name : 14-7679-003.41st Avenue-Portola Drive.ppd
 Date : 10/16/2014

Bank 1 Count = Peds & Bikes

START TIME	41st Avenue Southbound						Portola Drive Westbound						41st Avenue Northbound						Portola Drive Eastbound					
	LEFT	THRU	RIGHT	PEDS	APP-TOTAL		LEFT	THRU	RIGHT	PEDS	APP-TOTAL		LEFT	THRU	RIGHT	PEDS	APP-TOTAL		LEFT	THRU	RIGHT	PEDS	APP-TOTAL	
06:00	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	
06:15	0	0	0	0	0		0	0	0	0	0		0	1	0	0	1		0	0	0	1	0	
06:30	0	0	0	0	0		0	1	0	2	1		0	0	0	1	0		0	0	0	1	0	
06:45	0	0	0	0	0		0	1	0	1	1		0	0	0	0	0		1	0	0	0	0	
Total	0	0	0	0	0		0	2	0	3	2		0	1	0	1	1		1	0	0	2	1	
07:00	0	0	0	1	0		0	0	0	1	0		0	1	0	1	1		0	0	0	1	0	
07:15	0	2	0	0	2		0	2	0	2	0		0	0	0	2	0		0	1	0	0	1	
07:30	0	1	0	1	1		0	2	0	1	2		0	1	0	1	1		0	3	0	0	3	
07:45	0	0	0	2	0		0	2	0	3	2		0	0	0	2	0		1	4	1	1	6	
Total	0	3	0	4	3		0	6	0	7	6		0	2	0	6	2		1	8	1	2	10	
16:30	0	2	3	11	5		0	2	0	8	2		1	0	0	5	1		3	2	0	7	5	
16:45	2	2	0	7	4		0	2	0	16	2		0	1	0	9	1		0	1	0	4	1	
17:00	1	3	3	1	7		0	0	1	8	1		1	3	0	5	4		0	1	0	1	1	
17:15	0	1	6	5	7		0	5	0	14	5		2	0	0	4	2		0	0	2	7	2	
Total	3	8	12	24	23		0	9	1	46	10		4	4	0	23	8		3	4	2	19	9	
17:30	0	5	1	4	6		1	1	0	12	2		0	2	1	3	3		0	0	0	2	0	
17:45	0	1	0	3	1		3	5	1	5	9		1	1	2	9	4		1	2	0	10	3	
18:00	0	2	0	2	2		0	0	0	14	0		0	0	0	5	1		0	3	0	5	3	
18:15	0	5	0	2	5		0	0	0	9	0		0	1	0	4	1		0	1	1	9	2	
Total	0	13	1	11	14		4	6	1	40	11		1	5	3	21	9		1	6	1	26	8	
Grand Total	3	24	13	39	40		4	23	2	96	29		5	12	3	51	20		6	18	4	49	28	
Approach Total %	7.5%	60.0%	32.5%		34.2%		13.8%	79.3%	6.9%	24.8%	25.0%		25.0%	60.0%	15.0%	17.1%		21.4%	64.3%	14.3%	23.9%	100.0%		
Total %	2.6%	20.5%	11.1%		34.2%		3.4%	19.7%	1.7%	24.8%	4.3%		4.3%	10.3%	2.6%	17.1%		5.1%	15.4%	3.4%	23.9%	100.0%		

ALL TRAFFIC DATA

City of Santa Cruz
 All Vehicles on Unshifted
 Peds & Bikes on Bank 1
 Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 14-7679-003 41st Avenue-Portola Drive.ppd
 Date : 10/16/2014

Bank 1 Count = Peds & Bikes

AM PEAK HOUR	41st Avenue Southbound				Portola Drive Westbound				41st Avenue Northbound				Portola Drive Eastbound									
	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	
Peak Hour Analysis From 07:00 to 08:00																						
Peak Hour For Entire Intersection Begins at 07:00																						
07:00	0	0	0	1	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1	0	1
07:15	0	2	0	0	2	0	0	0	2	0	0	0	0	2	0	0	1	0	0	1	0	5
07:30	0	1	0	1	1	0	2	0	1	0	0	1	0	1	1	0	3	0	0	3	0	7
07:45	0	0	0	2	0	0	2	0	3	2	0	0	2	0	0	1	4	1	1	6	1	8
Total Volume	0	3	0	4	3	0	6	0	7	6	0	2	0	6	2	1	8	1	2	10	10	21
% App Total	0.0%	100.0%	0.0%	0.0%	.375	0.0%	100.0%	0.0%	0.0%	.750	0.0%	100.0%	0.0%	0.0%	.500	10.0%	80.0%	10.0%	10.0%	.417	.656	
PHF	.000	.375	.000	.000	.375	.000	.750	.000	.000	.750	.000	.500	.000	.000	.500	.250	.500	.250	.417	.417	.656	

PM PEAK HOUR	41st Avenue Southbound				Portola Drive Westbound				41st Avenue Northbound				Portola Drive Eastbound								
	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	0	2	3	11	5	0	2	0	8	2	1	0	0	5	1	3	2	0	7	5	13
16:45	2	2	0	7	4	0	2	0	16	2	0	1	0	9	1	0	1	0	4	1	8
17:00	1	3	3	1	7	0	0	1	8	1	1	3	0	5	4	0	1	0	1	1	13
17:15	0	1	6	5	7	0	5	0	14	5	2	0	0	4	2	0	0	2	7	2	16
Total Volume	3	8	12	24	23	0	9	1	46	10	4	4	0	23	8	3	4	2	19	9	50
% App Total	13.0%	34.8%	52.2%	52.2%	.821	0.0%	90.0%	10.0%	10.0%	.500	50.0%	50.0%	0.0%	0.0%	.500	33.3%	44.4%	22.2%	22.2%	.450	.781
PHF	.375	.667	.500	.500	.821	.000	.450	.250	.250	.500	.333	.333	.000	.000	.500	.250	.500	.250	.450	.450	.781

ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

City of Santa Cruz
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

File Name : 14-7679-002 38th Avenue-Potrera Drive.ppd
Date : 10/16/2014

Unshifted Count = All Vehicles

START TIME	38th Avenue Southbound				Portola Drive Westbound				38th Avenue Northbound				Portola Drive Eastbound				Total	Utum Total				
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT			THRU	RIGHT	UTURNS	APP.TOTAL
06:00	3	0	0	0	3	0	19	3	0	22	1	4	5	0	10	5	22	0	0	27	62	0
06:15	0	0	8	0	8	0	15	0	0	15	4	1	1	0	6	3	28	1	0	32	61	0
06:30	3	0	4	0	7	1	39	6	0	46	2	5	2	0	9	6	39	1	0	46	108	0
06:45	3	0	9	0	12	2	47	6	0	55	2	6	2	0	10	9	33	0	0	42	119	0
Total	9	0	21	0	30	3	120	15	0	138	9	16	10	0	35	23	122	2	0	147	350	0
07:00	4	1	9	0	14	2	57	4	0	63	2	3	4	0	9	16	54	0	0	70	156	0
07:15	4	1	11	0	16	1	62	3	0	66	4	7	5	0	16	12	66	1	0	79	177	0
07:30	10	2	15	0	27	1	83	5	0	89	6	8	4	0	18	15	84	0	0	99	233	0
07:45	11	3	32	0	46	6	90	7	0	103	5	7	4	0	16	15	107	0	0	122	287	0
Total	29	7	67	0	103	10	292	19	0	321	17	25	17	0	59	58	311	1	0	370	853	0
16:30	14	13	45	0	72	11	136	11	0	158	6	13	9	0	28	24	127	2	0	153	411	0
16:45	4	5	27	0	36	10	145	7	0	162	8	8	4	0	20	26	133	9	0	168	386	0
17:00	12	5	29	0	46	8	121	7	0	136	9	9	4	0	22	28	140	3	0	171	375	0
17:15	6	8	35	0	49	9	155	13	0	177	5	4	2	0	11	28	137	5	0	170	407	0
Total	36	31	136	0	203	38	557	38	0	633	28	34	19	0	81	106	537	19	0	682	1579	0
17:30	6	9	19	0	34	1	117	9	0	127	3	11	1	0	15	17	105	5	0	127	303	0
17:45	3	7	22	0	32	9	103	7	0	119	5	3	2	0	10	24	94	4	0	122	283	0
18:00	10	6	28	0	44	7	116	9	0	132	4	4	8	0	16	21	92	3	0	116	308	0
18:15	7	1	33	0	41	8	102	6	0	116	4	10	1	0	15	28	78	2	0	108	280	0
Total	26	23	102	0	151	25	438	31	0	494	16	28	12	0	56	90	369	14	0	473	1174	0
Grand Total	100	61	326	0	487	76	1407	103	0	1586	70	103	58	0	231	277	1339	36	0	1652	3956	0
Approach %	20.5%	12.5%	66.9%	0.0%	12.3%	4.8%	88.7%	6.5%	0.0%	40.1%	30.3%	44.6%	25.1%	0.0%	5.8%	16.8%	81.1%	2.2%	0.0%	41.8%	100.0%	0.0%
Total %	2.5%	1.5%	8.2%	0.0%	0.0%	1.9%	35.6%	2.6%	0.0%	1.8%	2.6%	1.5%	0.0%	0.0%	7.0%	33.8%	0.9%	0.0%	0.0%	41.8%	100.0%	0.0%

ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

City of Santa Cruz
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

File Name : 14-7679-002 38th Avenue-Potrera Drive.ppd
Date : 10/16/2014

Unshifted Count = All Vehicles

AM PEAK HOUR	38th Avenue Southbound				Portola Drive Westbound				38th Avenue Northbound				Portola Drive Eastbound			
	LEFT	THRU	RIGHT	UTURNS	LEFT	THRU	RIGHT	UTURNS	LEFT	THRU	RIGHT	UTURNS	LEFT	THRU	RIGHT	UTURNS
START TIME																
07:00	4	1	9	0	2	57	4	0	2	3	4	0	16	54	0	0
07:15	4	1	11	0	1	62	3	0	4	7	5	0	12	66	1	0
07:30	10	2	15	0	1	83	5	0	6	8	4	0	15	84	0	0
07:45	11	3	32	0	6	90	7	0	5	7	4	0	15	107	0	0
Total Volume	29	7	67	0	10	292	19	0	17	25	17	0	58	311	1	0
% App Total	28.2%	6.8%	65.0%	0.0%	3.1%	91.0%	5.9%	0.0%	28.8%	42.4%	28.8%	0.0%	15.7%	84.1%	0.3%	0.0%
PHF	.659	.583	.523	.000	.417	.811	.679	.000	.708	.781	.850	.000	.906	.727	.250	.000
APP TOTAL	.560				.779				.819				.758			

Peak Hour Analysis From 07:00 to 08:00
Peak Hour For Entire Intersection Begins at 07:00

PM PEAK HOUR	38th Avenue Southbound				Portola Drive Westbound				38th Avenue Northbound				Portola Drive Eastbound			
	LEFT	THRU	RIGHT	UTURNS	LEFT	THRU	RIGHT	UTURNS	LEFT	THRU	RIGHT	UTURNS	LEFT	THRU	RIGHT	UTURNS
START TIME																
16:30	14	13	45	0	11	136	11	0	6	13	9	0	24	127	2	0
16:45	4	5	27	0	10	145	7	0	8	8	4	0	26	133	9	0
17:00	12	5	29	0	8	121	7	0	9	9	4	0	28	140	3	0
17:15	6	8	35	0	9	155	13	0	5	4	2	0	28	137	5	0
Total Volume	36	31	136	0	38	557	38	0	28	34	19	0	106	537	19	0
% App Total	17.7%	15.3%	67.0%	0.0%	6.0%	88.0%	6.0%	0.0%	34.6%	42.0%	23.5%	0.0%	16.0%	81.1%	2.9%	0.0%
PHF	.643	.596	.756	.000	.864	.888	.731	.000	.778	.654	.528	.000	.946	.959	.528	.000
APP TOTAL	.705				.894				.723				.968			

Peak Hour Analysis From 16:30 to 17:30
Peak Hour For Entire Intersection Begins at 16:30

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

City of Santa Cruz
 All Vehicles on Unshifted
 Peds & Bikes on Bank 1
 Nothing on Bank 2

File Name : 14-7679-002 38th Avenue-Potrola Drive.ppd
 Date : 10/16/2014

Bank 1 Count = Peds & Bikes

START TIME	38th Avenue Southbound						Portola Drive Westbound						38th Avenue Northbound						Portola Drive Eastbound					
	LEFT	THRU	RIGHT	PEDS	APP:TOTAL		LEFT	THRU	RIGHT	PEDS	APP:TOTAL		LEFT	THRU	RIGHT	PEDS	APP:TOTAL		LEFT	THRU	RIGHT	PEDS	APP:TOTAL	
06:00	0	0	0	3	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	
06:15	0	0	0	1	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	
06:30	0	0	0	0	0		0	1	0	0	1		0	0	0	0	0		0	0	0	0	0	
06:45	0	0	0	1	0		0	0	0	0	0		0	0	0	2	0		0	0	0	1	0	
Total	0	0	0	5	0		0	2	0	0	2		0	0	0	2	0		0	1	0	2	1	
07:00	0	0	0	0	0		0	1	0	0	1		0	1	0	0	1		0	1	0	1	1	
07:15	0	1	0	1	1		0	2	0	0	2		0	0	0	1	0		0	0	0	0	0	
07:30	0	0	0	0	0		0	2	0	0	2		0	0	0	0	0		0	4	0	0	4	
07:45	0	0	0	0	0		0	3	0	0	3		0	0	0	0	0		0	6	0	0	6	
Total	0	1	0	1	1		0	8	0	0	8		0	1	0	1	1		0	11	0	1	11	
16:30	2	0	0	3	2		0	8	0	3	8		0	2	0	2	2		0	3	0	2	3	
16:45	0	1	1	1	2		0	2	1	1	3		0	2	0	1	2		0	2	0	5	2	
17:00	0	4	0	0	4		0	3	1	0	4		0	3	0	4	3		0	3	0	2	3	
17:15	1	3	0	3	4		0	11	2	3	13		1	4	0	1	5		0	2	0	8	2	
Total	3	8	1	7	12		0	24	4	7	28		1	11	0	8	12		0	10	0	17	10	
17:30	0	0	0	4	0		0	3	0	0	3		1	0	0	3	1		0	2	1	4	3	
17:45	0	0	0	1	0		0	6	0	0	6		0	1	0	2	1		0	3	0	8	3	
18:00	2	0	2	0	4		0	3	0	0	3		3	0	0	2	3		0	1	1	10	2	
18:15	1	1	0	4	2		0	0	1	0	1		0	0	0	4	0		0	1	1	8	2	
Total	3	1	2	9	6		0	12	1	0	13		4	1	0	11	5		0	7	3	30	10	
Grand Total	6	10	3	22	19		0	46	5	7	51		5	13	0	22	18		0	29	3	50	32	
Approach %	31.6%	52.6%	15.8%		15.8%		0.0%	90.2%	9.8%	4.2%	42.5%		27.8%	72.2%	0.0%	15.0%	0.0%		0.0%	90.6%	9.4%	26.7%	100.0%	
Total %	5.0%	8.3%	2.5%		15.8%		0.0%	38.3%	4.2%	4.2%	42.5%		4.2%	10.8%	0.0%	15.0%	0.0%		0.0%	24.2%	2.5%	26.7%	100.0%	

ALL TRAFFIC DATA

City of Santa Cruz
 All Vehicles on Unshifted
 Peds & Bikes on Bank 1
 Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 14-7679-002 38th Avenue-Portola Drive.ppd
 Date : 10/16/2014

Bank 1 Count = Peds & Bikes

AM PEAK HOUR	38th Avenue Southbound				Portola Drive Westbound				38th Avenue Northbound				Portola Drive Eastbound									
	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	
Peak Hour Analysis From 07:00 to 08:00																						
Peak Hour For Entire Intersection Begins at 07:00																						
07:00	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	1	3
07:15	0	1	0	1	2	0	2	0	0	2	0	0	0	1	0	0	0	0	0	0	0	3
07:30	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	4	0	0	0	0	4	6
07:45	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	6	0	0	0	0	6	9
Total Volume	0	1	0	1	8	8	0	0	0	8	0	1	0	1	1	11	0	0	1	1	11	21
% App Total	0.0%	100.0%	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%	583
PHF	.000	.250	.000	.000	.250	.667	.000	.000	.667	.667	.000	.250	.000	.000	.250	.458	.000	.000	.000	.458	.583	

PM PEAK HOUR	38th Avenue Southbound				Portola Drive Westbound				38th Avenue Northbound				Portola Drive Eastbound									
	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	
Peak Hour Analysis From 16:30 to 17:30																						
Peak Hour For Entire Intersection Begins at 16:30																						
16:30	2	0	0	3	2	0	8	0	3	8	0	2	0	2	2	0	3	0	2	2	3	15
16:45	0	1	1	1	2	0	2	1	1	3	0	2	0	1	2	0	2	0	5	2	9	9
17:00	0	4	0	0	4	0	3	1	0	4	0	3	0	4	3	0	3	0	2	3	14	14
17:15	1	3	0	3	4	0	11	2	3	13	1	4	0	1	5	0	2	0	8	2	24	24
Total Volume	3	8	1	7	12	0	24	4	7	28	1	11	0	8	12	0	10	0	17	10	62	62
% App Total	25.0%	66.7%	8.3%	8.3%	75.0%	0.0%	85.7%	14.3%	14.3%	53.8	8.3%	91.7%	0.0%	0.0%	60.0	0.0%	100.0%	0.0%	0.0%	83.3	646	
PHF	.375	.500	.250	.250	.750	.000	.545	.500	.500	.538	.250	.688	.000	.000	.600	.000	.833	.000	.000	.833	.646	

ALL TRAFFIC DATA

City of Santa Cruz
 All Vehicles on Unshifted
 Peds & Bikes on Bank 1
 Nothing on Bank 2

Counts taken by Kimley-Horn & Associates

File Name : KHA_PortolaDr./30th Ave
 Date : 10/29 (PM) 10/30 (AM)

Unshifted Count = All Vehicles

START TIME	30th Avenue Southbound						Portola Drive Westbound						Samuel Street (driveway) Northbound						Portola Drive Eastbound					
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	APP.TOTAL
06:45	1	0	15	0	16	16	1	46	5	0	52	52	0	0	1	0	1	1	6	38	0	0	44	44
07:00	6	0	8	0	14	14	0	54	4	0	58	58	0	1	0	0	1	1	3	58	1	0	62	62
07:15	9	0	6	0	15	15	0	42	4	0	46	46	0	0	1	0	1	1	9	5	0	0	14	14
07:30	9	0	18	0	27	27	0	105	15	0	120	120	0	0	0	0	0	0	8	64	0	0	72	72
07:45	7	0	21	0	28	28	0	133	14	0	147	147	0	0	0	0	0	0	19	109	0	0	128	128
Total	31	0	53	0	84	84	0	334	37	0	371	371	0	1	2	0	3	3	39	236	1	0	276	276
07:00	6	0	8	0	14	14	0	54	4	0	58	58	0	1	0	0	1	1	3	58	1	0	62	62
07:15	9	0	6	0	15	15	0	42	4	0	46	46	0	0	1	0	1	1	9	5	0	0	14	14
07:30	9	0	18	0	27	27	0	105	15	0	120	120	0	0	0	0	0	0	8	64	0	0	72	72
07:45	7	0	21	0	28	28	0	133	14	0	147	147	0	0	0	0	0	0	19	109	0	0	128	128
Total	40	0	53	0	93	93	0	433	47	0	481	481	0	3	3	0	6	6	58	262	0	0	320	320
16:15	27	2	49	0	78	78	2	84	17	0	103	103	0	0	0	0	0	0	29	84	0	0	113	113
16:30	23	0	53	0	76	76	3	136	12	0	151	151	0	0	0	0	0	0	33	104	0	0	137	137
16:45	21	0	55	0	76	76	0	118	22	0	140	140	0	0	0	0	0	0	45	126	0	0	171	171
17:00	31	0	37	0	68	68	0	122	19	0	141	141	0	0	0	0	0	0	20	134	0	0	154	154
17:15	22	0	48	0	70	70	0	135	11	0	146	146	0	0	0	0	0	0	39	140	0	0	179	179
Total	102	2	194	0	298	298	5	460	70	0	535	535	0	0	0	0	0	0	127	448	0	0	575	575
16:30	23	0	53	0	76	76	3	136	12	0	151	151	0	0	0	0	0	0	33	104	0	0	137	137
16:45	21	0	55	0	76	76	0	118	22	0	140	140	0	0	0	0	0	0	45	126	0	0	171	171
17:00	31	0	37	0	68	68	0	122	19	0	141	141	0	0	0	0	0	0	20	134	0	0	154	154
17:15	22	0	48	0	70	70	0	135	11	0	146	146	0	0	0	0	0	0	39	140	0	0	179	179
Total	97	0	193	0	290	290	3	511	64	0	578	578	0	0	0	0	0	0	137	504	0	0	641	641
16:45	21	0	55	0	76	76	0	118	22	0	140	140	0	0	0	0	0	0	45	126	0	0	171	171
17:00	31	0	37	0	68	68	0	122	19	0	141	141	0	0	0	0	0	0	20	134	0	0	154	154
17:15	22	0	48	0	70	70	0	135	11	0	146	146	0	0	0	0	0	0	39	140	0	0	179	179
Total	92	0	185	0	277	277	0	487	70	0	557	557	0	2	2	0	4	4	148	550	0	0	698	698
Grand Total	387	2	770	0	1159	1159	10	2472	316	0	2798	2798	1	4	6	0	11	11	535	2165	2	0	2702	2702
Approach %	33.4%	0.2%	66.4%	0.0%	17.4%	17.4%	0.4%	86.3%	11.3%	0.0%	41.9%	41.9%	9.1%	36.4%	54.5%	0.0%	0.2%	0.2%	19.8%	80.1%	0.1%	0.0%	40.5%	40.5%
Total %	5.8%	0.0%	11.5%	0.0%	17.4%	17.4%	0.1%	37.1%	4.7%	0.0%	41.9%	41.9%	0.0%	0.1%	0.1%	0.0%	0.2%	0.2%	8.0%	32.5%	0.0%	0.0%	40.5%	40.5%

ALL TRAFFIC DATA

City of Santa Cruz
 All Vehicles on Unshifted
 Peds & Bikes on Bank 1
 Nothing on Bank 2

Counts taken by Kimley-Horn & Associates

File Name : KHA_PortolaDr./30th Ave
 Date : 10/29 (PM) 10/30 (AM)

Unshifted Count = All Vehicles

AM PEAK HOUR	30th Avenue Southbound			Portola Drive Westbound			Samuel Street (driveaway) Northbound			Portola Drive Eastbound			Total		
	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT			
07:15	9	0	6	0	42	4	0	0	0	1	0	0	5	14	76
07:30	9	0	18	0	105	15	0	0	0	0	0	0	64	0	219
07:45	7	0	21	0	133	14	0	0	0	0	0	0	109	0	303
08:00	15	0	53	0	153	14	0	0	2	0	3	0	84	0	345
Total Volume	40	0	98	0	433	47	0	1	0	3	0	0	262	0	943
% App Total	29.0%	0.0%	71.0%	0.0%	90.0%	9.8%	0.0%	25.0%	0.0%	75.0%	0.0%	18.1%	81.9%	0.0%	0.0%
PHF	.667	.000	.462	.000	.250	.708	.783	.000	.716	.000	.375	.000	.601	.000	.625

PM PEAK HOUR	30th Avenue Southbound			Portola Drive Westbound			Samuel Street (driveaway) Northbound			Portola Drive Eastbound			Total		
	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT			
16:45	21	0	55	0	118	22	0	0	0	0	0	0	126	0	387
17:00	31	0	37	0	122	19	0	0	0	0	0	0	134	0	363
17:15	22	0	48	0	135	11	0	0	0	0	0	0	140	0	395
17:30	18	0	45	0	112	18	0	0	2	0	2	0	150	0	389
Total Volume	92	0	185	0	487	70	0	0	0	0	2	0	550	0	1534
% App Total	33.2%	0.0%	66.8%	0.0%	87.4%	12.6%	0.0%	0.0%	100.0%	0.0%	0.0%	21.2%	78.8%	0.0%	0.0%
PHF	.742	.000	.841	.000	.902	.785	.000	.954	.000	.250	.000	.822	.917	.000	.899

ALL TRAFFIC DATA

(916) 771-8700
orders@adtraff.com

City of Santa Cruz
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

File Name : 14-7679-001 30th Avenue-Portola Drive.ppd
Date : 10/29/2014

Bank 1 Count = Peds & Bikes

START TIME	30th Ave Southbound				Portola Drive Westbound				Samuel St Northbound				Portola Drive Eastbound				
	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Ped Total
06:45	0	0	0	4	0	3	0	0	0	3	0	0	0	0	0	3	4
07:00	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	3
07:15	0	0	0	9	0	2	1	0	0	3	0	0	0	2	2	5	11
07:30	1	0	0	3	1	0	1	0	1	2	0	1	0	0	1	5	4
07:45	0	0	2	17	2	0	0	0	4	0	0	0	0	0	3	9	23
Total	1	0	2	31	3	0	7	2	9	1	0	1	0	2	6	19	41
07:00	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	3
07:15	0	0	0	9	0	2	1	0	3	0	0	0	0	2	2	5	11
07:30	1	0	0	3	1	0	1	0	2	0	1	0	0	1	1	5	4
07:45	0	0	0	17	2	0	4	0	4	0	0	0	0	0	3	9	23
Total	1	0	2	31	3	0	9	2	11	1	0	1	0	2	6	21	45
07:15	0	0	0	9	0	2	1	0	3	0	0	0	0	2	2	5	11
07:30	1	0	0	3	1	0	1	0	2	0	1	0	0	1	1	5	4
07:45	0	0	2	17	2	0	4	0	4	0	0	0	0	0	3	9	23
08:00	0	0	0	2	0	2	0	0	2	0	0	0	0	0	0	2	7
Total	1	0	2	31	3	0	9	2	11	1	0	1	0	2	6	21	45
16:15	0	0	0	0	0	3	2	0	5	0	0	0	0	0	0	9	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
16:45	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	4	4
17:00	0	0	1	4	1	0	0	0	1	0	0	0	0	0	2	4	7
17:15	2	0	0	0	2	0	5	0	5	0	1	0	0	6	2	10	9
Total	2	0	1	4	3	0	5	0	5	1	1	0	0	14	11	21	25
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
17:00	0	0	1	4	1	0	0	0	1	0	0	0	0	0	0	4	4
17:15	2	0	0	0	2	0	5	0	5	0	1	0	0	6	2	10	9
Total	2	0	1	4	3	0	5	0	5	1	1	0	0	14	11	21	25
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
17:00	0	0	1	4	1	0	0	0	1	0	0	0	0	0	0	4	4
17:15	2	0	0	0	2	0	5	0	5	0	1	0	0	6	2	10	9
Total	2	0	1	4	3	0	5	0	5	1	1	0	0	14	11	21	25
Grand Total	7	1	9	92	17	0	36	8	44	8	3	5	0	4	55	124	174
Approach %	41.2%	5.9%	52.9%		13.7%	0.0%	81.8%	18.2%	35.5%	6.5%	37.5%	62.5%	0.0%	0.0%	89.1%	10.9%	0.0%
Total %	5.6%	0.8%	7.3%		13.7%	0.0%	29.0%	6.5%	35.5%	6.5%	2.4%	4.0%	0.0%	0.0%	39.5%	4.8%	44.4%

ALL TRAFFIC DATA

(916) 771-8700

orders@aldtraffic.com

City of Santa Cruz
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

File Name : 14-7679-001 30th Avenue-Portola Drive.ppd
Date : 10/29/2014

Bank 1 Count = Peds & Bikes

AM PEAK HOUR	30th Ave Southbound				Portola Drive Westbound				Samuel St Northbound				Portola Drive Eastbound								
	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 07:15 to 08:15																					
Peak Hour For Entire Intersection Begins at 07:15																					
07:15	0	0	0	9	0	0	2	1	0	3	0	0	0	0	0	0	2	0	0	2	5
07:30	1	0	0	3	1	0	1	1	0	2	0	1	0	1	1	0	1	0	0	1	5
07:45	0	0	2	17	2	0	4	0	0	4	0	0	0	0	0	3	0	0	6	3	9
08:00	0	0	0	2	0	2	2	0	0	2	0	0	0	0	0	0	0	0	3	0	2
Total Volume	1	0	2	31	3	0	9	2	2	11	0	1	1	1	1	6	0	0	11	6	21
% App Total	33.3%	0.0%	66.7%		.375	0.0%	81.8%	18.2%	.500	.688	0.0%	100.0%	0.0%	.000	.250	0.0%	100.0%	0.0%	.000	.500	.583
PHF	.250	.000	.250		.375	.000	.563	.500	.500	.688	.000	.250	.000	.000	.250	.000	.500	.000	.000	.500	.583

PM PEAK HOUR	30th Ave Southbound				Portola Drive Westbound				Samuel St Northbound				Portola Drive Eastbound								
	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	7
17:00	0	0	1	4	1	0	0	0	0	0	1	0	0	0	1	2	0	0	3	2	4
17:15	2	0	0	0	2	0	5	0	3	5	0	1	0	0	1	0	2	0	6	2	10
17:30	0	1	2	0	3	0	1	0	0	1	0	0	1	0	0	0	5	0	4	5	9
Total Volume	2	1	3	4	6	0	6	0	7	6	1	1	1	1	2	2	14	0	13	16	30
% App Total	33.3%	16.7%	50.0%		.500	0.0%	100.0%	0.0%	.000	.300	50.0%	50.0%	0.0%	.000	.500	12.5%	87.5%	0.0%	.000	.571	.750
PHF	.250	.250	.375		.500	.000	.300	.000	.000	.300	.250	.250	.000	.000	.500	.250	.500	.000	.000	.571	.750

**B: TRIP GENERATION MEMO – MARQUEZ
TRANSPORTATION ENGINEERING**

July 17, 2014

John Swift
Hamilton Swift and Associates
500 Chestnut Street Suite 100
Santa Cruz, CA 95060

Re: Portola Dr and 38th Avenue Project Trip Generation

Dear John:

This letter documents my findings and conclusions for trip generation study for the proposed mixed use project at the intersection of Portola Drive and 38th Avenue in the Live Oak Area of Santa Cruz County. The objective of this analysis is to estimate the trip generation for the new project and that of the pre-project use on the site. The trip generation estimated will be used to identify the number of trips to the respective access points to the proposal for both AM and PM peak hour periods.

Trip Generation Previous Use

The previous use of the site was a lumber yard with a total site area of approximately 30,500 square feet and a building of 13,900 square feet. For purposes of estimating the trip generation for this facility Land Use Code 812 for Building Materials and Lumber Store from the Institute of Transportation Engineers "Trip Generation" 9th Edition was used. The average weekday trip generation rate for this land use is 45.16 trips per day per 1,000 square feet of gross floor area. The am peak hour rate is 2.60 trips per hour. The pm peak hour rate is 4.49 trips per hour. The peak hour time periods analyzed are from between 7 and 9 am and between 4 and 6 pm. Using these trip rates the previous use of the site generated 628 trips per day, 36 trips during the am peak and 62 trips during the pm peak hour.

Trip Generation Proposed Use

For purposes of estimating the trip generation for the proposed project the following general breakdown of uses was assumed;

- 3200 square feet of food service uses such as coffee house, craft beer, wine bar, ice cream shop or restaurant uses
- 3200 square feet of retail non food service uses such as clothing/skin care products, art gallery, retail food related use such as candy or chocolate shop, butcher shop, wine shop, flower shop, fruit and vegetable stand.
- 3200 square feet of office and service commercial such beauty salon, computer repair, or pet grooming.
- Eight residential condominium units of two bedrooms each.

Once again the Institute of Transportation Engineers reference mentioned above was used to estimate the trip generation for each use. For the food service category restaurant use rates were used (Land Use 932). For the retail non food service use the land use category of specialty retail (Land Use 826) was used. And single

tenant office use (Land Use 715) rate was used for the office and service commercial category. These land use categories should provide a conservatively high estimate of the trip generation potential for the site. Potential trip generation could be less depending on the specific uses finally identified for the site. The residential units were evaluated as low rise residential condo/townhouses (Land Use 231). The daily trip generation rate for condominiums was extrapolated to be proportional with single family units.

A mixed use development provides opportunities for reduced trip generation due to internal trip capture. Internal trips are made from uses within the site to other uses within the site. Internal trip capture would reduce trips for office uses and residential uses. From the "Trip Generation Handbook" Second Edition an estimated 11% of these trips could be reduced. Another opportunity for trip reduction comes from linked trips or trips made to more than one use at the site with a single stop. The non residential trip generation may be reduced by 25% for these linked trips. For this analysis only the specialty retail and office uses were reduced. Finally pass by trips or trips attracted to the site that are currently on the road will reduce the estimate of new trips primarily for the food service commercial. The average pass-by percentage rate for a restaurant is 6.4% per 1,000 square feet of gross floor area. This reduction will apply only to the food service commercial uses proposed for the site.

The following table presents the trip generation estimated for the subject site.

	Size	Units	Daily Trip Rate	Daily Trips	AM Peak Hr Rate	AM Trips	PM Peak Hr Rate	PM Trips	Internal Trip Reduction	Linked Trip Reduction	Pass-by Trip Reduction	Adjusted Daily Trips	Adjusted AM Trips	Adjusted PM Trips
Pre-Project Use														
Lumber Yard	13,900 k sq. ft.		45.16	628	2.6	36	4.49	62	0%	0%	0%	628	36	62
Proposed Project Uses														
Food Service Commercial	3200 k sq. ft.		127.5	408	10.81	35	9.85	32	0%	0%	20%	324	28	25
Non Food Retail	3200 k sq. ft.		44.32	142	2	6	2.71	9	0%	25%	0%	106	5	7
Office Service Commercial	3200 k sq. ft.		11.65	37	1.8	6	1.74	6	11%	25%	0%	24	4	4
Residential Condominiums	8 d.u.		7.4	59	0.67	5	0.78	6	11%	0%	0%	53	5	6
Totals for Project				646		52		52				507	41	41

Based on this analysis the daily trip generation and pm peak hour trip generation would be less than the pre-project use. Assuming the access points are used equally approximately 11 trips in and 10 trips out would use each of the driveways to the site in the morning and evening peak hours.

Let me know if you have any questions.

Sincerely,



Ron Marquez, P.E

**C: EXISTING TRAFFIC CONDITIONS ANALYSIS
SHEETS**

Intersection												
Intersection Delay, s/veh	14											
Intersection LOS	B											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol. veh/h	199	155	8	3	182	48	24	68	5	21	25	112
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	262	204	11	4	239	63	32	89	7	28	33	147
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	14.1	16.3	12.7	11.2
HCM LOS	B	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	25%	100%	0%	1%	46%	0%
Vol Thru, %	70%	0%	95%	78%	54%	0%
Vol Right, %	5%	0%	5%	21%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	97	199	163	233	46	112
LT Vol	68	0	155	182	25	0
Through Vol	5	0	8	48	0	112
RT Vol	24	199	0	3	21	0
Lane Flow Rate	128	262	214	307	61	147
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.255	0.483	0.363	0.533	0.122	0.258
Departure Headway (Hd)	7.187	6.641	6.099	6.264	7.246	6.297
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	496	539	588	573	492	567
Service Time	5.276	4.408	3.866	4.333	5.027	4.078
HCM Lane V/C Ratio	0.258	0.486	0.364	0.536	0.124	0.259
HCM Control Delay	12.7	15.5	12.3	16.3	11	11.3
HCM Lane LOS	B	C	B	C	B	B
HCM 95th-tile Q	1	2.6	1.7	3.1	0.4	1

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	12											
Intersection LOS	B											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	58	311	1	10	292	19	17	25	17	29	7	67
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	78	420	1	14	395	26	23	34	23	39	9	91
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	12.9	11.7	10.4	10.7
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	29%	27%	0%	6%	0%	28%
Vol Thru, %	42%	73%	99%	94%	88%	7%
Vol Right, %	29%	0%	1%	0%	12%	65%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	59	214	157	156	165	103
LT Vol	25	156	156	146	146	7
Through Vol	17	0	1	0	19	67
RT Vol	17	58	0	10	0	29
Lane Flow Rate	80	289	211	211	223	139
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.139	0.474	0.339	0.345	0.358	0.229
Departure Headway (Hd)	6.29	5.917	5.775	5.9	5.786	5.915
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	568	609	622	609	622	605
Service Time	4.343	3.654	3.512	3.639	3.525	3.962
HCM Lane V/C Ratio	0.141	0.475	0.339	0.346	0.359	0.23
HCM Control Delay	10.4	13.9	11.5	11.7	11.7	10.7
HCM Lane LOS	B	B	B	B	B	B
HCM 95th-tile Q	0.5	2.5	1.5	1.5	1.6	0.9

Notes

- : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	14.5											
Intersection LOS	B											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	58	262	0	1	433	47	1	0	3	40	0	98
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	85	385	0	1	637	69	1	0	4	59	0	144
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	13.2	16.1	9.7	12.1
HCM LOS	B	C	A	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	25%	40%	0%	0%	0%	29%
Vol Thru, %	0%	60%	100%	100%	82%	0%
Vol Right, %	75%	0%	0%	0%	18%	71%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	4	145	175	218	264	138
LT Vol	0	87	175	217	217	0
Through Vol	3	0	0	0	47	98
RT Vol	1	58	0	1	0	40
Lane Flow Rate	6	214	257	320	388	203
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.011	0.374	0.435	0.519	0.615	0.339
Departure Headway (Hd)	6.609	6.298	6.096	5.839	5.71	6.01
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	539	571	591	617	632	599
Service Time	4.675	4.044	3.842	3.578	3.449	4.052
HCM Lane V/C Ratio	0.011	0.375	0.435	0.519	0.614	0.339
HCM Control Delay	9.7	12.8	13.5	14.7	17.2	12.1
HCM Lane LOS	A	B	B	B	C	B
HCM 95th-tile Q	0	1.7	2.2	3	4.2	1.5

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	36.1											
Intersection LOS	E											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	278	309	13	7	267	66	53	140	21	49	65	330
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	296	329	14	7	284	70	56	149	22	52	69	351
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	36.2	49.8	26.5	30
HCM LOS	E	E	D	D

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	25%	100%	0%	2%	43%	0%
Vol Thru, %	65%	0%	96%	79%	57%	0%
Vol Right, %	10%	0%	4%	19%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	214	278	322	340	114	330
LT Vol	140	0	309	267	65	0
Through Vol	21	0	13	66	0	330
RT Vol	53	278	0	7	49	0
Lane Flow Rate	228	296	343	362	121	351
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.606	0.741	0.806	0.88	0.304	0.787
Departure Headway (Hd)	9.586	9.023	8.475	8.762	9.026	8.075
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	376	399	425	412	398	449
Service Time	7.664	6.795	6.247	6.829	6.787	5.836
HCM Lane V/C Ratio	0.606	0.742	0.807	0.879	0.304	0.782
HCM Control Delay	26.5	33.7	38.3	49.8	15.7	34.9
HCM Lane LOS	D	D	E	E	C	D
HCM 95th-tile Q	3.8	5.9	7.3	8.9	1.3	7

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	19.8											
Intersection LOS	C											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol. veh/h	106	537	19	38	557	38	28	34	19	36	31	136
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	110	559	20	40	580	40	29	35	20	38	32	142
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	22.6	19.7	12.3	14.2
HCM LOS	C	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	35%	28%	0%	12%	0%	18%
Vol Thru, %	42%	72%	93%	88%	88%	15%
Vol Right, %	23%	0%	7%	0%	12%	67%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	81	375	288	317	317	203
LT Vol	34	269	269	279	279	31
Through Vol	19	0	19	0	38	136
RT Vol	28	106	0	38	0	36
Lane Flow Rate	84	390	299	330	330	211
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.179	0.74	0.552	0.623	0.609	0.394
Departure Headway (Hd)	7.616	6.831	6.639	6.798	6.651	6.836
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	473	531	545	534	544	531
Service Time	5.643	4.553	4.361	4.519	4.372	4.836
HCM Lane V/C Ratio	0.178	0.734	0.549	0.618	0.607	0.397
HCM Control Delay	12.3	26.6	17.3	20.1	19.2	14.2
HCM Lane LOS	B	D	C	C	C	B
HCM 95th-ile Q	0.6	6.3	3.3	4.2	4.1	1.9

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	18.2											
Intersection LOS	C											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol. veh/h	148	550	0	0	487	70	2	0	0	92	0	185
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	153	567	0	0	502	72	2	0	0	95	0	191
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	20.4	16.8	11	15.5
HCM LOS	C	C	B	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	45%	0%	0%	0%	33%
Vol Thru, %	0%	55%	100%	100%	70%	0%
Vol Right, %	0%	0%	0%	0%	30%	67%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	331	367	325	232	277
LT Vol	0	183	367	325	162	0
Through Vol	0	0	0	0	70	185
RT Vol	2	148	0	0	0	92
Lane Flow Rate	2	342	378	335	240	286
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.005	0.624	0.666	0.608	0.421	0.498
Departure Headway (Hd)	7.989	6.572	6.344	6.543	6.328	6.284
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	451	547	567	549	565	571
Service Time	5.989	4.338	4.11	4.314	4.098	4.34
HCM Lane V/C Ratio	0.004	0.625	0.667	0.61	0.425	0.501
HCM Control Delay	11	19.7	21	19	13.7	15.5
HCM Lane LOS	B	C	C	C	B	C
HCM 95th-ile Q	0	4.3	4.9	4	2.1	2.8

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

**D: EXISTING PLUS PROJECT TRAFFIC
CONDITIONS ANALYSIS SHEETS**

Intersection												
Intersection Delay, s/veh	14.2											
Intersection LOS	B											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	201	157	9	3	183	48	24	68	5	21	25	113
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	264	207	12	4	241	63	32	89	7	28	33	149
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	14.3	16.5	12.8	11.2
HCM LOS	B	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	25%	100%	0%	1%	46%	0%
Vol Thru, %	70%	0%	95%	78%	54%	0%
Vol Right, %	5%	0%	5%	21%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	97	201	166	234	46	113
LT Vol	68	0	157	183	25	0
Through Vol	5	0	9	48	0	113
RT Vol	24	201	0	3	21	0
Lane Flow Rate	128	264	218	308	61	149
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.256	0.489	0.37	0.537	0.122	0.261
Departure Headway (Hd)	7.21	6.652	6.106	6.28	7.267	6.318
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	495	540	585	573	491	565
Service Time	5.303	4.421	3.874	4.351	5.051	4.102
HCM Lane V/C Ratio	0.259	0.489	0.373	0.538	0.124	0.264
HCM Control Delay	12.8	15.7	12.5	16.5	11.1	11.3
HCM Lane LOS	B	C	B	C	B	B
HCM 95th-tile Q	1	2.7	1.7	3.2	0.4	1

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	12.2											
Intersection LOS	B											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol. veh/h	58	312	4	12	295	19	21	26	21	29	7	67
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	78	422	5	16	399	26	28	35	28	39	9	91
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	13.1	12	10.6	10.8
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	31%	27%	0%	8%	0%	28%
Vol Thru, %	38%	73%	97%	92%	89%	7%
Vol Right, %	31%	0%	3%	0%	11%	65%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	68	214	160	160	167	103
LT Vol	26	156	156	148	148	7
Through Vol	21	0	4	0	19	67
RT Vol	21	58	0	12	0	29
Lane Flow Rate	92	289	216	216	225	139
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.161	0.481	0.35	0.357	0.366	0.231
Departure Headway (Hd)	6.322	5.982	5.827	5.969	5.85	5.986
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	566	602	616	601	614	599
Service Time	4.379	3.723	3.568	3.713	3.594	4.04
HCM Lane V/C Ratio	0.163	0.48	0.351	0.359	0.366	0.232
HCM Control Delay	10.6	14.2	11.7	12	12	10.8
HCM Lane LOS	B	B	B	B	B	B
HCM 95th-tile Q	0.6	2.6	1.6	1.6	1.7	0.9

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	14.7											
Intersection LOS	B											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	58	264	0	1	436	48	1	0	3	41	0	98
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	85	388	0	1	641	71	1	0	4	60	0	144
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	13.3	16.3	9.8	12.2
HCM LOS	B	C	A	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	25%	40%	0%	0%	0%	29%
Vol Thru, %	0%	60%	100%	100%	82%	0%
Vol Right, %	75%	0%	0%	0%	18%	71%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	4	146	176	219	266	139
LT Vol	0	88	176	218	218	0
Through Vol	3	0	0	0	48	98
RT Vol	1	58	0	1	0	41
Lane Flow Rate	6	215	259	322	391	204
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.011	0.377	0.439	0.523	0.622	0.342
Departure Headway (Hd)	6.632	6.314	6.113	5.851	5.721	6.028
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	538	569	588	615	630	597
Service Time	4.698	4.059	3.858	3.59	3.46	4.07
HCM Lane V/C Ratio	0.011	0.378	0.44	0.524	0.621	0.342
HCM Control Delay	9.8	12.9	13.6	14.9	17.5	12.2
HCM Lane LOS	A	B	B	B	C	B
HCM 95th-tile Q	0	1.7	2.2	3	4.3	1.5

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	1	9	59	0	5	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	10	64	0	5	20

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	94	64	0
Stage 1	64	-	-
Stage 2	30	-	-
Follow-up Headway	3.518	3.318	2.218
Pot Capacity-1 Maneuver	906	1000	1538
Stage 1	959	-	-
Stage 2	993	-	-
Time blocked-Platoon, %	-	-	-
Mov Capacity-1 Maneuver	903	1000	1538
Mov Capacity-2 Maneuver	903	-	-
Stage 1	959	-	-
Stage 2	990	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	1.6
HCM LOS	A		

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	989	1538	-
HCM Lane V/C Ratio	-	-	0.011	0.004	-
HCM Control Delay (s)	-	-	8.7	7.349	0
HCM Lane LOS			A	A	A
HCM 95th %tile Q(veh)	-	-	0.033	0.011	-

Notes

- Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	360	2	1	322	4	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	391	2	1	350	4	2

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	393
Stage 1	-	-	392
Stage 2	-	-	177
Follow-up Headway	-	2.22	-
Pot Capacity-1 Maneuver	-	1162	-
Stage 1	-	-	652
Stage 2	-	-	836
Time blocked-Platoon, %	-	-	-
Mov Capacity-1 Maneuver	-	1162	-
Mov Capacity-2 Maneuver	-	-	-
Stage 1	-	-	652
Stage 2	-	-	835

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.9
HCM LOS			B

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	530	-	-	1162	-
HCM Lane V/C Ratio	0.012	-	-	0.001	-
HCM Control Delay (s)	11.9	-	-	8.101	0
HCM Lane LOS	B			A	A
HCM 95th %tile Q(veh)	0.037	-	-	0.003	-

Notes

- Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	37.1											
Intersection LOS	E											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	278	309	13	7	269	66	54	140	21	49	65	334
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	296	329	14	7	286	70	57	149	22	52	69	355
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	36.8	51.7	26.9	31.1
HCM LOS	E	F	D	D

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	25%	100%	0%	2%	43%	0%
Vol Thru, %	65%	0%	96%	79%	57%	0%
Vol Right, %	10%	0%	4%	19%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	215	278	322	342	114	334
LT Vol	140	0	309	269	65	0
Through Vol	21	0	13	66	0	334
RT Vol	54	278	0	7	49	0
Lane Flow Rate	229	296	343	364	121	355
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.612	0.745	0.811	0.89	0.305	0.8
Departure Headway (Hd)	9.635	9.071	8.522	8.803	9.057	8.106
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	373	399	425	411	397	448
Service Time	7.718	6.846	6.297	6.873	6.82	5.868
HCM Lane V/C Ratio	0.614	0.742	0.807	0.886	0.305	0.792
HCM Control Delay	26.9	34.2	39.1	51.7	15.8	36.3
HCM Lane LOS		D	D	E	F	C
HCM 95th-tile Q		3.9	5.9	7.4	9.2	1.3

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	20.3											
Intersection LOS	C											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol. veh/h	106	540	25	43	558	38	29	34	20	37	32	136
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	110	563	26	45	581	40	30	35	21	39	33	142
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	23.1	20.2	12.4	14.4
HCM LOS	C	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	35%	28%	0%	13%	0%	18%
Vol Thru, %	41%	72%	92%	87%	88%	16%
Vol Right, %	24%	0%	8%	0%	12%	66%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	83	376	295	322	317	205
LT Vol	34	270	270	279	279	32
Through Vol	20	0	25	0	38	136
RT Vol	29	106	0	43	0	37
Lane Flow Rate	86	392	307	335	330	214
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.184	0.747	0.569	0.638	0.614	0.4
Departure Headway (Hd)	7.655	6.87	6.665	6.846	6.692	6.876
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	470	529	544	530	542	527
Service Time	5.682	4.592	4.387	4.569	4.415	4.876
HCM Lane V/C Ratio	0.183	0.741	0.564	0.632	0.609	0.406
HCM Control Delay	12.4	27.2	17.8	20.9	19.5	14.4
HCM Lane LOS	B	D	C	C	C	B
HCM 95th-ile Q	0.7	6.4	3.5	4.5	4.1	1.9

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh	18.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	148	555	0	0	487	70	2	0	0	94	0	185
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	153	572	0	0	502	72	2	0	0	97	0	191
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	20.7	16.9	11.1	15.6
HCM LOS	C	C	B	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	44%	0%	0%	0%	34%
Vol Thru, %	0%	56%	100%	100%	70%	0%
Vol Right, %	0%	0%	0%	0%	30%	66%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	333	370	325	232	279
LT Vol	0	185	370	325	162	0
Through Vol	0	0	0	0	70	185
RT Vol	2	148	0	0	0	94
Lane Flow Rate	2	343	381	335	240	288
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.005	0.628	0.674	0.61	0.422	0.503
Departure Headway (Hd)	8.012	6.585	6.358	6.562	6.347	6.296
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	449	546	565	549	565	572
Service Time	6.012	4.351	4.124	4.334	4.119	4.352
HCM Lane V/C Ratio	0.004	0.628	0.674	0.61	0.425	0.503
HCM Control Delay	11.1	19.9	21.4	19.2	13.7	15.6
HCM Lane LOS	B	C	C	C	B	C
HCM 95th-tile Q	0	4.3	5.1	4.1	2.1	2.8

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol. veh/h	0	1	82	1	12	88
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	89	1	13	96

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	212	90	0
Stage 1	90	-	-
Stage 2	122	-	-
Follow-up Headway	3.518	3.318	2.218
Pot Capacity-1 Maneuver	776	968	1505
Stage 1	934	-	-
Stage 2	903	-	-
Time blocked-Platoon, %	-	-	-
Mov Capacity-1 Maneuver	769	968	1505
Mov Capacity-2 Maneuver	769	-	-
Stage 1	934	-	-
Stage 2	895	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	0.9
HCM LOS	A		

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	968	1505	-
HCM Lane V/C Ratio	-	-	0.001	0.009	-
HCM Control Delay (s)	-	-	8.7	7.413	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.003	0.026	-

Notes

~ Volume Exceeds Capacity, \$ Delay Exceeds 300 Seconds, Error Computation Not Defined

Intersection

Intersection Delay, s/veh 0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	592	5	2	638	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	643	5	2	693	1	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	649
Stage 1	-	-	646
Stage 2	-	-	351
Follow-up Headway	-	-	2.22
Pot Capacity-1 Maneuver	-	-	933
Stage 1	-	-	484
Stage 2	-	-	684
Time blocked-Platoon, %	-	-	-
Mov Capacity-1 Maneuver	-	-	933
Mov Capacity-2 Maneuver	-	-	240
Stage 1	-	-	484
Stage 2	-	-	682

Approach	EB	WB	NB
HCM Control Delay, s	0	0	20.1
HCM LOS			C

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	240	-	-	933	-
HCM Lane V/C Ratio	0.005	-	-	0.002	-
HCM Control Delay (s)	20.1	-	-	8.868	0
HCM Lane LOS	C			A	A
HCM 95th %tile Q(veh)	0.014	-	-	0.007	-

Notes

- Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error: Computation Not Defined

**E: NEAR-TERM (2016) TRAFFIC CONDITIONS
ANALYSIS SHEETS**

Intersection												
Intersection Delay, s/veh	14.1											
Intersection LOS	B											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	200	157	8	3	184	48	24	68	5	21	25	113
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	263	207	11	4	242	63	32	89	7	28	33	149
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	14.2	16.5	12.8	11.2
HCM LOS	B	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	25%	100%	0%	1%	46%	0%
Vol Thru, %	70%	0%	95%	78%	54%	0%
Vol Right, %	5%	0%	5%	20%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	97	200	165	235	46	113
LT Vol	68	0	157	184	25	0
Through Vol	5	0	8	48	0	113
RT Vol	24	200	0	3	21	0
Lane Flow Rate	128	263	217	309	61	149
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.256	0.486	0.369	0.539	0.122	0.261
Departure Headway (Hd)	7.209	6.654	6.112	6.278	7.265	6.317
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	495	539	586	572	491	565
Service Time	5.302	4.423	3.88	4.348	5.049	4.1
HCM Lane V/C Ratio	0.259	0.488	0.37	0.54	0.124	0.264
HCM Control Delay	12.8	15.6	12.4	16.5	11.1	11.3
HCM Lane LOS	B	C	B	C	B	B
HCM 95th-tile Q	1	2.6	1.7	3.2	0.4	1

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh	12.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	58	315	1	10	296	19	17	25	17	29	7	68
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	78	426	1	14	400	26	23	34	23	39	9	92
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	13	11.9	10.4	10.8
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	29%	27%	0%	6%	0%	28%
Vol Thru, %	42%	73%	99%	94%	89%	7%
Vol Right, %	29%	0%	1%	0%	11%	65%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	59	216	159	158	167	104
LT Vol	25	158	158	148	148	7
Through Vol	17	0	1	0	19	68
RT Vol	17	58	0	10	0	29
Lane Flow Rate	80	291	214	214	226	141
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.14	0.48	0.344	0.351	0.364	0.232
Departure Headway (Hd)	6.317	5.931	5.79	5.915	5.802	5.936
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	566	609	621	609	618	603
Service Time	4.374	3.671	3.53	3.657	3.544	3.985
HCM Lane V/C Ratio	0.141	0.478	0.345	0.351	0.366	0.234
HCM Control Delay	10.4	14.1	11.6	11.8	11.9	10.8
HCM Lane LOS	B	B	B	B	B	B
HCM 95th-tile Q	0.5	2.6	1.5	1.6	1.7	0.9

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	14.7											
Intersection LOS	B											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol. veh/h	58	265	0	1	439	47	1	0	3	41	0	99
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	85	390	0	1	646	69	1	0	4	60	0	146
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	13.3	16.4	9.8	12.2
HCM LOS	B	C	A	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	25%	40%	0%	0%	0%	29%
Vol Thru, %	0%	60%	100%	100%	82%	0%
Vol Right, %	75%	0%	0%	0%	18%	71%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	4	146	177	221	267	140
LT Vol	0	88	177	220	220	0
Through Vol	3	0	0	0	47	99
RT Vol	1	58	0	1	0	41
Lane Flow Rate	6	215	260	324	392	206
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.011	0.378	0.442	0.528	0.624	0.345
Departure Headway (Hd)	6.647	6.325	6.124	5.861	5.734	6.033
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	536	568	587	616	631	595
Service Time	4.713	4.072	3.87	3.601	3.473	4.076
HCM Lane V/C Ratio	0.011	0.379	0.443	0.526	0.621	0.346
HCM Control Delay	9.8	12.9	13.7	15	17.6	12.2
HCM Lane LOS	A	B	B	B	C	B
HCM 95th-tile Q	0	1.8	2.3	3.1	4.3	1.5

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	37.8											
Intersection LOS	E											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol. veh/h	279	313	13	7	271	66	54	140	21	50	65	334
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	297	333	14	7	288	70	57	149	22	53	69	355
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	37.9	53	27.1	31.3
HCM LOS	E	F	D	D

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	25%	100%	0%	2%	43%	0%
Vol Thru, %	65%	0%	96%	79%	57%	0%
Vol Right, %	10%	0%	4%	19%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	215	279	326	344	115	334
LT Vol	140	0	313	271	65	0
Through Vol	21	0	13	66	0	334
RT Vol	54	279	0	7	50	0
Lane Flow Rate	229	297	347	366	122	355
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.614	0.75	0.823	0.897	0.309	0.802
Departure Headway (Hd)	9.669	9.093	8.546	8.824	9.084	8.13
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	373	398	423	410	395	444
Service Time	7.751	6.867	6.319	6.892	6.847	5.892
HCM Lane V/C Ratio	0.614	0.746	0.82	0.893	0.309	0.8
HCM Control Delay	27.1	34.7	40.6	53	15.9	36.6
HCM Lane LOS		D	D	E	F	C
HCM 95th-tile Q		3.9	6	7.6	9.4	1.3

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	20											
Intersection LOS	C											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol. veh/h	106	544	19	38	564	38	28	34	19	36	31	138
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	110	567	20	40	588	40	29	35	20	38	32	144
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	22.6	20.1	12.3	14.3
HCM LOS	C	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	35%	28%	0%	12%	0%	18%
Vol Thru, %	42%	72%	93%	88%	88%	15%
Vol Right, %	23%	0%	7%	0%	12%	67%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	81	378	291	320	320	205
LT Vol	34	272	272	282	282	31
Through Vol	19	0	19	0	38	138
RT Vol	28	106	0	38	0	36
Lane Flow Rate	84	394	303	333	333	214
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.179	0.739	0.553	0.632	0.618	0.399
Departure Headway (Hd)	7.653	6.876	6.687	6.823	6.677	6.844
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	471	528	543	533	543	530
Service Time	5.667	4.576	4.387	4.529	4.384	4.844
HCM Lane V/C Ratio	0.178	0.746	0.558	0.625	0.613	0.404
HCM Control Delay	12.3	26.6	17.3	20.5	19.6	14.3
HCM Lane LOS	B	D	C	C	C	B
HCM 95th-tile Q	0.6	6.2	3.3	4.4	4.2	1.9

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh	18.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	148	557	0	0	493	70	2	0	0	93	0	187
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	153	574	0	0	508	72	2	0	0	96	0	193
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	20.8	17.1	11.1	15.7
HCM LOS	C	C	B	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	
Vol Left, %	100%	44%	0%	0%	0%	33%	
Vol Thru, %	0%	56%	100%	100%	70%	0%	
Vol Right, %	0%	0%	0%	0%	30%	67%	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	2	334	371	329	234	280	
LT Vol	0	186	371	329	164	0	
Through Vol	0	0	0	0	70	187	
RT Vol	2	148	0	0	0	93	
Lane Flow Rate	2	344	383	339	242	289	
Geometry Grp	2	7	7	7	7	2	
Degree of Util (X)	0.005	0.63	0.678	0.618	0.427	0.505	
Departure Headway (Hd)	8.034	6.598	6.373	6.571	6.358	6.304	
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	
Cap	448	547	567	546	563	572	
Service Time	6.034	4.365	4.139	4.343	4.13	4.36	
HCM Lane V/C Ratio	0.004	0.629	0.675	0.621	0.43	0.505	
HCM Control Delay	11.1	20	21.6	19.5	13.8	15.7	
HCM Lane LOS		B	C	C	B	C	
HCM 95th-tile Q		0	4.4	5.1	4.2	2.1	2.8

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

**F: NEAR-TERM (2016) PLUS PROPOSED
PROJECT TRAFFIC CONDITIONS ANALYSIS
SHEETS**

Intersection

Intersection Delay, s/veh	14.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	202	159	9	3	185	48	24	68	5	21	25	114
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	266	209	12	4	243	63	32	89	7	28	33	150
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	14.3	16.7	12.8	11.3
HCM LOS	B	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	25%	100%	0%	1%	46%	0%
Vol Thru, %	70%	0%	95%	78%	54%	0%
Vol Right, %	5%	0%	5%	20%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	97	202	168	236	46	114
LT Vol	68	0	159	185	25	0
Through Vol	5	0	9	48	0	114
RT Vol	24	202	0	3	21	0
Lane Flow Rate	128	266	221	311	61	150
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.257	0.492	0.376	0.543	0.122	0.264
Departure Headway (Hd)	7.235	6.664	6.118	6.293	7.286	6.338
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	493	540	586	571	489	563
Service Time	5.328	4.435	3.888	4.366	5.073	4.123
HCM Lane V/C Ratio	0.26	0.493	0.377	0.545	0.125	0.266
HCM Control Delay	12.8	15.8	12.6	16.7	11.1	11.4
HCM Lane LOS	B	C	B	C	B	B
HCM 95th-tile Q	1	2.7	1.7	3.2	0.4	1.1

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	12.3											
Intersection LOS	B											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	58	316	4	12	299	19	21	26	21	29	7	68
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	78	427	5	16	404	26	28	35	28	39	9	92
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	13.2	12.1	10.6	10.9
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	31%	27%	0%	7%	0%	28%
Vol Thru, %	38%	73%	98%	93%	89%	7%
Vol Right, %	31%	0%	2%	0%	11%	65%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	68	216	162	162	169	104
LT Vol	26	158	158	150	150	7
Through Vol	21	0	4	0	19	68
RT Vol	21	58	0	12	0	29
Lane Flow Rate	92	292	219	218	228	141
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.162	0.486	0.355	0.363	0.371	0.234
Departure Headway (Hd)	6.349	5.998	5.844	5.986	5.869	6.006
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	563	601	615	600	613	596
Service Time	4.407	3.739	3.586	3.73	3.612	4.061
HCM Lane V/C Ratio	0.163	0.486	0.356	0.363	0.372	0.237
HCM Control Delay	10.6	14.3	11.8	12.1	12.1	10.9
HCM Lane LOS	B	B	B	B	B	B
HCM 95th-tile Q	0.6	2.7	1.6	1.7	1.7	0.9

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	14.9											
Intersection LOS	B											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	58	267	0	1	442	48	1	0	3	42	0	99
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	85	393	0	1	650	71	1	0	4	62	0	146
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	13.4	16.7	9.8	12.3
HCM LOS	B	C	A	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	25%	39%	0%	0%	0%	30%
Vol Thru, %	0%	61%	100%	100%	82%	0%
Vol Right, %	75%	0%	0%	0%	18%	70%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	4	147	178	222	269	141
LT Vol	0	89	178	221	221	0
Through Vol	3	0	0	0	48	99
RT Vol	1	58	0	1	0	42
Lane Flow Rate	6	216	262	326	396	207
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.011	0.381	0.446	0.533	0.631	0.349
Departure Headway (Hd)	6.67	6.341	6.14	5.874	5.745	6.051
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	534	566	586	614	629	593
Service Time	4.739	4.09	3.889	3.615	3.487	4.093
HCM Lane V/C Ratio	0.011	0.382	0.447	0.531	0.63	0.349
HCM Control Delay	9.8	13	13.8	15.2	17.9	12.3
HCM Lane LOS	A	B	B	C	C	B
HCM 95th-tile Q	0	1.8	2.3	3.1	4.4	1.6

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	1	9	59	0	5	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	10	64	0	5	20

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	94	64	0
Stage 1	64	-	-
Stage 2	30	-	-
Follow-up Headway	3.518	3.318	2.218
Pot Capacity-1 Maneuver	906	1000	1538
Stage 1	959	-	-
Stage 2	993	-	-
Time blocked-Platoon, %	-	-	-
Mov Capacity-1 Maneuver	903	1000	1538
Mov Capacity-2 Maneuver	903	-	-
Stage 1	959	-	-
Stage 2	990	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	1.6
HCM LOS	A		

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	989	1538	-
HCM Lane V/C Ratio	-	-	0.011	0.004	-
HCM Control Delay (s)	-	-	8.7	7.349	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.033	0.011	-

Notes

~ Volume Exceeds Capacity; \$ Delay Exceeds 300 Seconds; Error Computation Not Defined

Intersection

Intersection Delay, s/veh 0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	364	2	1	326	4	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	396	2	1	354	4	2

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	398
Stage 1	-	-	-
Stage 2	-	-	-
Follow-up Headway	-	-	2.22
Pot Capacity-1 Maneuver	-	-	1157
Stage 1	-	-	-
Stage 2	-	-	-
Time blocked-Platoon, %	-	-	-
Mov Capacity-1 Maneuver	-	-	1157
Mov Capacity-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.9
HCM LOS			B

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	526	-	-	1157	-
HCM Lane V/C Ratio	0.012	-	-	0.001	-
HCM Control Delay (s)	11.9	-	-	8.114	0
HCM Lane LOS	B			A	A
HCM 95th %tile Q(veh)	0.038	-	-	0.003	-

Notes

- Volume Exceeds Capacity, \$: Delay Exceeds 300 Seconds, Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	38.9											
Intersection LOS	E											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	279	313	13	7	273	66	55	140	21	50	65	338
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	297	333	14	7	290	70	59	149	22	53	69	360
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	38.6	54.9	27.5	32.5
HCM LOS	E	F	D	D

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2	
Vol Left, %	25%	100%	0%	2%	43%	0%	
Vol Thru, %	65%	0%	96%	79%	57%	0%	
Vol Right, %	10%	0%	4%	19%	0%	100%	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	216	279	326	346	115	338	
LT Vol	140	0	313	273	65	0	
Through Vol	21	0	13	66	0	338	
RT Vol	55	279	0	7	50	0	
Lane Flow Rate	230	297	347	368	122	360	
Geometry Grp	6	7	7	6	7	7	
Degree of Util (X)	0.62	0.754	0.828	0.907	0.31	0.815	
Departure Headway (Hd)	9.719	9.141	8.593	8.867	9.115	8.161	
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	
Cap	370	395	420	409	394	442	
Service Time	7.805	6.918	6.37	6.936	6.879	5.925	
HCM Lane V/C Ratio	0.622	0.752	0.826	0.9	0.31	0.814	
HCM Control Delay	27.5	35.3	41.4	54.9	15.9	38.2	
HCM Lane LOS		D	E	F	C	E	
HCM 95th-tile Q		4	6.1	7.7	9.6	1.3	7.6

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	20.7											
Intersection LOS	C											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	106	547	25	43	565	38	29	34	20	37	32	138
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	110	570	26	45	589	40	30	35	21	39	33	144
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	23.7	20.7	12.5	14.5
HCM LOS	C	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	35%	28%	0%	13%	0%	18%
Vol Thru, %	41%	72%	92%	87%	88%	15%
Vol Right, %	24%	0%	8%	0%	12%	67%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	83	380	299	326	321	207
LT Vol	34	274	274	283	283	32
Through Vol	20	0	25	0	38	138
RT Vol	29	106	0	43	0	37
Lane Flow Rate	86	395	311	339	334	216
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.185	0.757	0.578	0.647	0.623	0.405
Departure Headway (Hd)	7.692	6.896	6.693	6.874	6.721	6.897
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	468	526	541	526	538	526
Service Time	5.719	4.618	4.415	4.596	4.443	4.897
HCM Lane V/C Ratio	0.184	0.751	0.575	0.644	0.621	0.411
HCM Control Delay	12.5	28.1	18.2	21.4	19.9	14.5
HCM Lane LOS	B	D	C	C	C	B
HCM 95th-tile Q	0.7	6.6	3.6	4.6	4.2	1.9

Notes

-- : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	18.8											
Intersection LOS	C											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	148	562	0	0	493	70	2	0	0	95	0	187
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	153	579	0	0	508	72	2	0	0	98	0	193
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	21.2	17.2	11.1	15.8
HCM LOS	C	C	B	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	44%	0%	0%	0%	34%
Vol Thru, %	0%	56%	100%	100%	70%	0%
Vol Right, %	0%	0%	0%	0%	30%	66%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	335	375	329	234	282
LT Vol	0	187	375	329	164	0
Through Vol	0	0	0	0	70	187
RT Vol	2	148	0	0	0	95
Lane Flow Rate	2	346	386	339	242	291
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.005	0.635	0.685	0.62	0.428	0.51
Departure Headway (Hd)	8.057	6.608	6.383	6.589	6.375	6.315
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	447	543	564	546	563	570
Service Time	6.057	4.378	4.153	4.363	4.15	4.372
HCM Lane V/C Ratio	0.004	0.637	0.684	0.621	0.43	0.511
HCM Control Delay	11.1	20.3	22	19.6	13.9	15.8
HCM Lane LOS	B	C	C	C	B	C
HCM 95th-tile Q	0	4.4	5.3	4.2	2.1	2.9

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	1	82	1	12	88
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	89	1	13	96

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	212	90	0
Stage 1	90	-	-
Stage 2	122	-	-
Follow-up Headway	3.518	3.318	2.218
Pot Capacity-1 Maneuver	776	968	1505
Stage 1	934	-	-
Stage 2	903	-	-
Time blocked-Platoon, %	-	-	-
Mov Capacity-1 Maneuver	769	968	1505
Mov Capacity-2 Maneuver	769	-	-
Stage 1	934	-	-
Stage 2	895	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	0.9
HCM LOS	A		

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	968	1505	-
HCM Lane V/C Ratio	-	-	0.001	0.009	-
HCM Control Delay (s)	-	-	8.7	7.413	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.003	0.026	-

Notes
 - : Volume Exceeds Capacity, \$: Delay Exceeds 300 Seconds, Error : Computation Not Defined

Intersection						
Intersection Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	599	5	2	645	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	651	5	2	701	1	0
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	657	0	1009	328
Stage 1	-	-	-	-	654	-
Stage 2	-	-	-	-	355	-
Follow-up Headway	-	-	2.22	-	3.52	3.32
Pot Capacity-1 Maneuver	-	-	926	-	237	668
Stage 1	-	-	-	-	479	-
Stage 2	-	-	-	-	681	-
Time blocked-Platoon, %	-	-	-	-	-	-
Mov Capacity-1 Maneuver	-	-	926	-	236	668
Mov Capacity-2 Maneuver	-	-	-	-	236	-
Stage 1	-	-	-	-	479	-
Stage 2	-	-	-	-	678	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0		20.3		
HCM LOS	C					
Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	236	-	-	926	-	
HCM Lane V/C Ratio	0.005	-	-	0.002	-	
HCM Control Delay (s)	20.3	-	-	8.897	0	
HCM Lane LOS	C			A	A	
HCM 95th %tile Q(veh)	0.014	-	-	0.007	-	
Notes						
- : Volume Exceeds Capacity, \$: Delay Exceeds 300 Seconds, Error : Computation Not Defined						

**G: CUMULATIVE (2035) TRAFFIC CONDITIONS
ANALYSIS SHEETS**

Intersection	
Intersection Delay, s/veh	15.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	205	178	8	3	209	49	28	70	6	24	26	129
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	270	234	11	4	275	64	37	92	8	32	34	170
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	15.6	19.9	13.8	12.2
HCM LOS	C	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	27%	100%	0%	1%	48%	0%
Vol Thru, %	67%	0%	96%	80%	52%	0%
Vol Right, %	6%	0%	4%	19%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	104	205	186	261	50	129
LT Vol	70	0	178	209	26	0
Through Vol	6	0	8	49	0	129
RT Vol	28	205	0	3	24	0
Lane Flow Rate	137	270	245	343	66	170
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.291	0.517	0.433	0.622	0.14	0.315
Departure Headway (Hd)	7.659	7.023	6.483	6.637	7.648	6.684
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	471	518	558	546	471	540
Service Time	5.67	4.723	4.183	4.637	5.356	4.392
HCM Lane V/C Ratio	0.291	0.521	0.439	0.628	0.14	0.315
HCM Control Delay	13.8	17	14	19.9	11.6	12.4
HCM Lane LOS	B	C	B	C	B	B
HCM 95th-tile Q	1.2	2.9	2.2	4.2	0.5	1.3

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	13.5											
Intersection LOS	B											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	60	357	1	10	335	20	20	26	20	33	7	77
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	81	482	1	14	453	27	27	35	27	45	9	104
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	14.8	13.2	11	11.6
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	30%	25%	0%	6%	0%	28%
Vol Thru, %	39%	75%	99%	94%	89%	6%
Vol Right, %	30%	0%	1%	0%	11%	66%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	66	239	180	178	188	117
LT Vol	26	179	179	168	168	7
Through Vol	20	0	1	0	20	77
RT Vol	20	60	0	10	0	33
Lane Flow Rate	89	322	243	240	253	158
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.164	0.551	0.405	0.41	0.425	0.273
Departure Headway (Hd)	6.63	6.15	6.018	6.149	6.045	6.207
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	538	583	597	583	593	576
Service Time	4.706	3.907	3.775	3.909	3.804	4.274
HCM Lane V/C Ratio	0.165	0.552	0.407	0.412	0.427	0.274
HCM Control Delay	11	16.3	12.8	13.2	13.2	11.6
HCM Lane LOS	B	C	B	B	B	B
HCM 95th-tile Q	0.6	3.3	2	2	2.1	1.1

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	17.9											
Intersection LOS	C											
Movement	EBL	EET	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol. veh/h	60	301	0	1	497	48	1	0	3	46	0	113
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	88	443	0	1	731	71	1	0	4	68	0	166
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	15.3	20.9	10.2	13.5
HCM LOS	C	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	25%	37%	0%	0%	0%	29%
Vol Thru, %	0%	63%	100%	100%	84%	0%
Vol Right, %	75%	0%	0%	0%	16%	71%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	4	160	201	250	297	159
LT Vol	0	100	201	249	249	0
Through Vol	3	0	0	0	48	113
RT Vol	1	60	0	1	0	46
Lane Flow Rate	6	236	295	367	436	234
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.012	0.432	0.525	0.622	0.725	0.406
Departure Headway (Hd)	7.038	6.596	6.406	6.101	5.984	6.244
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	505	545	561	591	602	575
Service Time	5.125	4.359	4.169	3.855	3.738	4.293
HCM Lane V/C Ratio	0.012	0.433	0.526	0.621	0.724	0.407
HCM Control Delay	10.2	14.3	16.1	18.4	23	13.5
HCM Lane LOS	B	B	C	C	C	B
HCM 95th-tile Q	0	2.2	3	4.3	6.1	2

Notes

- : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	55											
Intersection LOS	F											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	286	355	13	7	307	68	61	144	24	56	67	379
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	304	378	14	7	327	72	65	153	26	60	71	403
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	55.5	77.4	31.9	47.7
HCM LOS	F	F	D	E

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	27%	100%	0%	2%	46%	0%
Vol Thru, %	63%	0%	96%	80%	54%	0%
Vol Right, %	10%	0%	4%	18%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	229	286	368	382	123	379
LT Vol	144	0	355	307	67	0
Through Vol	24	0	13	68	0	379
RT Vol	61	286	0	7	56	0
Lane Flow Rate	244	304	391	406	131	403
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.678	0.796	0.967	1	0.337	0.935
Departure Headway (Hd)	10.021	9.422	8.896	9.392	9.274	8.347
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	361	383	407	390	389	435
Service Time	8.081	7.192	6.666	7.392	7.022	6.094
HCM Lane V/C Ratio	0.676	0.794	0.961	1.041	0.337	0.926
HCM Control Delay	31.9	40.5	67.1	77.4	16.7	57.7
HCM Lane LOS		D	E	F	F	C
HCM 95th-tile Q		4.7	6.9	11.3	12	1.5

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	27.9											
Intersection LOS	D											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	109	617	20	39	640	39	32	35	22	41	32	156
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	114	643	21	41	667	41	33	36	23	43	33	163
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	33.5	27.6	13.2	16.3
HCM LOS	D	D	B	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	36%	26%	0%	11%	0%	18%
Vol Thru, %	39%	74%	94%	89%	89%	14%
Vol Right, %	25%	0%	6%	0%	11%	68%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	89	418	329	359	359	229
LT Vol	35	309	309	320	320	32
Through Vol	22	0	20	0	39	156
RT Vol	32	109	0	39	0	41
Lane Flow Rate	93	435	342	374	374	239
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.208	0.872	0.669	0.747	0.733	0.471
Departure Headway (Hd)	8.078	7.217	7.04	7.187	7.054	7.113
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	445	504	513	505	512	508
Service Time	6.122	4.958	4.781	4.928	4.795	5.147
HCM Lane V/C Ratio	0.209	0.863	0.667	0.741	0.73	0.47
HCM Control Delay	13.2	41.8	22.9	28.3	26.9	16.3
HCM Lane LOS	B	E	C	D	D	C
HCM 95th-tile Q	0.8	9.4	4.9	6.3	6.1	2.5

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	24.7											
Intersection LOS	C											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	152	631	0	0	559	72	2	0	0	106	0	212
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	157	651	0	0	576	74	2	0	0	109	0	219
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	29.1	22.4	11.6	18.7
HCM LOS	D	C	B	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	42%	0%	0%	0%	33%
Vol Thru, %	0%	58%	100%	100%	72%	0%
Vol Right, %	0%	0%	0%	0%	28%	67%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	362	421	373	258	318
LT Vol	0	210	421	373	186	0
Through Vol	0	0	0	0	72	212
RT Vol	2	152	0	0	0	106
Lane Flow Rate	2	374	434	384	266	328
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.005	0.718	0.808	0.737	0.496	0.593
Departure Headway (Hd)	8.556	6.921	6.707	6.908	6.708	6.515
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	421	519	538	519	533	554
Service Time	6.556	4.703	4.489	4.695	4.496	4.57
HCM Lane V/C Ratio	0.005	0.721	0.807	0.74	0.499	0.592
HCM Control Delay	11.6	25.6	32.1	26.8	16	18.7
HCM Lane LOS	B	D	D	D	C	C
HCM 95th-tile Q	0	5.8	7.8	6.2	2.7	3.8

Notes

- : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

**H: CUMULATIVE (2035) PLUS PROPOSED
PROJECT TRAFFIC CONDITIONS ANALYSIS
SHEETS**

Intersection												
Intersection Delay, s/veh	16.1											
Intersection LOS	C											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol veh/h	207	180	9	3	210	49	28	70	6	24	26	130
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	272	237	12	4	276	64	37	92	8	32	34	171
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	15.8	20.1	13.8	12.3
HCM LOS	C	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	27%	100%	0%	1%	48%	0%
Vol Thru, %	67%	0%	95%	80%	52%	0%
Vol Right, %	6%	0%	5%	19%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	104	207	189	262	50	130
LT Vol	70	0	180	210	26	0
Through Vol	6	0	9	49	0	130
RT Vol	28	207	0	3	24	0
Lane Flow Rate	137	272	249	345	66	171
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.292	0.523	0.44	0.626	0.14	0.319
Departure Headway (Hd)	7.685	7.037	6.494	6.656	7.67	6.706
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	469	515	557	545	470	539
Service Time	5.697	4.737	4.194	4.656	5.378	4.414
HCM Lane V/C Ratio	0.292	0.528	0.447	0.633	0.14	0.317
HCM Control Delay	13.8	17.2	14.2	20.1	11.6	12.5
HCM Lane LOS	B	C	B	C	B	B
HCM 95th-tile Q	1.2	3	2.2	4.3	0.5	1.4

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	13.8											
Intersection LOS	B											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	60	358	4	12	338	20	24	27	24	33	7	77
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	81	484	5	16	457	27	32	36	32	45	9	104
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	15.1	13.5	11.3	11.8
HCM LOS	C	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	32%	25%	0%	7%	0%	28%
Vol Thru, %	36%	75%	98%	93%	89%	6%
Vol Right, %	32%	0%	2%	0%	11%	66%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	75	239	183	181	189	117
LT Vol	27	179	179	169	169	7
Through Vol	24	0	4	0	20	77
RT Vol	24	60	0	12	0	33
Lane Flow Rate	101	323	247	245	255	158
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.188	0.558	0.418	0.423	0.434	0.276
Departure Headway (Hd)	6.663	6.221	6.078	6.224	6.115	6.285
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	535	578	591	575	587	569
Service Time	4.746	3.984	3.841	3.99	3.881	4.358
HCM Lane V/C Ratio	0.189	0.559	0.418	0.426	0.434	0.278
HCM Control Delay	11.3	16.6	13.2	13.5	13.5	11.8
HCM Lane LOS	B	C	B	B	B	B
HCM 95th-tile Q	0.7	3.4	2.1	2.1	2.2	1.1

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	18.2											
Intersection LOS	C											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	60	303	0	1	500	49	1	0	3	47	0	113
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	88	446	0	1	735	72	1	0	4	69	0	166
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	15.5	21.3	10.2	13.6
HCM LOS	C	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	25%	37%	0%	0%	0%	29%
Vol Thru, %	0%	63%	100%	100%	84%	0%
Vol Right, %	75%	0%	0%	0%	16%	71%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	4	161	202	251	299	160
LT Vol	0	101	202	250	250	0
Through Vol	3	0	0	0	49	113
RT Vol	1	60	0	1	0	47
Lane Flow Rate	6	237	297	369	440	235
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.012	0.435	0.53	0.627	0.732	0.409
Departure Headway (Hd)	7.06	6.612	6.422	6.113	5.995	6.259
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	504	542	558	591	602	574
Service Time	5.147	4.375	4.185	3.869	3.75	4.308
HCM Lane V/C Ratio	0.012	0.437	0.532	0.624	0.731	0.409
HCM Control Delay	10.2	14.4	16.3	18.7	23.5	13.6
HCM Lane LOS	B	B	C	C	C	B
HCM 95th-tile Q	0	2.2	3.1	4.3	6.2	2

Notes

-- : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection						
Intersection Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	1	9	66	0	5	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	10	72	0	5	20
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	102	72	0	0	72	0
Stage 1	72	-	-	-	-	-
Stage 2	30	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	896	990	-	-	1528	-
Stage 1	951	-	-	-	-	-
Stage 2	993	-	-	-	-	-
Time blocked-Platoon, %			-	-		
Mov Capacity-1 Maneuver	893	990	-	-	1528	-
Mov Capacity-2 Maneuver	893	-	-	-	-	-
Stage 1	951	-	-	-	-	-
Stage 2	990	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	8.7		0		1.6	
HCM LOS	A					
Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	979	1528	-	
HCM Lane V/C Ratio	-	-	0.011	0.004	-	
HCM Control Delay (s)	-	-	8.7	7.364	0	
HCM Lane LOS			A	A	A	
HCM 95th %tile Q(veh)	-	-	0.034	0.011	-	
Notes						
~ : Volume Exceeds Capacity, \$: Delay Exceeds 300 Seconds, Error : Computation Not Defined						

Intersection

Intersection Delay, s/veh 0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	413	2	1	366	4	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	449	2	1	398	4	2

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	451
Stage 1	-	-	450
Stage 2	-	-	201
Follow-up Headway	-	-	2.22
Pot Capacity-1 Maneuver	-	-	1106
Stage 1	-	-	609
Stage 2	-	-	813
Time blocked-Platoon, %	-	-	-
Mov Capacity-1 Maneuver	-	-	1106
Mov Capacity-2 Maneuver	-	-	-
Stage 1	-	-	609
Stage 2	-	-	812

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.6
HCM LOS			B

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	478	-	-	1106	-
HCM Lane V/C Ratio	0.014	-	-	0.001	-
HCM Control Delay (s)	12.6	-	-	8.258	0
HCM Lane LOS	B			A	A
HCM 95th %tile Q(veh)	0.041	-	-	0.003	-

Notes

- Volume Exceeds Capacity, \$ Delay Exceeds 300 Seconds, Error Computation Not Defined

Intersection

Intersection Delay, s/veh 55.9
Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	286	355	13	7	309	68	62	144	24	56	67	383
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	304	378	14	7	329	72	66	153	26	60	71	407
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	56.3	77.6	32.3	49.5
HCM LOS	F	F	D	E

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	27%	100%	0%	2%	46%	0%
Vol Thru, %	63%	0%	96%	80%	54%	0%
Vol Right, %	10%	0%	4%	18%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	230	286	368	384	123	383
LT Vol	144	0	355	309	67	0
Through Vol	24	0	13	68	0	383
RT Vol	62	286	0	7	56	0
Lane Flow Rate	245	304	391	409	131	407
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.683	0.799	0.971	1	0.338	0.946
Departure Headway (Hd)	10.046	9.452	8.925	9.328	9.286	8.359
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	360	383	407	388	387	436
Service Time	8.103	7.22	6.694	7.427	7.034	6.106
HCM Lane V/C Ratio	0.681	0.794	0.961	1.054	0.339	0.933
HCM Control Delay	32.3	40.9	68.2	77.6	16.7	60
HCM Lane LOS	D	E	F	F	C	F
HCM 95th-tile Q	4.8	6.9	11.4	12	1.5	11

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	28.9											
Intersection LOS	D											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	109	620	26	44	641	39	33	35	23	42	33	156
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	114	646	27	46	668	41	34	36	24	44	34	163
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	34.7	28.6	13.4	16.6
HCM LOS	D	D	B	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	36%	26%	0%	12%	0%	18%
Vol Thru, %	38%	74%	92%	88%	89%	14%
Vol Right, %	25%	0%	8%	0%	11%	68%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	91	419	336	365	360	231
LT Vol	35	310	310	321	321	33
Through Vol	23	0	26	0	39	156
RT Vol	33	109	0	44	0	42
Lane Flow Rate	95	436	350	380	374	241
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.214	0.88	0.687	0.763	0.738	0.478
Departure Headway (Hd)	8.113	7.258	7.069	7.237	7.097	7.151
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	443	498	511	501	509	505
Service Time	6.157	5	4.811	4.979	4.84	5.183
HCM Lane V/C Ratio	0.214	0.876	0.685	0.758	0.735	0.477
HCM Control Delay	13.4	43.2	24	29.7	27.4	16.6
HCM Lane LOS	B	E	C	D	D	C
HCM 95th-ile Q	0.8	9.6	5.2	6.6	6.2	2.5

Notes

- : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	25.1											
Intersection LOS	D											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	152	636	0	0	559	72	2	0	0	108	0	212
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	157	656	0	0	576	74	2	0	0	111	0	219
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	29.7	22.5	11.6	18.9
HCM LOS	D	C	B	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	
Vol Left, %	100%	42%	0%	0%	0%	34%	
Vol Thru, %	0%	58%	100%	100%	72%	0%	
Vol Right, %	0%	0%	0%	0%	28%	66%	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	2	364	424	373	258	320	
LT Vol	0	212	424	373	186	0	
Through Vol	0	0	0	0	72	212	
RT Vol	2	152	0	0	0	108	
Lane Flow Rate	2	375	437	384	266	330	
Geometry Grp	2	7	7	7	7	2	
Degree of Util (X)	0.005	0.723	0.816	0.739	0.498	0.598	
Departure Headway (Hd)	8.578	6.933	6.72	6.927	6.727	6.524	
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	
Cap	420	518	538	519	533	551	
Service Time	6.578	4.717	4.503	4.715	4.515	4.58	
HCM Lane V/C Ratio	0.005	0.724	0.812	0.74	0.499	0.599	
HCM Control Delay	11.6	25.9	33	27	16.1	18.9	
HCM Lane LOS		B	D	D	C	C	
HCM 95th-tile Q		0	5.9	8	6.2	2.7	3.9

Notes

- : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	1	90	1	12	91
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	98	1	13	99

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	223	98	0
Stage 1	98	-	-
Stage 2	125	-	-
Follow-up Headway	3.518	3.318	2.218
Pot Capacity-1 Maneuver	765	958	1494
Stage 1	926	-	-
Stage 2	901	-	-
Time blocked-Platoon, %	-	-	-
Mov Capacity-1 Maneuver	758	958	1494
Mov Capacity-2 Maneuver	758	-	-
Stage 1	926	-	-
Stage 2	893	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0.9
HCM LOS	A		

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	958	1494	-
HCM Lane V/C Ratio	-	-	0.001	0.009	-
HCM Control Delay (s)	-	-	8.8	7.431	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.003	0.026	-

Notes

- Volume Exceeds Capacity, \$ Delay Exceeds 300 Seconds, Error Computation Not Defined

Intersection

Intersection Delay, s/veh 0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	680	5	2	723	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	739	5	2	786	1	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	745
Stage 1	-	-	742
Stage 2	-	-	397
Follow-up Headway	-	-	2.22
Pot Capacity-1 Maneuver	-	-	859
Stage 1	-	-	432
Stage 2	-	-	648
Time blocked-Platoon, %	-	-	-
Mov Capacity-1 Maneuver	-	-	859
Mov Capacity-2 Maneuver	-	-	-
Stage 1	-	-	432
Stage 2	-	-	645

Approach	EB	WB	NB
HCM Control Delay, s	0	0	23.7
HCM LOS			C

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	194	-	-	859	-
HCM Lane V/C Ratio	0.006	-	-	0.003	-
HCM Control Delay (s)	23.7	-	-	9.202	0
HCM Lane LOS	C			A	A
HCM 95th %tile Q(veh)	0.017	-	-	0.008	-

Notes

- Volume Exceeds Capacity; \$ Delay Exceeds 300 Seconds; Error Computation Not Defined

I: CALCULATION OF NEAR-TERM AND CUMULATIVE CONDITION VOLUMES

Portola Drive/38th Avenue
 Calculated Growth Rates by Roadway Segment

Kimley-Horn, 2014.

	Roadway Segment	Most Recent		Oldest ADT		Growth Rate (taken over time period)	Annual Growth Rate	Average Annual Growth Rate
		Year	ADT	Year	ADT			
Portola Dr	W/O 37th Ave (June 1987-June 2005)	2005	16,852	1987	15,539	1.084	0.45%	0.66%
Portola Dr	E/O 41st Ave (July 1990-July 2004)	2004	8,130	1990	7,204	1.129	0.87%	
41st St	E/O 38th Ave (Tube Count taken 10/29/14)	2014	13,228	-	-	-	-	-
	N/O Portola Drive (Sept 1996-Oct 2008)	2008	13,006	1996	12,804	1.016	0.13%	0.13%

Note: All ADT volumes are bi-directional.
 All ADT volumes from previous years are provided by the Santa Cruz County Regional Transportation Commission (SCRTC) unless otherwise noted.
 The ADT for the Portola Drive segment E/O 38th Avenue was taken from tube counts conducted by Kimley-Horn in October 2014.

Kimley-Horn, 2014.

Calculated Roadway Segment ADT

Roadway Segment	2014	2016	2035
Portola Dr. (assumed W/O 41st Ave.)	17,879	18,116	20,526
41st Ave. (assumed N/O Portola Dr.)	13,108	13,142	13,472
Portola Dr. (based on tube count taken E/O 38th Ave.)	13,228	13,403	15,186

**J: TRAFFIX ANALYSIS SHEETS FOR IMPACTED
INTERSECTIONS ONLY**

Impact Analysis Report
Level Of Service

Intersection	Base		Future		Change in
	Del/ LOS Veh	V/ C	Del/ LOS Veh	V/ C	
# 1	E 35.7	0.900	E 35.7	0.900	+ 0.000 V/C
# 2	C 19.0	0.672	C 19.0	0.672	+ 0.000 V/C
# 3	C 17.7	0.671	C 17.7	0.671	+ 0.000 V/C

Impact Analysis Report
Level Of Service

Intersection	Base			Future			Change in
	LOS	Del/ Veh	V/ C	LOS	Del/ Veh	V/ C	
# 1	E	36.6	0.908	E	36.6	0.908	+ 0.000 V/C
# 2	C	19.5	0.685	C	19.5	0.685	+ 0.000 V/C
# 3	C	17.8	0.677	C	17.8	0.677	+ 0.000 V/C
# 4	A	9.5	0.098	A	9.5	0.098	+ 0.000 D/V
# 5	C	18.2	0.004	C	18.2	0.004	+ 0.000 D/V

Impact Analysis Report
Level Of Service

Intersection	Base		Future		Change in
	Del/ LOS	V/ Veh C	Del/ LOS	V/ Veh C	
# 1	E 37.3	0.915	E 37.3	0.915	+ 0.000 V/C
# 2	C 19.4	0.681	C 19.4	0.681	+ 0.000 V/C
# 3	C 18.0	0.680	C 18.0	0.680	+ 0.000 V/C

Impact Analysis Report
Level Of Service

Intersection	Base			Future			Change in
	LOS	Del/ Veh	V/ C	LOS	Del/ Veh	V/ C	
# 1	E	38.3	0.923	E	38.3	0.923	+ 0.000 V/C
# 2	C	19.9	0.694	C	19.9	0.694	+ 0.000 V/C
# 3	C	18.2	0.686	C	18.2	0.686	+ 0.000 V/C
# 4	A	9.5	0.098	A	9.5	0.098	+ 0.000 D/V
# 5	C	18.4	0.004	C	18.4	0.004	+ 0.000 D/V

Impact Analysis Report
Level Of Service

Intersection	Base		Future		Change in
	Del/ LOS	V/ Veh C	Del/ LOS	V/ Veh C	
# 1	F 61.0	1.065	F 61.0	1.065	+ 0.000 V/C
# 2	D 26.0	0.793	D 26.0	0.793	+ 0.000 V/C
# 3	C 23.3	0.786	C 23.3	0.786	+ 0.000 V/C

Impact Analysis Report
Level Of Service

Intersection	Base			Future			Change in
	Del/ LOS	Veh C	V/ C	Del/ LOS	Veh C	V/ C	
# 1	F	62.5	1.074	F	62.5	1.074	+ 0.000 V/C
# 2	D	27.0	0.805	D	27.0	0.805	+ 0.000 V/C
# 3	C	23.6	0.792	C	23.6	0.792	+ 0.000 V/C
# 4	A	9.5	0.101	A	9.5	0.101	+ 0.000 D/V
# 5	C	21.0	0.004	C	21.0	0.004	+ 0.000 D/V

MEMORANDUM

From: Frederik Venter, Kimley-Horn and Associates
To: John Swift, Hamilton Swift and Associates
Date: May 12, 2015
Re: Portola Drive / 38th Avenue Development – Response to Traffic Comments

This memorandum is a response to comments from the County of Santa Cruz regarding the Traffic Impact Study prepared by Kimley-Horn dated January 14, 2015. The County has requested that we provide calculations for the determination of increase in v/c ratio for the sum of all critical movements at intersections with LOS E or F, wherein increases in this v/c ratio equaling or exceeding 1% must be mitigated.

Per the memorandum from Ken DeFrees (**Exhibit A**, attached), the previous project would have generated more trips for credits compared to what we have assumed in the TIS for both the AM and the PM peak hour. Based on DeFrees' assumptions, assuming 25 trucks (at minimum), the previous land use would have generated 32 AM peak hour trips, which includes 20 inbound-passenger cars (assuming some are due to shared driving) and 12 outbound trucks (with a vehicle occupancy of 2 persons per truck). The previous land use would have generated 32 PM peak hour trips (12 inbound and 20 outbound). Reductions are assumed in both peak hours; we have assumed a reduction of 13 trips in the AM and 15 trips in the PM.

This analysis takes the most conservative approach, applying trip credits that assumes the least number of trucks that were previously on-site based on the DeFrees memo. After trip credits, the net trip increase would then be 5 trips in the AM (-1 in and 6 out) and 5 trips (10 in and -5 out) in the PM.

The calculation worksheets for the v/c ratios are provided in **Exhibit B**. Analysis was completed using HCM 2010 methodology.

Additional info
Submitted 5/15/15

Exhibit A:

Memorandum from Ken DeFrees to John Swift
(via email, May 6, 2015)

MEMO: via email

May 6, 2015

To: John Swift
Hamilton-Swift

From: Ken DeFrees

Re: Prior Occupancy and Use
3800 Portola Dr.
Santa Cruz, Ca.

Dear John,

I have been unable to locate the my Lease with Wellington Energy. As you know, they occupied the property from the Spring of 2010 to the Fall of 2013.

Wellington Energy began operations with 25-30 small install trucks stored on site and used the building as a depot for inventory and equipment. The installers parked their personal cars and used the trucks during the day. The installers would periodically return during the day for more inventory. During the day larger trucks would deliver fresh inventory to the depot and others would collect the removed old items. The intensity of their use changed periodically during their occupancy. Feel free to contact me with any other questions.

Regards,
Ken DeFrees
Thank you,

Exhibit B:

V/C Calculations prepared by Kimley-Horn

Impact Analysis Report
Level Of Service

Intersection	Base		Future		Change in
	Del/ LOS Veh	V/ C	Del/ LOS Veh	V/ C	
# 1	E 35.7	0.900	E 35.7	0.900	+ 0.000 V/C
# 2	C 19.0	0.672	C 19.0	0.672	+ 0.000 V/C
# 3	C 17.7	0.671	C 17.7	0.671	+ 0.000 V/C

```

-----
Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)
-----
Intersection #1
-----
Cycle (sec):      100          Critical Vol./Cap. (X):      0.900
Loss Time (sec):  0           Average Delay (sec/veh):    35.7
Optimal Cycle:   0           Level Of Service:          E
-----
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----
Control:       Stop Sign      Stop Sign      Stop Sign      Stop Sign
Rights:        Include      Include      Include      Include
Min. Green:    0 0 0 0      0 0 0 0      0 0 0 0      0 0 0 0
Lanes:         0 0 1 0 0    0 1 0 0 1    1 0 0 1 0    0 0 1 0 0
-----
Volume Module:
Base Vol:      53 140 21 49 65 330 278 309 13 7 267 66
Growth Adj:   1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Ese:  53 140 21 49 65 330 278 309 13 7 267 66
User Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:      0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88
PHF Volume:   60 158 24 55 74 373 315 350 15 8 302 75
Reduct Vol:   0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol:  60 158 24 55 74 373 315 350 15 8 302 75
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Volume: 60 158 24 55 74 373 315 350 15 8 302 75
-----
Saturation Flow Module:
Adjustment:   1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes:        0.25 0.65 0.10 0.43 0.57 1.00 1.00 0.96 0.04 0.02 0.79 0.19
Final Sat.:   94 247 37 177 235 460 415 423 18 9 336 83
-----
Capacity Analysis Module:
Vol/Sat:      0.64 0.64 0.64 0.31 0.31 0.81 0.76 0.83 0.83 0.90 0.90 0.90
Crit Moves:   ****          ****          ****
Delay/Veh:    25.3 25.3 25.3 15.1 15.1 34.3 33.5 38.4 38.4 49.6 49.6 49.6
Delay Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:   25.3 25.3 25.3 15.1 15.1 34.3 33.5 38.4 38.4 49.6 49.6 49.6
LCS by Move:  D D D C C D D E E E E E
ApproachDel:  25.3          29.4          36.1          49.6
Delay Adj:    1.00          1.00          1.00          1.00
ApprAdjDel:   25.3          29.4          36.1          49.6
LCS by Appr:  D          D          E          E
AllWayAvgQ:   1.4 1.4 1.4 0.4 0.4 3.1 2.5 3.4 3.4 4.5 4.5 4.5
-----
Note: Queue reported is the number of cars per lane.
-----

```

```

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)
*****
Intersection #2
*****
Cycle (sec):      100          Critical Vol./Cap.(X):      0.672
Loss Time (sec):  0           Average Delay (sec/veh):    19.0
Optimal Cycle:    0           Level Of Service:          C
*****
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|
Control:       Stop Sign      Stop Sign      Stop Sign      Stop Sign
Rights:        Include      Include      Include      Include
Min. Green:    0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Lanes:         0 0 1 0 0 0 0 1 0 1 0 0 0 1 0 1 0
-----|-----|-----|-----|
Volume Module:
Base Vol:      28 34 19 36 31 136 106 537 19 38 557 38
Growth Adj:   1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:   28 34 19 36 31 136 106 537 19 38 557 38
User Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:      0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
PHF Volume:    30 37 21 39 34 148 115 583 21 41 604 41
Reduct Vol:   0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol:  30 37 21 39 34 148 115 583 21 41 604 41
PCE Adj:      1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:      1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Volume: 30 37 21 39 34 148 115 583 21 41 604 41
-----|-----|-----|-----|
Saturation Flow Module:
Adjustment:   1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes:        0.35 0.42 0.23 0.18 0.15 0.67 0.32 1.62 0.06 0.12 1.76 0.12
Final Sat.:   158 192 107 94 81 354 171 882 32 65 956 66
-----|-----|-----|-----|
Capacity Analysis Module:
Vol/Sat:      0.19 0.19 0.19 0.42 0.42 0.42 0.67 0.66 0.65 0.64 0.63 0.63
Crit Moves:   ****          ****          ****
Delay/Veh:    11.8 11.8 11.8 13.8 13.8 13.8 21.6 20.8 20.2 19.9 19.5 19.0
Delay Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:   11.8 11.8 11.8 13.8 13.8 13.8 21.6 20.8 20.2 19.9 19.5 19.0
LOS by Move:  B B B B B B C C C C C C
ApproachDel:  11.8          13.8          20.9          19.5
Delay Adj:    1.00          1.00          1.00          1.00
ApprAdjDel:   11.8          13.8          20.9          19.5
LOS by Appr:  B B B B B B C C C C
AllWayAvgQ:   0.2 0.2 0.2 0.5 0.6 0.6 1.8 1.7 1.7 1.6 1.5 1.5
*****
Note: Queue reported is the number of cars per lane.
*****

```

```

-----
Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)
*****
Intersection #3
*****
Cycle (sec):          100          Critical Vol./Cap.(X):          0.671
Loss Time (sec):      0          Average Delay (sec/veh):          17.7
Optimal Cycle:        0          Level Of Service:          C
*****
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|
Control:      Stop Sign      Stop Sign      Stop Sign      Stop Sign
Rights:      Include      Include      Include      Include
Min. Green:    0 0 0 0      0 0 1 0 0      0 0 0 0      0 0 0 0
Lanes:        1 0 0 0 0      0 0 1 0 0      0 1 0 1 0      0 1 0 1 0
-----|-----|-----|-----|
Volume Module:
Base Vol:      2 0 0      92 0 185      148 550 0      0 487 70
Growth Adj:    1.00 1.00 1.00      1.00 1.00 1.00      1.00 1.00 1.00      1.00 1.00 1.00
Initial Bse:   2 0 0      92 0 185      148 550 0      0 487 70
User Adj:      1.00 1.00 1.00      1.00 1.00 1.00      1.00 1.00 1.00      1.00 1.00 1.00
PHF Adj:       0.94 0.94 0.94      0.94 0.94 0.94      0.94 0.94 0.94      0.94 0.94 0.94
PHF Volume:    2 0 0      98 0 197      157 585 0      0 518 74
Reduct Vol:    0 0 0      0 0 0      0 0 0      0 0 0
Reduced Vol:   2 0 0      98 0 197      157 585 0      0 518 74
PCE Adj:       1.00 1.00 1.00      1.00 1.00 1.00      1.00 1.00 1.00      1.00 1.00 1.00
MLF Adj:       1.00 1.00 1.00      1.00 1.00 1.00      1.00 1.00 1.00      1.00 1.00 1.00
Final Volume:  2 0 0      98 0 197      157 585 0      0 518 74
-----|-----|-----|-----|
Saturation Flow Module:
Adjustment:    1.00 1.00 1.00      1.00 1.00 1.00      1.00 1.00 1.00      1.00 1.00 1.00
Lanes:         1.00 0.00 0.00      0.33 0.00 0.67      0.42 1.58 0.00      0.00 1.75 0.25
Final Sat.:   426 0 0      190 0 382      234 899 0      0 974 142
-----|-----|-----|-----|
Capacity Analysis Module:
Vol/Sat:       0.00 xxxx xxxx      0.51 xxxx 0.51      0.67 0.66 xxxx xxxx      0.53 0.52
Crit Moves:    ****          ****          ****          ****
Delay/Veh:     10.6 0.0 0.0      15.1 0.0 15.1      21.0 20.0 0.0      0.0 15.8 15.4
Delay Adj:     1.00 1.00 1.00      1.00 1.00 1.00      1.00 1.00 1.00      1.00 1.00 1.00
AdjDel/Veh:    10.6 0.0 0.0      15.1 0.0 15.1      21.0 20.0 0.0      0.0 15.8 15.4
LOS by Move:   B * *      C * C      C C *      * * C C
ApproachDel:   10.6          15.1          20.2          15.8
Delay Adj:     1.00          1.00          1.00          1.00
ApprAdjDel:    10.6          15.1          20.2          15.8
LOS by Appr:   B          C          C          C
AllWayAvgQ:    0.0 0.0 0.0      0.9 0.9 0.9      1.8 1.7 1.7      1.1 1.0 1.0
*****
Note: Queue reported is the number of cars per lane.
*****

```

ETP

Impact Analysis Report
Level Of Service

Intersection	Base		Future		Change in
	Del/ LOS Veh	V/ C	Del/ LOS Veh	V/ C	
# 1	E 36.6	0.908	E 36.6	0.908	+ 0.000 V/C
# 2	C 19.5	0.685	C 19.5	0.685	+ 0.000 V/C
# 3	C 17.8	0.677	C 17.8	0.677	+ 0.000 V/C
# 4	A 9.5	0.098	A 9.5	0.098	+ 0.000 D/V
# 5	C 18.2	0.004	C 18.2	0.004	+ 0.000 D/V

Level Of Service Computation Report
 2000 HCM 4-Way Stop Method (Base Volume Alternative)

 Intersection #1

Cycle (sec): 100 Critical Vol./Cap.(X): 0.908
 Loss Time (sec): 0 Average Delay (sec/veh): 36.6
 Optimal Cycle: 0 Level Of Service: E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1	0	1	0	1	0	0	1	0	0

Volume Module:

Base Vol:	54	140	21	49	65	334	278	309	13	7	269	66
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	54	140	21	49	65	334	278	309	13	7	269	66
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
PHF Volume:	61	158	24	55	74	378	315	350	15	8	304	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	61	158	24	55	74	378	315	350	15	8	304	75
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	61	158	24	55	74	378	315	350	15	8	304	75

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.25	0.65	0.10	0.43	0.57	1.00	1.00	0.96	0.04	0.02	0.79	0.19
Final Sat.:	95	246	37	177	234	459	413	422	18	9	335	82

Capacity Analysis Module:

Vol/Sat:	0.64	0.64	0.64	0.31	0.31	0.82	0.76	0.83	0.83	0.91	0.91	0.91
Crit Moves:	****			****			****			****		
Delay/Veh:	25.6	25.6	25.6	15.1	15.1	35.7	33.9	39.1	39.1	51.3	51.3	51.3
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.6	25.6	25.6	15.1	15.1	35.7	33.9	39.1	39.1	51.3	51.3	51.3
LOS by Move:	D	D	D	C	C	E	D	E	E	F	F	F
ApproachDel:	25.6			30.5			36.7			51.3		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	25.6			30.5			36.7			51.3		
LOS by Appr:	D			D			E			F		
AllWayAvgQ:	1.4	1.4	1.4	0.4	0.4	3.2	2.6	3.4	3.4	4.7	4.7	4.7

 Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
 2000 HCM 4-Way Stop Method (Base Volume Alternative)

 Intersection #2

Cycle (sec): 100 Critical Vol./Cap. (X): 0.685
 Loss Time (sec): 0 Average Delay (sec/veh): 19.5
 Optimal Cycle: 0 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	-	R	L	-	R	L	-	R	L	-	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1	0	0	1	0	1	0	0	1	0

Volume Module:

Base Vol:	29	34	20	37	32	136	106	540	25	43	558	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	29	34	20	37	32	136	106	540	25	43	558	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	31	37	22	40	35	148	115	586	27	47	605	41
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	31	37	22	40	35	148	115	586	27	47	605	41
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	31	37	22	40	35	148	115	586	27	47	605	41

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.35	0.41	0.24	0.18	0.16	0.66	0.32	1.61	0.07	0.13	1.75	0.12
Final Sat.:	159	187	110	95	82	348	168	872	41	72	943	65

Capacity Analysis Module:

Vol/Sat:	0.20	0.20	0.20	0.42	0.42	0.42	0.68	0.67	0.66	0.65	0.64	0.64
Crit Moves:	****			****			****			****		
Delay/Veh:	11.9	11.9	11.9	14.0	14.0	14.0	22.3	21.4	20.7	20.5	20.0	19.5
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.9	11.9	11.9	14.0	14.0	14.0	22.3	21.4	20.7	20.5	20.0	19.5
LOS by Move:	B	B	B	B	B	B	C	C	C	C	C	C
ApproachDel:	11.9			14.0			21.5			20.0		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	11.9			14.0			21.5			20.0		
LOS by Appr:	B			B			C			C		
AllWayAvgQ:	0.2	0.2	0.2	0.6	0.6	0.6	1.9	1.8	1.8	1.7	1.6	1.6

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
 2000 HCM 4-Way Stop Method (Base Volume Alternative)

 Intersection #3

Cycle (sec): 100 Critical Vol./Cap.(X): 0.677
 Loss Time (sec): 0 Average Delay (sec/veh): 17.8
 Optimal Cycle: 0 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	0	0	0	1	0	1	0	0	1	0

Volume Module:	North Bound			South Bound			East Bound			West Bound		
Base Vol:	2	0	0	94	0	185	148	555	0	0	487	70
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	0	0	94	0	185	148	555	0	0	487	70
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	2	0	0	100	0	197	157	590	0	0	518	74
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	0	0	100	0	197	157	590	0	0	518	74
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	2	0	0	100	0	197	157	590	0	0	518	74

Saturation Flow Module:	North Bound			South Bound			East Bound			West Bound		
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	0.00	0.34	0.00	0.66	0.42	1.58	0.00	0.00	1.75	0.25
Final Sat.:	425	0	0	193	0	379	232	889	0	0	971	142

Capacity Analysis Module:	North Bound			South Bound			East Bound			West Bound		
Vol/Sat:	0.01	xxxx	xxxx	0.52	xxxx	0.52	0.68	0.66	xxxx	xxxx	0.53	0.52
Crit Moves:	****			****			****			****		
Delay/Veh:	10.6	0.0	0.0	15.2	0.0	15.2	21.3	20.3	0.0	0.0	15.9	15.5
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.6	0.0	0.0	15.2	0.0	15.2	21.3	20.3	0.0	0.0	15.9	15.5
LOS by Move:	B	*	*	C	*	C	C	C	*	*	C	C
ApproachDel:	10.6			15.2			20.5				15.8	
Delay Adj:	1.00			1.00			1.00				1.00	
ApprAdjDel:	10.6			15.2			20.5				15.8	
LOS by Appr:	B			C			C				C	
AllWayAvgQ:	0.0	0.0	0.0	1.0	1.0	1.0	1.9	1.7	1.7	1.1	1.0	1.0

 Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #4

Average Delay (sec/veh): 9.4 Worst Case Level Of Service: A [9.5]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, and Lanes.

Volume Module:

Table showing volume adjustments: Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume.

Critical Gap Module:

Table showing critical gap and follow-up time values for different movements.

Capacity Module:

Table showing capacity calculations: Conflict Vol, Potent Cap, Move Cap, Volume/Cap.

Level Of Service Module:

Table showing level of service calculations: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap, Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #5

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: C [18.2]

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 1 0 0 0 0 0 0 0 0 0 0 0 1 1 0 0 1 1 0 0

Volume Module:

Base Vol: 1 0 0 0 0 0 0 0 592 5 2 638 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 1 0 0 0 0 0 0 0 592 5 2 638 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 1 0 0 0 0 0 0 0 592 5 2 638 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Final Volume: 1 0 0 0 0 0 0 0 592 5 2 638 0

Critical Gap Module:

Critical Gp: 6.8 xxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx 4.1 xxx xxxxxx
FollowUpTim: 3.5 xxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx 2.2 xxx xxxxxx

Capacity Module:

Cnflct Vol: 918 xxx xxxxxx xxx xxxxxx xxxxxx xxx xxxxxx xxxxxx 597 xxx xxxxxx
Potent Cap.: 275 xxx xxxxxx xxx xxxxxx xxxxxx xxx xxxxxx xxxxxx 989 xxx xxxxxx
Move Cap.: 274 xxx xxxxxx xxx xxxxxx xxxxxx xxx xxxxxx xxxxxx 989 xxx xxxxxx
Volume/Cap: 0.00 xxx xxxxxx xxx xxxxxx xxxxxx xxx xxxxxx xxxxxx 0.00 xxx xxxxxx

Level Of Service Module:

2Way95thQ: 0.0 xxx xxxxxx xxx xxxxxx xxxxxx xxx xxxxxx xxxxxx 0.0 xxx xxxxxx
Control Del: 18.2 xxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx 8.6 xxx xxxxxx
LOS by Move: C * * * * * * * * * * A * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxx xxxxxx xxxxxx xxx xxxxxx xxxxxx xxx xxxxxx xxxxxx xxx xxxxxx
SharedQueue: xxxxxx xxx xxxxxx xxxxxx xxx xxxxxx xxxxxx xxxxxx xxxxxx 0.0 xxx xxxxxx
Shrd ConDel: xxxxxx xxx xxxxxx xxxxxx xxx xxxxxx xxxxxx xxxxxx xxxxxx 8.6 xxx xxxxxx
Shared LOS: * * * * * * * * * * A * *
ApproachDel: 18.2 xxxxxx xxxxxx xxxxxx
ApproachLOS: C * * * * *

Note: Queue reported is the number of cars per lane.

Impact Analysis Report
Level Of Service

Intersection	Base		Future		Change in
	Del/ LCS Veh	V/ C	Del/ LCS Veh	V/ C	
# 1	E 37.3	0.915	E 37.3	0.915	+ 0.000 V/C
# 2	C 19.4	0.681	C 19.4	0.681	+ 0.000 V/C
# 3	C 18.0	0.680	C 18.0	0.680	+ 0.000 V/C

Level Of Service Computation Report
 2000 HCM 4-Way Stop Method (Base Volume Alternative)

 Intersection #1

Cycle (sec): 100 Critical Vol./Cap. (X): 0.915
 Loss Time (sec): 0 Average Delay (sec/veh): 37.3
 Optimal Cycle: 0 Level Of Service: E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1	0	1	0	1	0	0	0	0	1

Volume Module:

Base Vol:	54	140	21	50	65	334	279	313	13	7	271	66
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	54	140	21	50	65	334	279	313	13	7	271	66
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
PHF Volume:	61	158	24	57	74	378	316	354	15	8	307	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	61	158	24	57	74	378	316	354	15	8	307	75
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	61	158	24	57	74	378	316	354	15	8	307	75

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.25	0.65	0.10	0.43	0.57	1.00	1.00	0.96	0.04	0.02	0.79	0.19
Final Sat.:	95	246	37	178	232	459	412	421	17	9	335	82

Capacity Analysis Module:

Vol/Sat:	0.64	0.64	0.64	0.32	0.32	0.82	0.77	0.84	0.84	0.91	0.91	0.91
Crit Moves:	****			****			****			****		
Delay/Veh:	25.8	25.8	25.8	15.2	15.2	36.0	34.3	40.6	40.6	52.5	52.5	52.5
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.8	25.8	25.8	15.2	15.2	36.0	34.3	40.6	40.6	52.5	52.5	52.5
LOS by Move:	D	D	D	C	C	E	D	E	E	F	F	F
ApproachDel:	25.8			30.7			37.7			52.5		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	25.8			30.7			37.7			52.5		
LOS by Appr:	D			D			E			F		
AllWayAvgQ:	1.4	1.4	1.4	0.4	0.4	3.3	2.6	3.6	3.6	4.9	4.9	4.9

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #2

Cycle (sec): 100 Critical Vol./Cap. (X): 0.681
Loss Time (sec): 0 Average Delay (sec/veh): 19.4
Optimal Cycle: 0 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1	0	0	1	0	1	0	0	1	0

Volume Module:												
Base Vol:	28	34	19	36	31	138	106	544	19	38	564	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	28	34	19	36	31	138	106	544	19	38	564	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	30	37	21	39	34	150	115	590	21	41	612	41
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	37	21	39	34	150	115	590	21	41	612	41
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	30	37	21	39	34	150	115	590	21	41	612	41

Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.35	0.42	0.23	0.18	0.15	0.67	0.32	1.62	0.06	0.12	1.76	0.12
Final Sat.:	158	191	107	92	80	354	169	881	31	64	954	65

Capacity Analysis Module:												
Vol/Sat:	0.19	0.19	0.19	0.42	0.42	0.42	0.68	0.67	0.66	0.65	0.64	0.63
Crit Moves:	****			****			****			****		
Delay/Veh:	11.9	11.9	11.9	13.9	13.9	13.9	22.1	21.3	20.6	20.4	19.9	19.5
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.9	11.9	11.9	13.9	13.9	13.9	22.1	21.3	20.6	20.4	19.9	19.5
LOS by Move:	B	B	B	B	B	B	C	C	C	C	C	C
ApproachDel:	11.9			13.9			21.4			19.9		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	11.9			13.9			21.4			19.9		
LOS by Appr:	B			B			C			C		
AllWayAvgQ:	0.2	0.2	0.2	0.6	0.6	0.6	1.9	1.7	1.7	1.6	1.6	1.6

Note: Queue reported is the number of cars per lane.

```

-----
Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)
*****
Intersection #3
*****
Cycle (sec):          100          Critical Vol./Cap.(X):          0.680
Loss Time (sec):      0           Average Delay (sec/veh):        18.0
Optimal Cycle:        0           Level Of Service:                C
*****
Approach:            North Bound      South Bound      East Bound      West Bound
Movement:           L - T - R      L - T - R      L - T - R      L - T - R
-----
Control:            Stop Sign      Stop Sign      Stop Sign      Stop Sign
Rights:              Include        Include        Include        Include
Min. Green:          0 0 0 0        0 0 0 0        0 0 0 0        0 0 0 0
Lanes:               1 0 0 0 0      0 0 1 0 0      0 1 0 1 0      0 1 0 1 0
-----
Volume Module:
Base Vol:            2 0 0 0        93 0 187 148 557 0 0 493 70
Growth Adj:          1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:         2 0 0 0        93 0 187 148 557 0 0 493 70
User Adj:            1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:             0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume:          2 0 0 0        99 0 199 157 592 0 0 524 74
Reduct Vol:          0 0 0 0        0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol:         2 0 0 0        99 0 199 157 592 0 0 524 74
PCE Adj:             1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:             1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Volume:        2 0 0 0        99 0 199 157 592 0 0 524 74
-----
Saturation Flow Module:
Adjustment:          1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes:               1.00 0.00 0.00 0.33 0.00 0.67 0.42 1.58 0.00 0.00 1.75 0.25
Final Sat.:          423 0 0 190 0 381 231 888 0 0 972 140
-----
Capacity Analysis Module:
Vol/Sat:             0.01 xxxx xxxx 0.52 xxxx 0.52 0.68 0.67 xxxx xxxx 0.54 0.53
Crit Moves:          ****          ****          ****
Delay/Veh:           10.7 0.0 0.0 15.3 0.0 15.3 21.5 20.5 0.0 0.0 16.1 15.6
Delay Adj:           1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:          10.7 0.0 0.0 15.3 0.0 15.3 21.5 20.5 0.0 0.0 16.1 15.6
LOS by Move:         B * * C * C C * C
ApproachDel:         10.7          15.3          20.7          16.0
Delay Adj:           1.00          1.00          1.00          1.00
ApprAdjDel:          10.7          15.3          20.7          16.0
LOS by Appr:         B C C C
AllWayAvgQ:          0.0 0.0 0.0 1.0 1.0 1.0 1.9 1.7 1.7 1.1 1.0 1.0
*****
Note: Queue reported is the number of cars per lane.
*****

```

Impact Analysis Report
Level Of Service

Intersection	Base		Future		Change in
	LOS	Veh C	LOS	Veh C	
# 1	E	38.3 0.923	E	38.3 0.923	+ 0.000 V/C
# 2	C	19.9 0.694	C	19.9 0.694	+ 0.000 V/C
# 3	C	18.2 0.686	C	18.2 0.686	+ 0.000 V/C
# 4	A	9.5 0.098	A	9.5 0.098	+ 0.000 D/V
# 5	C	18.4 0.004	C	18.4 0.004	+ 0.000 D/V

```

-----
Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)
*****
Intersection #1
*****
Cycle (sec):          100          Critical Vol./Cap.(X):          0.923
Loss Time (sec):      0           Average Delay (sec/veh):        38.3
Optimal Cycle:        0           Level Of Service:                E
*****
Approach:            North Bound      South Bound      East Bound      West Bound
Movement:            L - T - R      L - T - R      L - T - R      L - T - R
-----
Control:              Stop Sign      Stop Sign      Stop Sign      Stop Sign
Rights:               Include        Include        Include        Include
Min. Green:           0 0 0 0        0 0 0 0        0 0 0 0        0 0 0 0
Lanes:                0 0 1 0 0      0 1 0 0 1      1 0 0 1 0      0 0 1 0 0
-----
Volume Module:
Base Vol:             55 140 21      50 65 338      279 313 13      7 273 66
Growth Adj:           1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:          55 140 21      50 65 338      279 313 13      7 273 66
User Adj:             1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:              0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88
PHF Volume:           62 158 24      57 74 383      316 354 15      8 309 75
Reduct Vol:           0 0 0 0        0 0 0 0        0 0 0 0        0 0 0 0
Reduced Vol:          62 158 24      57 74 383      316 354 15      8 309 75
PCE Adj:              1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:              1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Volume:         62 158 24      57 74 383      316 354 15      8 309 75
-----
Saturation Flow Module:
Adjustment:           1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes:                0.25 0.65 0.10 0.43 0.57 1.00 1.00 0.96 0.04 0.02 0.79 0.19
Final Sat.:           96 244 37      178 231 458      410 419 17      9 335 81
-----
Capacity Analysis Module:
Vol/Sat:              0.65 0.65 0.65 0.32 0.32 0.84 0.77 0.84 0.84 0.92 0.92 0.92
Crit Moves:          ****          ****          ****          ****
Delay/Veh:            26.2 26.2 26.2 15.3 15.3 37.5 34.8 41.3 41.3 54.3 54.3 54.3
Delay Adj:            1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:           26.2 26.2 26.2 15.3 15.3 37.5 34.8 41.3 41.3 54.3 54.3 54.3
LOS by Move:          D D D C C E D E E F F F
ApproachDel:          26.2          31.9          38.3          54.3
Delay Adj:            1.00          1.00          1.00          1.00
ApprAdjDel:           26.2          31.9          38.3          54.3
LOS by Appr:          D          D          E          F
AllWayAvgQ:           1.5 1.5 1.5 0.4 0.4 3.4 2.7 3.7 3.7 5.1 5.1 5.1
*****
Note: Queue reported is the number of cars per lane.
*****

```

Level Of Service Computation Report
 2000 HCM 4-Way Stop Method (Base Volume Alternative)

 Intersection #2

Cycle (sec): 100 Critical Vol./Cap.(X): 0.694
 Loss Time (sec): 0 Average Delay (sec/veh): 19.9
 Optimal Cycle: 0 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1	0	0	0	0	0	1	0	0	0

Volume Module:

Base Vol:	29	34	20	37	32	138	106	547	25	43	565	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	29	34	20	37	32	138	106	547	25	43	565	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	31	37	22	40	35	150	115	594	27	47	613	41
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	31	37	22	40	35	150	115	594	27	47	613	41
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	31	37	22	40	35	150	115	594	27	47	613	41

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.35	0.41	0.24	0.18	0.15	0.67	0.31	1.62	0.07	0.13	1.75	0.12
Final Sat.:	159	186	110	94	81	350	166	871	40	71	941	64

Capacity Analysis Module:

Vol/Sat:	0.20	0.20	0.20	0.43	0.43	0.43	0.69	0.68	0.67	0.66	0.65	0.64
Crit Moves:	****			****			****			****		
Delay/Veh:	12.0	12.0	12.0	14.1	14.1	14.1	22.9	21.9	21.2	21.0	20.5	20.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.0	12.0	12.0	14.1	14.1	14.1	22.9	21.9	21.2	21.0	20.5	20.0
LOS by Move:	B	B	B	B	B	B	C	C	C	C	C	C
ApproachDel:	12.0			14.1			22.1			20.5		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	12.0			14.1			22.1			20.5		
LOS by Appr:	B			B			C			C		
AllWayAvgQ:	0.2	0.2	0.2	0.7	0.7	0.7	2.0	1.8	1.8	1.7	1.6	1.6

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #3

Cycle (sec): 100 Critical Vol./Cap. (X): 0.586
Loss Time (sec): 0 Average Delay (sec/veh): 18.2
Optimal Cycle: 0 Level Of Service: C

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Stop Sign), Rights (Include), Min. Green, and Lanes.

Volume Module: Table with 12 columns for volume and adjustment factors. Rows include Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table with 12 columns for saturation flow factors. Rows include Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with 12 columns for capacity analysis metrics. Rows include Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, and AllWayAvgQ.

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #4

Average Delay (sec/veh): 9.4 Worst Case Level Of Service: A[9.5]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module:

Table with 12 columns representing different volume metrics and 4 rows for North, South, East, and West bounds.

Critical Gap Module:

Table with 12 columns for gap metrics and 2 rows for Critical Gap and FollowUp Time.

Capacity Module:

Table with 12 columns for capacity metrics and 4 rows for Conflict Vol, Potent Cap, Move Cap, and Volume/Cap.

Level Of Service Module:

Table with 12 columns for LOS metrics and 8 rows for various LOS calculations and delays.

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #5

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: C [18.4]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

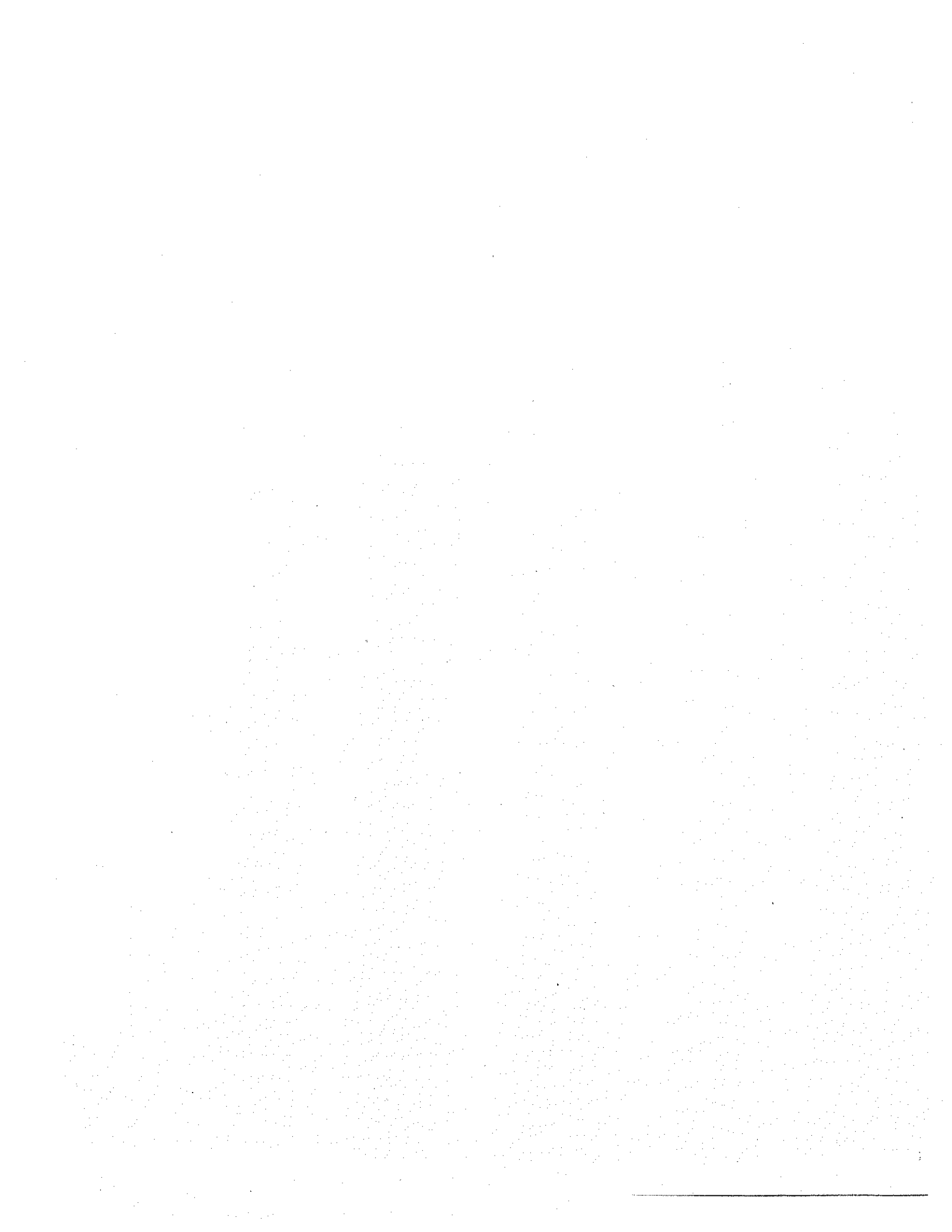
Volume Module table with 12 columns representing traffic volumes and adjustment factors for various movements.

Critical Gap Module table with 12 columns showing critical gap and follow-up time values.

Capacity Module table with 12 columns showing conflict volume, potential capacity, and volume/capacity ratios.

Level Of Service Module table with 12 columns showing delay, LOS, and approach delay/LOS for different movements.

Note: Queue reported is the number of cars per lane.



Impact Analysis Report
Level Of Service

Intersection	Base		Future		Change in
	Del/ LOS	V/ Veh C	Del/ LOS	V/ Veh C	
# 1	F 61.0	1.065	F 61.0	1.065	+ 0.000 V/C
# 2	D 26.0	0.793	D 26.0	0.793	+ 0.000 V/C
# 3	C 23.3	0.786	C 23.3	0.786	+ 0.000 V/C

Level Of Service Computation Report
 2000 HCM 4-Way Stop Method (Base Volume Alternative)

 Intersection #1

Cycle (sec): 100 Critical Vol./Cap. (X): 1.065
 Loss Time (sec): 0 Average Delay (sec/veh): 61.0
 Optimal Cycle: 0 Level Of Service: F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1	0	1	0	1	0	0	0	0	1

Volume Module:

Base Vol:	61	144	24	56	67	379	286	355	13	7	307	68
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	61	144	24	56	67	379	286	355	13	7	307	68
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
PHF Volume:	69	163	27	63	76	429	324	402	15	8	347	77
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	69	163	27	63	76	429	324	402	15	8	347	77
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	69	163	27	63	76	429	324	402	15	8	347	77

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.27	0.63	0.10	0.46	0.54	1.00	1.00	0.96	0.04	0.02	0.80	0.18
Final Sat.:	99	233	39	182	218	447	392	401	15	7	326	72

Capacity Analysis Module:

Vol/Sat:	0.70	0.70	0.70	0.35	0.35	0.96	0.83	1.00	1.00	1.06	1.06	1.06
Crit Moves:	****			****			****			****		
Delay/Veh:	31.9	31.9	31.9	16.4	16.4	61.6	43.0	74.1	74.1	93.3	93.3	93.3
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.9	31.9	31.9	16.4	16.4	61.6	43.0	74.1	74.1	93.3	93.3	93.3
LOS by Move:	D	D	D	C	C	F	E	F	F	F	F	F
ApproachDel:	31.9			50.5			60.5			93.3		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	31.9			50.5			60.5			93.3		
LOS by Appr:	D			F			F			F		
AllWayAvgQ:	2.0	2.0	2.0	0.5	0.5	6.3	3.4	7.2	7.2	9.2	9.2	9.2

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
 2000 HCM 4-Way Stop Method (Base Volume Alternative)

 Intersection #2

Cycle (sec): 100 Critical Vol./Cap. (X): 0.793
 Loss Time (sec): 0 Average Delay (sec/veh): 26.0
 Optimal Cycle: 0 Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1	0	0	0	0	0	1	0	0	0

Volume Module:

Base Vol:	32	35	22	41	32	156	109	617	20	39	640	39
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	32	35	22	41	32	156	109	617	20	39	640	39
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	35	38	24	44	35	169	118	669	22	42	694	42
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	35	38	24	44	35	169	118	669	22	42	694	42
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	35	38	24	44	35	169	118	669	22	42	694	42

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.36	0.39	0.25	0.18	0.14	0.68	0.29	1.66	0.05	0.11	1.78	0.11
Final Sat.:	159	174	109	92	72	351	149	858	28	56	924	57

Capacity Analysis Module:

Vol/Sat:	0.22	0.22	0.22	0.48	0.48	0.48	0.79	0.78	0.77	0.76	0.75	0.74
Crit Moves:	****			****			****			****		
Delay/Veh:	12.6	12.6	12.6	15.6	15.6	15.6	31.0	29.6	28.5	27.9	27.1	26.4
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.6	12.6	12.6	15.6	15.6	15.6	31.0	29.6	28.5	27.9	27.1	26.4
LOS by Move:	B	B	B	C	C	C	D	D	D	D	D	D
ApproachDel:	12.6			15.6			29.7			27.1		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	12.6			15.6			29.7			27.1		
LOS by Appr:	B			C			D			D		
AllWayAvgQ:	0.2	0.2	0.2	0.8	0.8	0.8	3.0	2.8	2.8	2.6	2.5	2.5

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
 2000 HCM 4-Way Stop Method (Base Volume Alternative)

 Intersection #3

Cycle (sec): 100 Critical Vol./Cap. (X): 0.785
 Loss Time (sec): 0 Average Delay (sec/veh): 23.3
 Optimal Cycle: 0 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	0	0	1	0	0	1	0	0	1	0

Volume Module:

Base Vol:	2	0	0	106	0	212	152	631	0	0	559	72
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	0	0	106	0	212	152	631	0	0	559	72
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	2	0	0	113	0	225	162	671	0	0	594	77
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	0	0	113	0	225	162	671	0	0	594	77
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	2	0	0	113	0	225	162	671	0	0	594	77

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	0.00	0.33	0.00	0.67	0.39	1.61	0.00	0.00	1.77	0.23
Final Sat.:	407	0	0	187	0	375	206	869	0	0	941	123

Capacity Analysis Module:

Vol/Sat:	0.01	xxxx	xxxx	0.60	xxxx	0.60	0.79	0.77	xxxx	xxxx	0.63	0.62
Crit Moves:	****			****			****			****		
Delay/Veh:	11.1	0.0	0.0	18.0	0.0	18.0	29.6	28.0	0.0	0.0	19.9	19.3
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.1	0.0	0.0	18.0	0.0	18.0	29.6	28.0	0.0	0.0	19.9	19.3
LOS by Move:	B	*	*	C	*	C	D	D	*	*	C	C
ApproachDel:	11.1			18.0			28.3				19.8	
Delay Adj:	1.00			1.00			1.00				1.00	
ApprAdjDel:	11.1			18.0			28.3				19.8	
LOS by Appr:	B			C			D				C	
AllWayAvgQ:	0.0	0.0	0.0	1.4	1.4	1.4	3.0	2.7	2.7	1.6	1.5	1.5

 Note: Queue reported is the number of cars per lane.

Impact Analysis Report
Level Of Service

Intersection	Base		Future		Change in
	Del/ LOS Veh	V/ C	Del/ LOS Veh	V/ C	
# 1	F 62.5	1.074	F 62.5	1.074	+ 0.000 V/C
# 2	D 27.0	0.805	D 27.0	0.805	+ 0.000 V/C
# 3	C 23.6	0.792	C 23.6	0.792	+ 0.000 V/C
# 4	A 9.5	0.101	A 9.5	0.101	+ 0.000 D/V
# 5	C 21.0	0.004	C 21.0	0.004	+ 0.000 D/V

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #1

Cycle (sec): 100 Critical Vol./Cap.(X): 1.074
Loss Time (sec): 0 Average Delay (sec/veh): 62.5
Optimal Cycle: 0 Level Of Service: F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1	0	0	1	1	0	0	1	0	0

Volume Module:

Base Vol:	62	144	24	55	67	383	286	355	13	7	309	68
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	62	144	24	55	67	383	286	355	13	7	309	68
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
PHF Volume:	70	163	27	63	76	433	324	402	15	8	350	77
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	70	163	27	63	76	433	324	402	15	8	350	77
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	70	163	27	63	76	433	324	402	15	8	350	77

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.27	0.63	0.10	0.46	0.54	1.00	1.00	0.96	0.04	0.02	0.80	0.18
Final Sat.:	100	232	39	182	218	446	391	400	15	7	326	72

Capacity Analysis Module:

Vol/Sat:	0.70	0.70	0.70	0.35	0.35	0.97	0.83	1.00	1.00	1.07	1.07	1.07
Crit Moves:	****			****			****			****		
Delay/Veh:	32.3	32.3	32.3	16.4	16.4	64.1	43.3	74.8	74.8	96.1	96.1	96.1
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.3	32.3	32.3	16.4	16.4	64.1	43.3	74.8	74.8	96.1	96.1	96.1
LOS by Move:	D	D	D	C	C	F	E	F	F	F	F	F
ApproachDel:	32.3			52.5			61.1			96.1		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	32.3			52.5			61.1			96.1		
LOS by Appr:	D			F			F			F		
AllWayAvgQ:	2.0	2.0	2.0	0.5	0.5	6.6	3.4	7.3	7.3	9.5	9.5	9.5

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
 2000 HCM 4-Way Stop Method (Base Volume Alternative)

 Intersection #2

Cycle (sec): 100 Critical Vol./Cap.(X): 0.805
 Loss Time (sec): 0 Average Delay (sec/veh): 27.0
 Optimal Cycle: 0 Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	T	R	L	T	R	L	T	R	L	T	R			
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign					
Rights:	Include			Include			Include			Include					
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0			
Lanes:	0	0	1	0	0	0	0	1	0	0	0	1	0	1	0

Volume Module:

Base Vol:	33	35	23	42	33	156	109	620	26	44	641	39
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	33	35	23	42	33	156	109	620	26	44	641	39
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	36	38	25	46	36	169	118	673	28	48	696	42
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	38	25	46	36	169	118	673	28	48	696	42
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	36	38	25	46	36	169	118	673	28	48	696	42

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.36	0.39	0.25	0.18	0.14	0.68	0.29	1.64	0.67	0.12	1.77	0.11
Final Sat.:	160	170	112	93	73	347	147	849	36	62	914	56

Capacity Analysis Module:

Vol/Sat:	0.22	0.22	0.22	0.49	0.49	0.49	0.80	0.79	0.78	0.77	0.76	0.75
Crit Moves:	****			****			****			****		
Delay/Veh:	12.7	12.7	12.7	15.8	15.8	15.8	32.4	30.8	29.6	28.9	28.1	27.3
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.7	12.7	12.7	15.8	15.8	15.8	32.4	30.8	29.6	28.9	28.1	27.3
LOS by Move:	B	B	B	C	C	C	D	D	D	D	D	D
ApproachDel:	12.7			15.8			31.0			28.1		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	12.7			15.8			31.0			28.1		
LOS by Appr:	B			C			D			D		
AllWayAvgQ:	0.2	0.2	0.2	0.9	0.9	0.9	3.2	2.9	2.9	2.7	2.6	2.6

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #3

Cycle (sec): 100 Critical Vol./Cap.(X): 0.792
Loss Time (sec): 0 Average Delay (sec/veh): 23.6
Optimal Cycle: 0 Level Of Service: C

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Stop Sign), Rights (Include), Min. Green, and Lanes.

Volume Module: Table with 12 columns representing different traffic flows. Rows include Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table with 12 columns. Rows include Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with 12 columns. Rows include Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, and AllWayAvgQ.

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #4

Average Delay (sec/veh): 9.4 Worst Case Level Of Service: A[9.5]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module table with 12 columns representing different traffic movements and 6 rows of volume-related metrics.

Critical Gap Module table with 12 columns and 2 rows showing critical gap and follow-up time values.

Capacity Module table with 12 columns and 4 rows showing conflict volume, potential capacity, and move capacity.

Level Of Service Module table with 12 columns and 10 rows detailing 2-way 95th Q, control delay, LOS by move, and shared queue metrics.

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #5

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: C [21.0]

Approach:	North Bound			South Bound			East Bound			West Bound		
	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	1	0	0	0	0	0	0	1	1	0	1	1

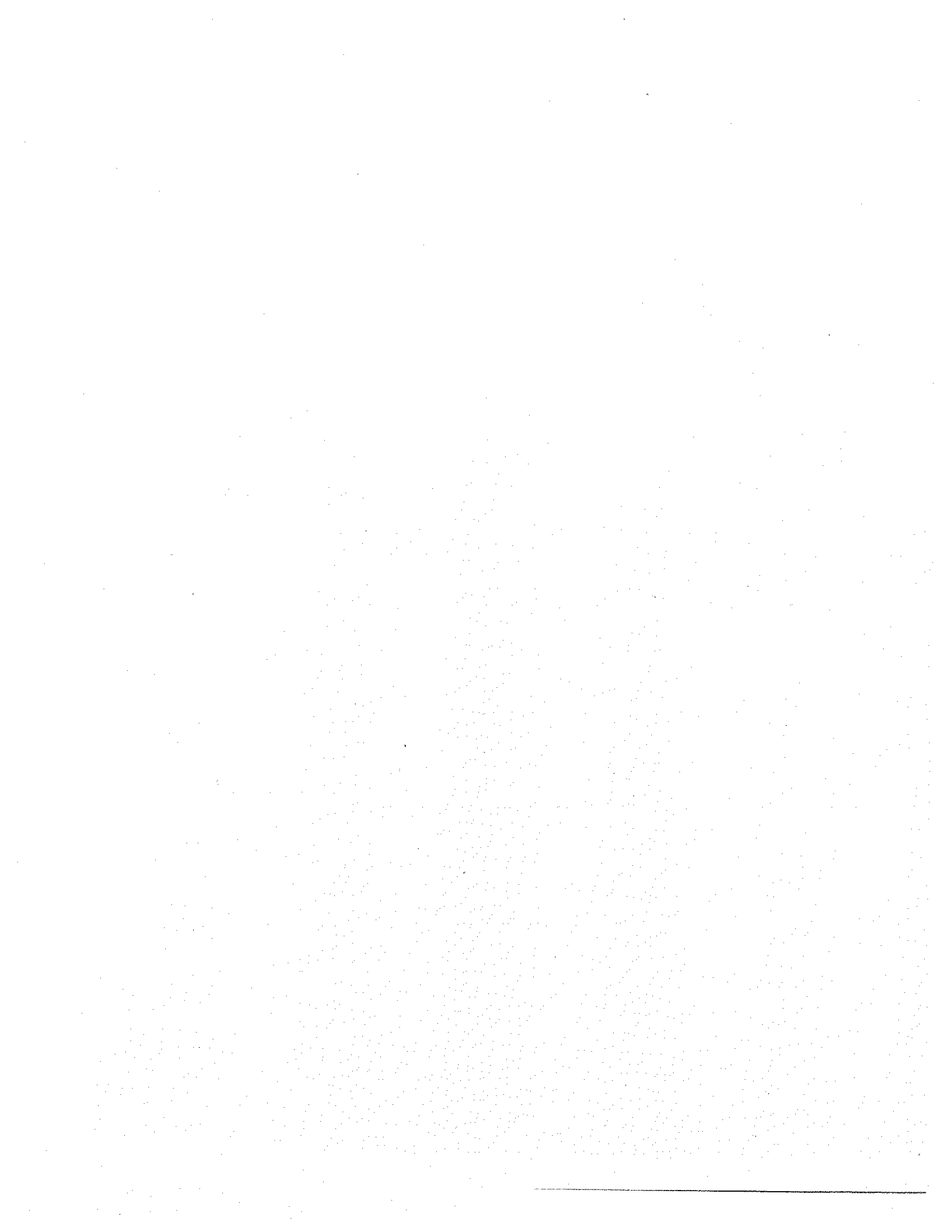
Volume Module:												
Base Vol:	1	0	0	0	0	0	0	680	5	2	723	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	0	0	0	0	0	0	680	5	2	723	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	1	0	0	0	0	0	0	680	5	2	723	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	0	0	0	0	0	0	680	5	2	723	0

Critical Gap Module:												
Critical Gp:	6.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx

Capacity Module:												
Conflict Vol:	1048	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	685	xxxx	xxxxx
Potent Cap.:	227	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	918	xxxx	xxxxx
Move Cap.:	226	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	918	xxxx	xxxxx
Volume/Cap:	0.00	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.00	xxxx	xxxxx

Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	21.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.9	xxxx	xxxxx
LOS by Move:	C	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.9	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	A	*	*
ApproachDel:	21.0			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	C			*			*			*		

Note: Queue reported is the number of cars per lane.



Scenario Report

Scenario:	Default Scenario
Command:	Existing
Volume:	Existing AM
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Attachment 11



This page intentionally left blank.

July 29, 2014

John Swift
Hamilton Swift and Associates
500 Chestnut Street Suite 100
Santa Cruz, CA 95060

Re: Portola Dr and 38th Avenue Project Shared Parking

Dear John:

This letter documents my findings and conclusions for shared parking analysis for the proposed mixed use project at the intersection of Portola Drive and 38th Avenue in the Live Oak Area of Santa Cruz County. The objective of this analysis is to provide a realistic estimate of the peak parking demand associated with the proposed mix of uses. Because the various uses all result in parking demand peaks at different times it behooves the developer and the responsible agency to calculate the opportunities for shared parking so as to minimize the amount of pavement necessary for parking.

Methodology

This parking analysis uses three major references for its work, "Shared Parking" prepared by Urban Land Institute in 1983, "Shared Parking" Second Edition prepared by the Urban Land Institute in 2005, and "Parking Generation Third Edition" prepared by the Institute of Transportation Engineers in 2004. The Urban Land Institute has done considerable research on the effect shared parking has on parking demand over the last 25 years. The Urban Land Institute documents quantify the premise that mixed land uses when combined require less parking than the same land uses when separately developed. These documents describe a methodology to estimate the parking demand for a variety of mixed uses. The Institute of Transportation Engineers document was used to estimate the individual use parking demand. This document provides peak parking demand measurements for a spectrum of uses. It is generally regarded as the best source for measured parking demands. Many parking codes have been developed with little if any quantifiable data to support the given requirements. Where parking is a critical concern the empirical data provided by the Institute of Transportation Engineers provides a more realistic base on which to make long term parking decisions. To be conservative the 85 percentile rate identified in the ITE reference is used as a minimum to estimate the demand. The peak parking demand calculation is done for both the weekday peak and a weekend peak period to insure that daily variations in traffic are addressed.

For purposes of estimating the parking demand the proposed project the following general breakdown of uses was assumed;

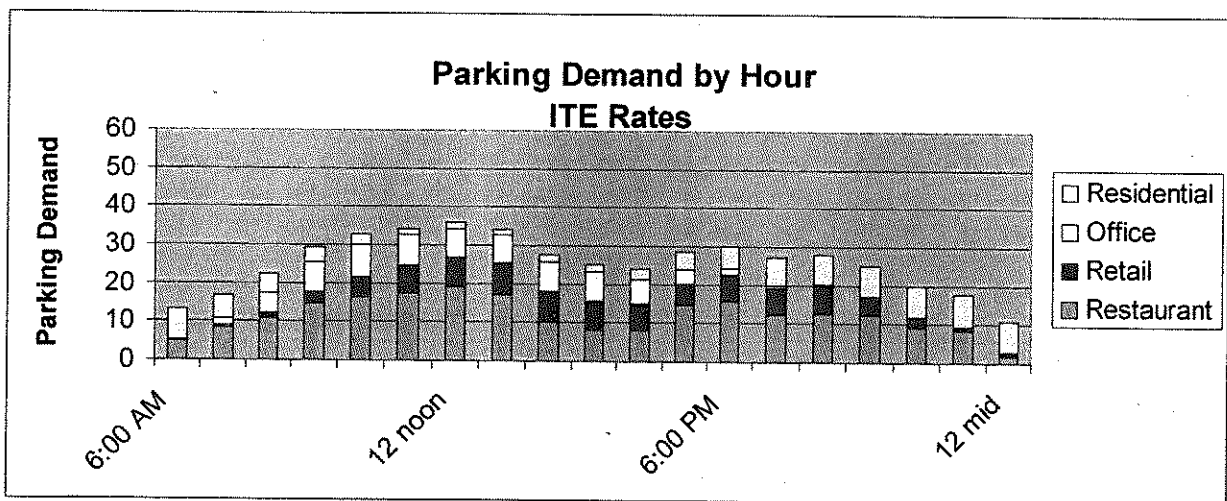
- 3200 square feet of food service uses such as coffee house, craft beer, wine bar, ice cream shop or restaurant uses
- 3200 square feet of retail non food service uses such as clothing/skin care products, art gallery, retail food related use such as candy or chocolate shop, butcher shop, wine shop, flower shop, fruit and vegetable stand.
- 3200 square feet of office and service commercial such beauty salon, computer repair, or pet grooming.

- Eight residential condominium units of two bedrooms each. Eight private one space garages are provide for these units and are not available for sharing.
- Forty-one additional parking spaces are provided on the site.

For the food service category urban high turnover sit down restaurant use rates were used (Land Use 932). For the retail non food service use the land use category combination of Copy print store and Dry cleaners was used (Land use 920 and 960.) The rate for dry cleaners was adjusted up to conform with print store. Office building (Land Use 701) rate was used for the office and service commercial category. These land use categories should provide a conservatively high estimate of the parking demand potential for the site. Parking demand could be less depending on the specific uses finally identified for the site. The residential units were evaluated as residential condo/townhouses (Land Use 230).

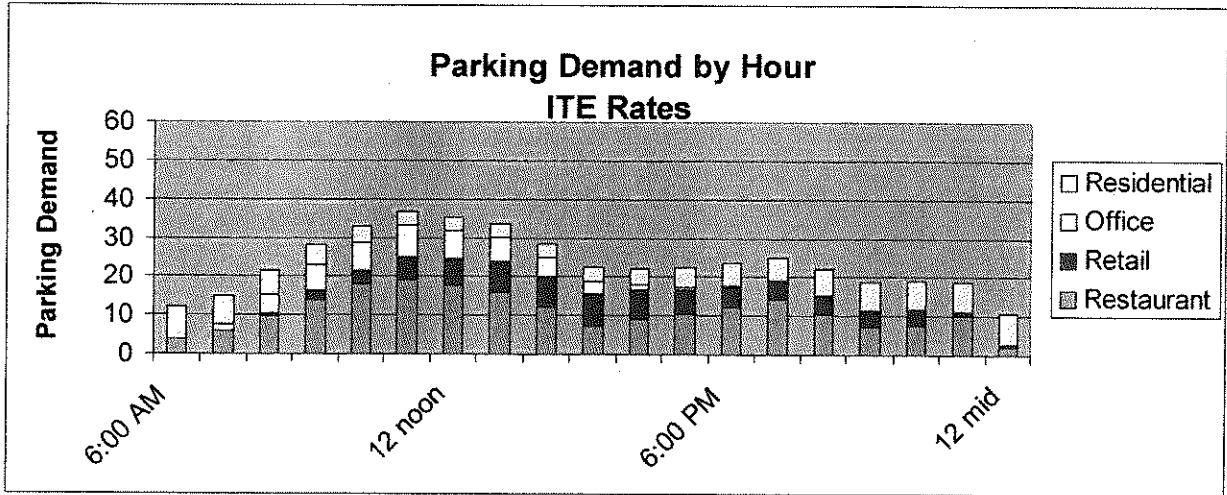
The following charts describe the uses analyzed and the maximum hourly parking demand for each of the assumed uses for weekday and weekends. The net square footage for the non-residential uses is adjusted by a factor of 85% to account for non usable square footage typical in commercial buildings. This adjustment factor is intended to account for stairways, elevators, storage and loading areas which may or not be leasable or are not considered a portion of the building attracting a parking demand. The maximum parking demand is estimated to happen at 12:00 pm on weekdays and 11 am on weekends. The hourly rates are based on values provided by the Institute of Transportation Engineers and the Urban Land Institute as the percent of the peak demand for any given hour of the day.

Chart 1. Weekday



The maximum parking demand for weekdays occurs at noon at 36 parking spaces. Based on this analysis the parking demand would be less than the number of spaces provided on site. It should be noted that the estimate excludes the 8 spaces reserved for residential use. The actual total parking demand is higher by eight spaces. The weekend parking demand is estimated to be slightly higher at 37 spaces and it occurs at 11:00 am. This estimate also remains below the parking capacity of the site. These estimates are based on assumed uses the final uses on the site will refine the analysis of parking demand.

Chart 2. Weekend



Let me know if you have any questions. Attached are two tables one which reflects the rates used for each of the uses and their individual parking demand and the second presents the values used for the attached chart. Also enclosed are pages from the ITE document which were used for these estimates.

Sincerely,

Ron Marquez, P.E.

Peak Parking Demand By Use

Portola 38th Project			
	ITE		
Use	Size sq ft	Rate	Demand
Hight Turnover Restaurant	3200	6.32	19
Retail	3,200	3	8
Office	3200	2.98	8
Condominium	8	1.52	16
		Total	52

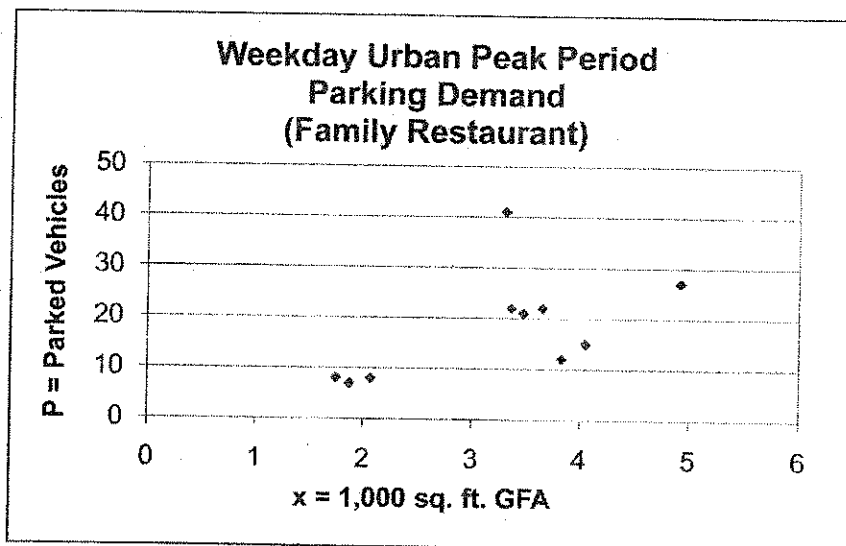
Hourly Parking Demand Less Eight Residential Garage Spaces

	Total weekday	Total Saturday
6:00 AM	13	12
	17	15
	22	22
9:00 AM	29	28
	33	33
	34	37
12 noon	36	35
	34	34
	28	29
3:00 PM	25	23
	24	22
	28	23
6:00 PM	30	23
	27	25
	28	22
9:00 PM	25	19
	20	19
	18	19
12 mid	11	11

Land Use: 932 High-Turnover (Sit-Down) Restaurant

Average Peak Period Parking Demand vs. 1,000 sq. ft. GFA
On a: Weekday
Land Use Code Subset: Family Restaurant (No Bar or Lounge)
Location: Urban

Statistic	Peak Period Demand
Peak Period	11:00 a.m.–1:00 p.m.; 6:00–8:00 p.m.
Number of Study Sites	10
Average Size of Study Sites	3,200 sq. ft. GFA
Average Peak Period Parking Demand	5.55 vehicles per 1,000 sq. ft. GFA
Standard Deviation	2.69
Coefficient of Variation	48%
Range	3.13–12.41 vehicles per 1,000 sq. ft. GFA
85th Percentile	6.37 vehicles per 1,000 sq. ft. GFA
33rd Percentile	3.86 vehicles per 1,000 sq. ft. GFA

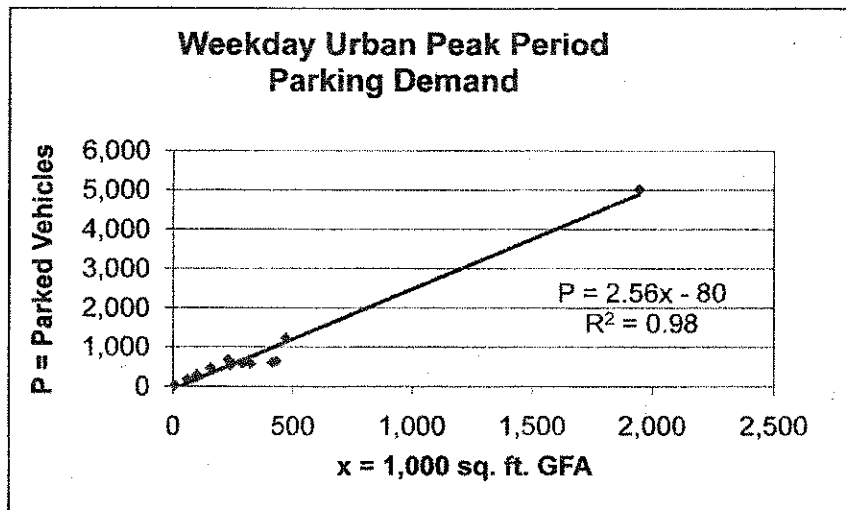


♦ Actual Data Points

Land Use: 701 Office Building

Average Peak Period Parking Demand vs. 1,000 sq. ft. GFA
On a: Weekday
Location: Urban

Statistic	Peak Period Demand
Peak Period	9:00 a.m.–5:00 p.m.
Number of Study Sites	14
Average Size of Study Sites	370,000 sq. ft. GFA
Average Peak Period Parking Demand	2.47 vehicles per 1,000 sq. ft. GFA
Standard Deviation	0.62
Coefficient of Variation	25%
Range	1.46–3.43 vehicles per 1,000 sq. ft. GFA
85th Percentile	2.98 vehicles per 1,000 sq. ft. GFA
33rd Percentile	2.24 vehicles per 1,000 sq. ft. GFA

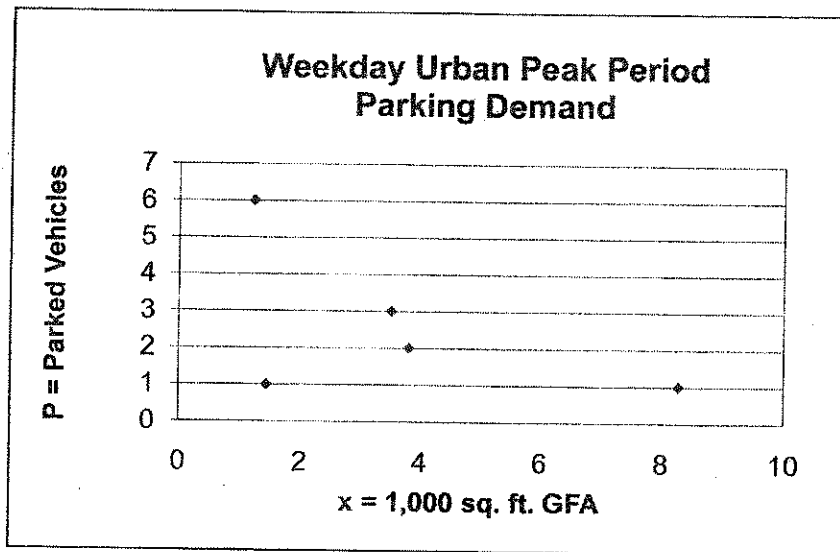


◆ Actual Data Points — Fitted Curve/Average Rate

Land Use: 960 Dry Cleaners

Average Peak Period Parking Demand vs. 1,000 sq. ft. GFA
On a: Weekday
Location: Urban

Statistic	Peak Period Demand
Peak Period	11:00 a.m.–2:00 p.m.
Number of Study Sites	5
Average Size of Study Sites	3,700 sq. ft. GFA
Average Peak Period Parking Demand	1.40 vehicles per 1,000 sq. ft. GFA
Standard Deviation	1.93
Coefficient of Variation	138%
Range	0.12–4.82 vehicles per 1,000 sq. ft. GFA
85th Percentile	2.44 vehicles per 1,000 sq. ft. GFA
33rd Percentile	0.58 vehicles per 1,000 sq. ft. GFA

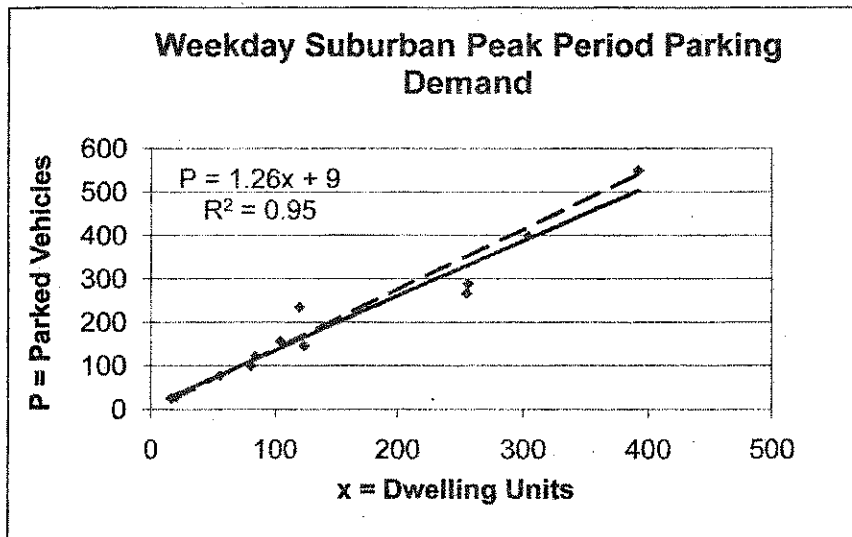


◆ Actual Data Points

Land Use: 230 Residential Condominium/Townhouse

Average Peak Period Parking Demand vs. Dwelling Units
On a: Weekday
Location: Suburban

Statistic	Peak Period Demand
Peak Period	11:00 p.m.–6:00 a.m.
Number of Study Sites	12
Average Size of Study Sites	151 dwelling units
Average Peak Period Parking Demand	1.38 vehicles per dwelling unit
Standard Deviation	0.24
Coefficient of Variation	17%
Range	1.04–1.96 vehicles per dwelling unit
85th Percentile	1.52 vehicles per dwelling unit
33rd Percentile	1.28 vehicles per dwelling unit



◆ Actual Data Points — Fitted Curve - - - Average Rate

June 19, 2015

John Swift
Hamilton Swift and Associates
500 Chestnut Street Suite 100
Santa Cruz, CA 95060

Re: Portola Dr and 38th Avenue Project Shared Parking Update

Dear John:

This letter documents my findings and conclusions for an updated shared parking analysis for the proposed mixed use project at the intersection of Portola Drive and 38th Avenue in the Live Oak Area of Santa Cruz County. The Planning Department has asked that we include the outdoor areas which may be available for the respective uses on the site. Outdoor use opportunities are available at three areas on the project site comprising a total of 1,218 sq ft. The objective of this analysis is to update the shared parking analysis prepared for you in July 2014. In that analysis it was concluded that the peak parking demand for the site was 36 spaces which was 5 spaces less than the 41 spaces proposed to be provided.

For purposes of this updated analysis I have assumed that the outdoor area would be used for food service related issues. This use requires the most parking per square foot compared to the other uses proposed. It is therefore a conservative estimate of the demand as predicted on the basis of hourly demand parking calculations. Based on this analysis the new peak parking demand is expected to be 43 spaces on weekdays and 44 spaces on weekends. This number exceeds the parking provided by two or three spaces depending on the day being considered.

Because the analysis last year indicated a reserve capacity further refinement was not pursued. The benefits of mixed development to parking are not only due to the fact that the respective uses peak with respect to parking at different times but also that they benefit from internal trip capture and from linked trips. Internal trips are made from uses within the site to other uses within the site. Internal trip capture would reduce trips for office uses and residential uses. From the "Trip Generation Handbook" Second Edition an estimated 11% of these trips and therefore parking spaces could be reduced. Another opportunity for parking demand reduction comes from linked trips or trips made to more than one use at the site with a single stop. The non residential trip generation may be reduced by 25% for these linked trips. For this analysis only the specialty retail and office use parking demand was reduced. This is based on the presumption that a portion of the retail customers and office clients and employees would frequent the food service uses. The total parking reduction credited for internal and linked trips amounts to six spaces. Taking this into consideration the parking demand may be estimated at 37 or 38 spaces depending on the day of the week or 5 spaces below the capacity.

My understanding of this proposed project is that it is being designed to a hub in the community. As such it would draw a percentage of its clientele from the surrounding neighborhood. If the project is

June 19, 2015

successful in this regard then a percentage of the trips to the site would be made on foot or by bicycle. I do not have empirical data on which to quantitatively evaluate this factor but it could have a beneficial effect on the parking demand for the non residential uses on the site.

Let me know if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "R Marquez". The signature is stylized with a large initial "R" and a cursive "Marquez".

Ron Marquez, P.E.

**Marquez
Transportation
Engineering**

July 29, 2015

John Swift
Hamilton Swift and Associates
500 Chestnut Street Suite 100
Santa Cruz, CA 95060

Re: Portola Dr and 38th Avenue Project Shared Parking Update #2

Dear John:

This letter documents my conclusions regarding the more specific proposal to develop the retail portion of this property in a farmers market format. I previously prepared a shared parking analysis for the proposed mixed use project at the intersection of Portola Drive and 38th Avenue in the Live Oak Area of Santa Cruz County. The Planning Department has asked that we consider the effect of the farmers market type use. The objective of this analysis is to update the shared parking analysis prepared for you in July 2014 and updated to include the outdoor spaces devoted to food service in June 2015. In the latest review of the project it was concluded that the peak parking demand for the site was 38 spaces which was 3 spaces less than the 41 spaces proposed to be provided.

I did a literature search on parking generation for a "farmers market" type use and found nothing specific to such a use. In reviewing the various land use codes that would resemble this use I concluded that a supermarket use would most closely resemble what is being proposed. My opinion is that this would be a conservatively high estimate because a supermarket draws a broader range of customers than the proposed use primarily because of the larger variety of products available. The supermarket is land use code 850 in the Parking Generation reference. The 85 percentile rate provided for this use in an urban setting is 2.83 spaces per thousand square feet of use. You will note that in the July 2014 Study I used a rate of 3 spaces per thousand square feet for the 3,200 square feet of retail uses proposed for the site. Since this parking rate is actually higher than that for a supermarket by a fraction there would be no discernable change to the previous study conclusions. The peak parking demand estimate still would remain at 38 spaces (see the July 2015 Update) three spaces less than the proposed 41 spaces to be provided.

Let me know if you have any questions.

Sincerely,



Ron Marquez, P.E.

June 19, 2015

John Swift
Hamilton Swift and Associates
500 Chestnut Street Suite 100
Santa Cruz, CA 95060

Re: Portola Dr and 38th Avenue Project Shared Parking Update

Dear John:

This letter documents my findings and conclusions for an updated shared parking analysis for the proposed mixed use project at the intersection of Portola Drive and 38th Avenue in the Live Oak Area of Santa Cruz County. The Planning Department has asked that we include the outdoor areas which may be available for the respective uses on the site. Outdoor use opportunities are available at three areas on the project site comprising a total of 1,218 sq ft. The objective of this analysis is to update the shared parking analysis prepared for you in July 2014. In that analysis it was concluded that the peak parking demand for the site was 36 spaces which was 5 spaces less than the 41 spaces proposed to be provided.

For purposes of this updated analysis I have assumed that the outdoor area would be used for food service related issues. This use requires the most parking per square foot compared to the other uses proposed. It is therefore a conservative estimate of the demand as predicted on the basis of hourly demand parking calculations. Based on this analysis the new peak parking demand is expected to be 43 spaces on weekdays and 44 spaces on weekends. This number exceeds the parking provided by two or three spaces depending on the day being considered.

Because the analysis last year indicated a reserve capacity further refinement was not pursued. The benefits of mixed development to parking are not only due to the fact that the respective uses peak with respect to parking at different times but also that they benefit from internal trip capture and from linked trips. Internal trips are made from uses within the site to other uses within the site. Internal trip capture would reduce trips for office uses and residential uses. From the "Trip Generation Handbook" Second Edition an estimated 11% of these trips and therefore parking spaces could be reduced. Another opportunity for parking demand reduction comes from linked trips or trips made to more than one use at the site with a single stop. The non residential trip generation may be reduced by 25% for these linked trips. For this analysis only the specialty retail and office use parking demand was reduced. This is based on the presumption that a portion of the retail customers and office clients and employees would frequent the food service uses. The total parking reduction credited for internal and linked trips amounts to six spaces. Taking this into consideration the parking demand may be estimated at 37 or 38 spaces depending on the day of the week or 3 spaces below the capacity.

My understanding of this proposed project is that it is being designed to a hub in the community. As such it would draw a percentage of its clientele from the surrounding neighborhood. If the project is

successful in this regard then a percentage of the trips to the site would be made on foot or by bicycle. I do not have empirical data on which to quantitatively evaluate this factor but it could have a beneficial effect on the parking demand for the non residential uses on the site.

Let me know if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "R Marquez". The signature is fluid and cursive, with the first letter "R" being particularly large and stylized.

Ron Marquez, P.E.

Attachment 12



This page intentionally left blank.



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

JOHN J PRESLEIGH, DISTRICT ENGINEER

RECEIVED JUL 21 2014

JULY 18, 2014

HAMILTON SWIFT & ASSOCIATES
500 CHESTNUT STREET SUITE 100
SANTA CRUZ, CA 95060

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

APN:032-092-05 & -01 APPLICATION NO.:N/A

PARCEL ADDRESS: 3800 PORTOLA DRIVE

PROJECT DESCRIPTION: MIXED USE: COMMERCIAL (AT 250 GPD) PLUS 8
RESIDENTIAL FACILITIES (9,400 SF)

Sewer service is available for the subject development upon completion of the following conditions. This notice is effective for one year from the issuance date to allow the applicant the time to receive tentative map, development or other discretionary permit approval. If after this time frame this project has not received approval from the Planning Department, a new sewer service availability letter must be obtained by the applicant. Once a tentative map is approved this letter shall apply until the tentative map approval expires.

Existing lateral(s) must be properly abandoned (including inspection by District) prior to issuance of demolition permit or relocation or disconnection of structure. An abandonment permit for disconnection work must be obtained from the District.

A new lateral (at least 8-inch in diameter) and on-site private collector will be required to connect to the existing 8-inch sewer main in Portola Drive. A new manhole at the connection point will be required. It is our understanding that rim and invert locations were included on a map of the existing public facilities provided to the applicant, c/o Mr. DeWitt, in January 2014.

Department of Public Works and District approval shall be obtained for an engineered sewer improvement plan, showing on-site and off-site sewers needed to provide service to each lot or unit proposed, before sewer connection permits can be issued. The improvement plan shall conform to the County's "Design Criteria" and shall also show any roads and easements. Existing and proposed easements shall be shown on any required Final Map. If a Final Map is not required, proof of recordation of any existing or proposed easement is required.

Water use data (actual and/or projected), and other information (e.g. nature of commercial use) as may be required for this project, must be submitted to the District for review and use in fee determination and waste pretreatment requirements before sewer connection permits can be approved.

If the separate facilities are to be owned as condominiums, the applicant must form a Homeowners' Association with ownership and maintenance responsibilities for all on-site sewers for this project; reference to same shall be included on the Final Map and in the Association's CC&Rs which shall be recorded. Provide copy of said CC&Rs to District prior to the filing of the final map.

Other: No downstream capacity problem or other issue is known at this time. However, downstream sewer requirements will again be studied at time of Planning Permit review, at which time the District reserves the right to add or modify downstream sewer requirements.

Yours truly,

JOHN J. PRESLEIGH

District Engineer

By:



Rachél Lather

Sanitation Engineer

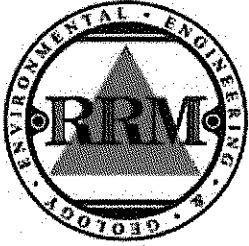
BH:tlp/117

c: Property Owner: North Point Investments c/o Franklin Loffer
2055 Lombard St. #470577
San Francisco, CA 94147

Attachment 13



This page intentionally left blank.



Phase I Environmental Site Assessment

DeFrees/Wagner Property
3800 Portola Drive
APNs 032-092-01 & 032-092-05
Santa Cruz, California



Prepared at the request of:

Franklin Loffer

Northpoint Investments
San Francisco, California

December 4, 2013

Table of Contents

1.0	EXECUTIVE SUMMARY	1
1.1	SIGNIFICANT FINDINGS	3
1.2	CONCLUSIONS & RECOMMENDATIONS	3
2.0	INTRODUCTION	4
2.1	PURPOSE OF THIS ASSESSMENT	4
2.2	DETAILED SCOPE OF SERVICES	4
2.3	SIGNIFICANT ASSUMPTIONS	4
2.4	EXCEPTIONS AND LIMITATIONS	5
2.5	SPECIAL TERMS AND CONDITIONS	5
2.6	USER RELIANCE	5
3.0	PROPERTY DESCRIPTION	5
3.1	LOCATION AND LEGAL DESCRIPTION	5
3.2	SITE AND VICINITY GENERAL CHARACTERISTICS	6
3.3	TOPOGRAPHY	6
3.4	GEOLOGY AND HYDROGEOLOGY	6
3.5	CURRENT PROPERTY USES	6
3.6	PROPERTY IMPROVEMENTS	6
3.7	CURRENT USES OF ADJOINING PROPERTIES	7
4.0	USER PROVIDED INFORMATION	7
4.1	TITLE RECORDS	7
4.2	ENVIRONMENTAL LIENS OR ACTIVITY AND USE LIMITATIONS	7
4.3	SPECIALIZED KNOWLEDGE	7
4.4	COMMONLY KNOWN OR REASONABLY ASCERTAINABLE INFORMATION	7
4.5	VALUATION REDUCTION FOR ENVIRONMENTAL ISSUES	7
4.6	OWNER, PROPERTY MANAGER, AND OCCUPANT INFORMATION	8
4.7	REASON FOR PERFORMING ENVIRONMENTAL SITE ASSESSMENT	8
4.8	REVIEW OF PREVIOUS ENVIRONMENTAL REPORTS	8
4.9	PERMITS AND HAZARDOUS MATERIALS MANAGEMENT PLANS (HMMP)	8
5.0	RECORDS REVIEW	8
5.1	STANDARD ENVIRONMENTAL RECORD SOURCES	8
5.2	ADDITIONAL FILES REVIEWED	10
6.0	HISTORICAL REVIEW	14
6.1	PHYSICAL SETTING AND HISTORICAL USE SOURCES	14
6.2	HISTORICAL USE SUMMARY FOR THE PROPERTY	17
6.3	HISTORICAL USE SUMMARY FOR ADJACENT PARCELS	18
7.0	PROPERTY INSPECTION	18
7.1	METHODOLOGY AND LIMITING CONDITIONS	18
7.2	GENERAL SITE SETTING AND OBSERVATIONS	18
7.3	SITE IMPROVEMENTS AND BUILDING CONSTRUCTION	18
7.4	HAZARDOUS SUBSTANCES IN CONNECTION WITH IDENTIFIED USES	20
7.5	UNIDENTIFIED SUBSTANCE CONTAINERS	20
7.6	OTHER CONDITIONS NOTED	21
8.0	INTERVIEWS	21
9.0	TIER 1 VAPOR ENCROACHMENT SCREEN	21
9.1	ADDITIONAL INFORMATION USED IN VES DETERMINATION	22
10.0	FINDINGS	23

11.0	OPINION	25
12.0	CONCLUSIONS AND RECOMMENDATIONS	25
13.0	QUALIFICATIONS AND SIGNATURE OF ENVIRONMENTAL PROFESSIONAL	26
14.0	REFERENCES	27

FIGURES

- 1 SITE LOCATION MAP
- 2 SITE MAP

ATTACHMENTS

- A PROPERTY INSPECTION PHOTOGRAPHS
- B EDR RADIUS MAP™ REPORT WITH GEOCHECK®
- C EDR HISTORICAL TOPOGRAPHIC MAP REPORT
- D REGULATORY CORRESPONDENCE RELATED TO 3800 PORTOLA DRIVE, SANTA CRUZ

1.0 EXECUTIVE SUMMARY

At the request of Mr. Franklin Loffer, managing member of North Point Investments, Remediation Risk Management, Inc. (RRM) has prepared this Phase I Environmental Site Assessment (ESA) for the real property located at 3800 Portola Drive, Santa Cruz, Santa Cruz County, California (the Property) (Figures 1 and 2). The Santa Cruz County Assessor's Office (SCCAO) identifies the Property with assessor's parcel numbers (APN) 032-092-01 and 032-092-05.

RRM performed the ESA in general accordance with the American Society of Testing and Materials (ASTM) Standard Practices E 1527-05 and E 1527-13. Practice E 1527-05 satisfies the Environmental Protection Agency's (EPA's) "All Appropriate Inquiries" (AAI) rule qualifying an innocent landowner, a contiguous property owner, or a bona fide prospective purchaser for protection from potential liability under CERCLA¹. Final recognition of ASTM E 1527-13 as compliant with the AAI rule is still pending with the EPA. Consequently, RRM has addressed the modifications to the most recent ASTM Standard in order that this Phase I shall remain valid upon EPA's soon expected recognition of ASTM E 1527-13. Where referenced below as "the ASTM Standard" or "ASTM E 1527", the remark pertains to both versions of the Standard. Comments specific to one or the other of the two versions will be so identified.

The ASTM Standard specifies minimum requirements for ESAs that permit a user to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on CERCLA liability (commonly referred to as the "landowner liability protections", or "LLPs"): that is, the practice that constitutes "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice" as defined in 42 U.S.C. §9601(35)(B).

As such, this ESA includes the following components: records review, site reconnaissance, interviews, and report preparation. Exceptions to this practice are presented in Section 2.4 of this report. The following information was obtained from these sources:

Report Section	Not an Environmental Concern / Not Applicable	De Minimis Condition*	Recognized Environmental Condition (REC)**	Historical Recognized Environmental Condition (HREC)***	Environmental Concern
Adjacent Land Use	X			X	
User Provided Information	X				
Historical Site Use		X			
Historical Site Use - Adjacent Parcels				X	X
HVAC Systems	X				
Elevators	X				
Hazardous Materials / Waste Storage	X				
Radiological Hazards	X				
Unidentified Substance Containers	X				

1. Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. §9601), also known as Superfund

Report Section	Not an Environmental Concern / Not Applicable	De Minimis Condition*	Recognized Environmental Condition (REC)**	Historical Recognized Environmental Condition (HREC)***	Environmental Concern
Underground Storage Tanks (UST)	X				
Aboveground Storage Tanks (AST)	X				
Hydraulic Lifts / Equipment	X				
Wastewater Treatment, Clarifiers, Separators	X				
Pits, Ponds, Lagoons	X				
Septic Systems	X				
Private Water Systems / Wells	X				
Stained Soil / Distressed Vegetation	X				
Spills, Leaks, Corrosion, and Odors	X				
Cisterns, Sumps, Floor Drains	X				
Storm Drains / Other Drains	X				
Mines, Oil and Gas Wells	X				
Pipelines	X				
Polychlorinated Biphenyls (PCBs)	X				
Environmental Database Findings					X
Asbestos			(possible)		
Lead-Based Paint			(possible)		
Vapor Encroachment					X

* *De Minimis* conditions are defined by ASTM E 1527-13 as conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions that are determined to be *de minimis* are not *recognized environmental conditions*.

** A *Recognized Environmental Condition* (REC) is defined by ASTM E 1527-13 as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to the release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.

*** A *Historical Recognized Environmental Condition* (HREC) is defined by ASTM E 1527-13 as a past release of any hazardous substances or petroleum products that has occurred in connection with a property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted land use criteria established by a regulatory authority, without subjecting the property to any required controls.

1.1 Significant Findings

No recognized environmental conditions, or significant data gaps concerning the Property history and uses were discovered during this assessment.

1.2 Conclusions & Recommendations

RRM has developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312. We have performed a Phase I Environmental Site Assessment of 3800 Portola Drive, Santa Cruz, California; Assessors Parcel Numbers 032-092-01 and 032-092-05 (the Property) in conformance with the scope and limitations of ASTM Standard Practice E 1527. Any exceptions to, or deletions from, this practice are described in Section 2.4 of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with the Property.

This Phase I ESA documents groundwater conditions at nearby sites that indicate the Property has potentially been impacted with tetrachloroethylene (PCE). If a greater degree of certainty is desired regarding concentrations of PCE that may exist in soil, soil gas, and/or groundwater beneath the Property, a limited subsurface investigation should be performed.

Based on the age of the Property building, it is possible that some of the construction materials contain asbestos or lead. An asbestos and lead survey should be conducted prior to any demolition, remodeling, or maintenance that may disturb these materials.

2.0 INTRODUCTION

2.1 Purpose of this Assessment

The purpose of this ESA was to determine the potential for soil and groundwater contamination resulting from the use of hazardous substances or petroleum products on or near the commercial Property located at 3800 Portola Drive, Santa Cruz, California. This ESA has been performed at the request of Mr. Franklin Loffer, Managing Member of North Point Investments, who is considering purchasing the Property.

2.2 Detailed Scope of Services

Exceptions and limitations of this assessment are presented in Sections 2.3. Special terms and conditions for this assessment are presented in Section 2.4.

The steps included for this ESA are as follows:

- **Site Reconnaissance.** Accessible areas of the Property and Property vicinity were physically inspected in order to identify possible hazardous waste storage, dumping, or contamination.
- **Records Review.** A review of reasonably ascertainable records was conducted; sources included regulatory agency files, lists and databases, topographical maps, address listings, and aerial photographs.
- **Interviews.** One of the current Property owners and a previous tenant were interviewed in order to establish current and previous Property uses, current and previous use of hazardous materials, and hazardous waste practices at the Property.
- **Report Preparation.** The information gathered for this ESA was compiled, and the findings are presented in this report.

Additional Services:

- **Tier 1 Vapor Encroachment Screen.** Pursuant to ASTM Standard Guide E2600-10 a review of reasonably ascertainable records was conducted to determine if a vapor encroachment condition exists at the Property.

Each of the steps of the Phase I ESA is described in detail in Sections 3.0 through 8.0; the Tier 1 Vapor Encroachment Screen is presented in Section 9.0; the findings of this assessment are presented in Section 10.0, opinions regarding the findings are presented in Section 11.0, and the conclusions and recommendations of this assessment are presented in Section 12.0. The qualifications and signature of the environmental professional performing the Phase I ESA are presented in Section 13.0. References are presented in Section 14.0.

2.3 Significant Assumptions

RRM interviewed one of the current Property owners and a former tenant to obtain details regarding the Property conditions, the historic use of the Property, and hazardous materials handling practices at the Property. By presenting this reported information about uses of the Property, RRM has assumed that the

persons interviewed have been forthright and truthful regarding their knowledge of the conditions, uses, and materials handling practices at the Property.

2.4 Exceptions and Limitations

We have developed and performed appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312 and as defined in ASTM Practice E 1527-05 and E 1527-13. Exceptions to these are as follows:

- Sanborn Maps (Sanborns) are historic fire insurance maps that provide details about the construction materials and uses of structures in developed areas. EDR reported that Sanborns were not available for the Property vicinity.

This Phase I ESA is based strictly on the information obtained during this assessment. This ESA does not include the testing or sampling of petroleum hydrocarbons, solvents, radon, pesticides, molds, lead-based paint, asbestos, or polychlorinated biphenyls. Additionally, this ESA does not provide a comprehensive survey of wetlands, mining, oil, pipeline, and gas wells. Determining all historic hazardous materials and/or hazardous waste practices for the Property is not practicable and is beyond the scope of this assessment.

All reasonable care and professionalism in carrying out this Phase I ESA was taken by RRM. However, no warranty or guarantee of any kind whatsoever, expressed or implied, is made or intended other than that this Phase I ESA has been compiled using ordinarily exercised professional standards. There are inherent risks associated with Phase I ESAs. No matter how detailed a Phase I ESA is performed, all potential hazardous material or hazardous waste locations may not be determined. RRM's findings, interpretations, and recommendations are based solely on the strength of information obtained and/or reviewed.

2.5 Special Terms and Conditions

Mr. Loffer did not request any special terms or conditions outside the requirements in ASTM Standard Practice E 1527.

2.6 User Reliance

This Phase I ESA is provided expressly for use by Mr. Franklin Loffer, his investment partners for the Property, and their lender(s). No other use or disclosure is intended or authorized by RRM. This Phase I ESA may not be relied upon by any other person or entity without the express written permission of RRM.

3.0 PROPERTY DESCRIPTION

3.1 Location and Legal Description

The Property is comprised of two parcels totaling approximately 35,370 square feet situated on the southeast corner of the intersection of Portola Drive with 38th Avenue, in the unincorporated Pleasure Point district of Santa Cruz, Santa Cruz County, California. The Property is identified by SCCAO with APNs 032-092-01 and 032-092-05.

3.2 Site and Vicinity General Characteristics

The Property is located in a mixed commercial and residential neighborhood comprised of businesses and office buildings fronting Portola Drive, with residences situated behind these on side streets, including 38th Avenue. The parcel adjacent to the Property to the east is occupied by a self-storage business. Parcels across Portola Drive to the north are occupied by an auto repair shop and chiropractor clinic. A small convenience store occupies the parcel to the west of the Property across 38th Avenue.

3.3 Topography

The Property location is shown on the Soquel, California Quadrangle of the United States Geologic Survey (USGS) 7.5-minute topographic map series (Figure 1). Surface topography in the Property vicinity is generally flat. Surface elevation at the Property is approximately 45 feet above mean sea level (msl). Other than the Pacific Ocean, located approximately 1,200 feet to the southeast, the nearest surface water relative to the Property is Moran Lake, a coastal lagoon located approximately one-half mile to the west of the Property.

3.4 Geology and Hydrogeology

The Property is situated on a broad marine terrace and is set back approximately 1,200 feet to the northwest from the Pacific Ocean. The Property and vicinity are underlain by terrace (alluvial) deposits: silt, clay, sand, and gravel, with finer-grained clays, silts, silty clays, sandy silts, and sandy clays to approximately ten feet below ground surface (bgs). The terrace deposits are underlain by the Purisima Formation, which is the uppermost bedrock unit consisting of interbedded mudstones, siltstones, and fine-grained sandstones. Based on topography and available records from other nearby properties, the direction of local shallow groundwater flow is predominantly south to southeast.

3.5 Current Property Uses

The Property is currently vacant.

3.6 Property Improvements

The Property is improved with a single-story warehouse-style building with mezzanine levels in the north portion and alongside the east and west walls of the structure. A sloped roof on the western side of the building forms a canopy over areas formerly used for lumber and machinery storage. The building is of wood frame construction with interior walls constructed of either wood or sheetrock. A single toilet restroom is present in the southwest corner of the building. Former lumber storage racks constructed of wood and built upon bare soil are present along the east and west interior walls of the building. Flooring in the main portion of the building is either paved with concrete, asphalt, or is bare soil. Flooring within interior office/administrative areas is either concrete, or covered in linoleum or carpet. Large sliding doors are present near the southwest corner and front of building on north side. An asphalt-paved parking area fronts the Property building adjacent to Portola Drive. The drive through alongside where lumber was formerly stored and the area at the southeast corner of the Property is paved in asphalt. A chain link fence borders the east, south, and west of the Property.

A site map is presented as Figure 2; site photographs are presented as Attachment A.

3.6.1 Utilities

Property water, sewer, storm drain, and solid waste services are provided by Santa Cruz Municipal Utilities; and electricity is provided by Pacific Gas and Electric.

3.7 Current Uses of Adjoining Properties

A public storage facility occupies the parcel adjacent to the east of the Property. The parcel to the south of the Property is occupied by a dwelling. An auto repair shop occupies the parcel to the north of the Property across Portola Drive. A convenience store occupies the parcel to the west of the Property across 38th Avenue.

4.0 USER PROVIDED INFORMATION

According to ASTM E 1527-05 and E 1527-13, in order to qualify for one of the Landowner Liability Protections (LLPs)² offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001, the user (or person relying on a Phase I ESA) must provide certain information (if available) to the environmental professional preparing the report. Mr. Franklin Loffer provided answers to the ASTM Standard E1527-05 User Questionnaire (which remains the same in the E 1527-13 Standard) on behalf of the user. The following summarizes information provided in response to this questionnaire.

4.1 Title Records

RRM verified through the SCCAO the Property APNs and the current title fee holders. However, RRM did not review a title report during the compilation of this ESA.

4.2 Environmental Liens or Activity and Use Limitations

Mr. Loffer indicated that to the best of his knowledge, there are no environmental liens or AULs related to the Property.

4.3 Specialized Knowledge

Mr. Loffer indicated that he does not have any specialized knowledge or experience that is material to recognized environmental conditions in connection with the Property (as defined in 40 CFR 312.28).

4.4 Commonly Known or Reasonably Ascertainable Information

No commonly known or reasonably ascertainable information that is material to recognized environmental conditions in connection with the Property as defined in 40 CFR 312.28 was known by Mr. Loffer or discovered during this assessment.

4.5 Valuation Reduction for Environmental Issues

Mr. Loffer indicated that the purchase price of the Property reasonably reflects fair market value.

² LLPs is the term used to describe the three types of potential defenses to Superfund liability in EPA's *Interim Guidance Regarding Criteria Landowners Must Meet in Order to Qualify for Bona Fide Prospective Purchaser, Contiguous Property Owner, or Innocent Landowner Limitations on CERCLA Liability ("Common Elements" Guide)* issued on March 6, 2003.

4.6 Owner, Property Manager, and Occupant Information

Santa Cruz County Assessor confirms the current Property owners are Kenneth H. DeFrees, Trustee, and Phyllis M. Wagner, Trustee.

4.7 Reason for Performing Environmental Site Assessment

The purpose of this ESA was to determine the potential for soil and groundwater contamination resulting from the use of hazardous substances or petroleum products on or near the Property. The ESA was performed at the request of Mr. Loffer, managing member of North Point Investments, who is considering purchasing the Property.

4.8 Review of Previous Environmental Reports

There were no previous environmental reports available for the Property.

4.9 Permits and Hazardous Materials Management Plans (HMMP)

There are no current permits for hazardous materials handling and/or storage, or HMMP plans related to the Property. Permits and HMMP plans used in the former lumber retail business at the Property are discussed in Section 5.2.1 of this report.

5.0 RECORDS REVIEW

The purpose of the records review was to obtain and review records in order to identify recognized environmental conditions associated with the Property and conditions on surrounding properties that may have resulted in contamination to soil or groundwater at the subject Property. Information obtained from the following sources has been incorporated into this assessment:

- EDR Radius Map™ Report
- Santa Cruz County Environmental Health Services File Review
- State Water Resources Control Board GeoTracker database
- Interviews with Persons Knowledgeable About the Property History
- Historical Topographic Maps
- Historical Aerial Photographs
- Historical Address Listings

5.1 Standard Environmental Record Sources

5.1.1 EDR Radius Map™ Report Summary

EDR provides a research service that examines databases maintained by the U.S. Environmental Protection Agency (US EPA), the California Department of Toxic Substances Control (DTSC), California Environmental Protection Agency (Cal-EPA), California Integrated Waste Management Board, California Department of Health Services (Cal-DHS), the California State Water Resources Control Board

(SWRCB), and other federal, local and state agencies. Listed below is a summary of findings of the EDR Radius Map™ Report. The search radius for each database is specified in ASTM standard E 1527-05 and E 1527-13 (for the ASTM specified Federal, State, and Local records) or was determined by EDR based on the type of records searched. Additional information regarding the databases searched, including the search radius for each database, can be obtained from the EDR Radius Map™ Report, which is included as Attachment B.

Review of readily ascertainable information from governmental environmental databases resulted in the following listings:

EDR RECORDS SEARCH SUMMARY FINDINGS			
Database	Search Radius in miles	Number of Sites	Includes Property?
State Site Mitigation and Brownfields Reuse Prog. (ENVIROSTOR)	1	1	No
State Leaking Underground Storage Tank List (LUST)	0.5	7	No
Spills, Leaks, Investigations & Cleanup Program (SLIC)	0.5	2	No
The Facility Inventory Database (CAL FID UST)	0.25	3	No
Database of Historic UST Sites (HIST UST)	0.25	2	No
Statewide Environmental Eval. and Planning System (SWEEPS UST)	0.25	3	No
Hazardous Waste & Substance Site List (HIST CORTESE)	0.25	4	No
Certified Unified Program Agency (CUPA)	0.25	5	No
EDR List of Historical Auto Stations (EDR US Hist Auto Stat)	0.25	6	No
EDR List of Historical Dry Cleaners (EDR US Hist Cleaners)	0.25	2	No

In addition to the databases listed above, EDR searched several others in which no listings were found within the specified search radii. A list of the databases with no sites included at or near the Property is included on Page 2 in the executive summary of EDR's Radius Map Report in Attachment B. Several of the 35 database entries represented above are for sites listed in multiple databases.

5.1.2 Orphan Sites and Review of EDR Site Listing Relevance

EDR's report also contained a list of orphan sites. EDR could not pinpoint the location of these sites from location information contained in the databases. There were five orphan sites listed. Of the five unique orphan site listings, based on our experience and familiarity with the area, none of the orphan listings appeared to be the Property or located near the Property.

5.1.3 Subject Property

The Property address was not reported in connection with any of the database listings in the EDR Radius Map Report.

5.1.4 EDR Sites of Potential Concern

Of the 35 EDR listings within the nominal reporting distances, based on our experience, the physical and geological characteristics of the Property and its environs, the proximity of specific sites to the Property, and the status of the environmental issues at these sites, RRM considered the following sites to be of potential concern:

1. 3801 Portola Drive, *Portola Arco, Ed's Portola Arco*
2. 3912 Portola Drive, *Walter Eller Properties*
3. 3690 Portola Drive, *Neighborhood U-Serve-N-Save*
4. 4000 Portola Drive, *Former Chevron #3-2436*
5. 4001 Portola Drive, *Opal Cliffs Auto Center*
6. 3501 Portola Drive, *Emile's Sports Car Performance, Inc.*

These sites are discussed separately in the following sections.

5.2 Additional Files Reviewed

Based on a review of the listings in the EDR report, RRM determined that the files for six of the EDR listed sites warranted further review. RRM researched these sites by reviewing available information from Santa Cruz County Environmental Health Services (SCCEHS). Two sites warranting further review were also found in the State Water Resources Control Board GeoTracker database³, a publicly accessible database containing all recent⁴ reports pertaining to soil and groundwater contamination cases in the State. The additional information obtained from these sources is summarized below.

5.2.1 Santa Cruz County Environmental Health Services

5.2.1.1 Former Location of Pleasure Point Lumber Co., Big Creek Lumber, 3800 Portola Drive, Santa Cruz

This site is the subject Property. According to records available at SCCEHS, one of the former businesses at the Property, Big Creek Lumber, operated under a Hazardous Materials Management Plan (HMMP) permit issued in August 2008. Permits issued to this business at this location prior to 2008 were not available in the files at SCCEHS. Big Creek Lumber had noted on a chemical inventory form that small quantities of hazardous materials were being stored and used on the Property. Materials included clean engine oil, transmission, hydraulic, and brake fluids, antifreeze, gasoline, chain saw oil, propane, and grease. The largest container of hazardous materials was a 288-gallon propane storage tank. The materials were used for lubrication, power, and maintenance of saws, forklifts, and other equipment used in the lumberyard business. In 2008, Big Creek Lumber relocated. An inspector from SCCEHS visited the Property on June 2, 2009 and confirmed that Big Creek was no longer operating at the Property. The inspector also noted that all the hazardous materials were removed and hazardous wastes were properly disposed.

SCCEHS files contained a copy of an April 14, 2005 letter from the Central Coast Regional Water Quality Control Board (RWQCB) to the Property owner of record. The letter, a copy of which is included in Attachment D, pertained to the discovery of trichloroethylene (TCE) and tetrachloroethylene⁵ (PCE) in groundwater from monitoring wells and exploratory borings installed on parcels to the east of the Property. RWQCB identified the Property as a possible source of the TCE and PCE contamination based on the Property having been used for the storage of hazardous materials, and since the Property

³ geotracker.waterboards.ca.gov/

⁴ Since about 2005, and possibly earlier.

⁵ Also known as perchlorethylene, or "perc".

is up-gradient of the wells where PCE and TCE were detected. The letter directed the Property owner to provide information on the hazardous materials used and stored on the Property, and to provide any environmental reports pertaining to the Property.

There was no other information in SCCHEs files reviewed related to the Property, or the former occupants of the Property: Pleasure Point Lumber Co, Ralph's Lawnmower Shop, Big Creek Lumber, and Wellington Energy.

5.2.1.2 Portola Arco Inc., Ed's Portola Arco, 3801 Portola Drive, Santa Cruz

This site is located approximately 100 feet from the Property across Portola Drive to the north, in the assumed up-gradient direction of regional shallow groundwater flow. The site had reportedly been a gasoline service station from the early 1970s to the late 1980s. The site is currently an auto repair facility.

In June 1988, three 2,000-gallon gasoline USTs, one 550-gallon waste oil UST, and associated product piping and dispenser islands were removed from the site. Maximum concentrations of gasoline range total petroleum hydrocarbons (TPHg), benzene, and oil and grease were reported in site soils at 5,800 parts per million (ppm), 2 ppm, and 8,000 ppm, respectively. In August 1989, eight soil borings were installed at the site; three soil borings were converted to groundwater monitoring wells. An additional groundwater monitoring well was also installed. Maximum concentrations of TPHg and benzene in groundwater were 2,250 parts per billion (ppb) and 6.39 ppb, respectively. Monitoring well MW-1 was abandoned shortly after installation, and MW-2 was removed during excavation activities in June 1999. During the excavation event in June 1999, approximately 430 cubic yards of soil was removed from the site and properly disposed. Additional groundwater monitoring wells MW-5, MW-6, MW-7 and EW were installed in 1999. Groundwater monitoring was conducted in the first quarter of 1990 and continued until 2001. Following the second quarter groundwater monitoring event conducted in May 2001, the RWQCB was petitioned for site case closure based on soil and groundwater contamination having reached levels below actionable thresholds.

Two of the groundwater monitoring wells, MW-6 and MW-7, had been installed on the south side of Portola Drive, adjacent to the Property. During the last monitoring event conducted in May 2001, petroleum hydrocarbons were not detected in samples from these wells above laboratory detection limits.

On March 1, 2002, the RWQCB issued a case closure letter stating no further action was required for cleanup at the site, and all groundwater monitoring wells should be properly decommissioned. The groundwater monitoring wells were destroyed on June 10, 2002, and RWQCB issued their final closure letter on September 24, 2002. Based on soil and groundwater conditions at the site during the last monitoring event, and the regulatory status of the site, it is unlikely that fugitive petroleum hydrocarbons from this site are present at the Property.

5.2.1.3 Walt Eller Properties, 3912 Portola Drive, Santa Cruz

This site is located approximately 125 feet to the east of the Property and is listed in the EDR report with a SLIC (Spills, Leaks, Investigations and Cleanup) listing, which is a statewide database of sites where contamination has impacted groundwater. This site was flagged for the SLIC program following the discovery of the chlorinated solvents PCE and TCE in site groundwater monitoring wells intended for

monitoring the petroleum hydrocarbon plume emanating from 4001 Portola Drive. PCE and TCE were initially discovered in July 1996 and during regulator monitoring events until 2000.

In February 1999, additional sampling for chlorinated solvents was conducted to verify the data from previous monitoring events. The highest concentration of PCE was detected in a well located in the southwest corner of the site. The well, designated MW-12, contained 3,000 ppb of PCE. MW-12 is located approximately 135 feet to the east of the Property. TCE was not detected in groundwater during this time.

In August 2003, a limited site investigation was conducted to locate and delineate the source of the chlorinated solvent plume. Three soil borings were installed to the north, east, and south of MW-12. PCE was detected at a maximum concentration of 360 ppb from grab-groundwater samples collected from the borings. In addition, groundwater from MW-12 was analyzed and contained 1,000 ppb PCE. The conclusions from this investigation suggested an aged PCE plume due to the low and trace concentrations of TCE, a breakdown product of PCE. The source of the chlorinated solvents was not discovered during the investigation.

In response to the investigations, RWQCB issued a requirement of the site owner to further investigate the presence of chlorinated solvents on their property by installing additional wells and investigating sites up-gradient. During that time, RRM was a consultant for the owner of 3912 Portola Drive. In a letter dated August 16, 2004, RRM responded to RWQCB's request with the argument that the site was an unlikely source of the chlorinated solvent plume (based on the site's history) and RWQCB should focus their efforts on other nearby properties in their search for a responsible party. Since there was not a response to RRM's letter available in the records at SCCEHS or on Geotracker, RRM contacted Alison Jones, RWQCB's current caseworker for the 3912 Portola Drive case, on November 7, 2013. In response to RRM's inquiry regarding the status of the case, Ms. Jones reported that the source and/or responsible party of the PCE contamination has not yet been identified. Although the SLIC case remains open with RWQCB, they have not issued current requirements to the owner of 3912 Portola Drive for further investigation.

In 2005, RWQCB sent letters to nearby sites, including the subject Property, with orders to supply information regarding the storage and handling practices of hazardous materials. In October 2005, a groundwater monitoring report of wells related to 4000 and 4001 Portola Drive was issued. The report contained data on MW-12 in addition to several wells down-gradient to the south and southeast. PCE and TCE were detected in wells several hundred feet to the south and southeast of MW-12. During the monitoring event, the maximum concentration of PCE was detected in MW-12, at 2,700 ppb. A groundwater concentration map from the report shows the PCE plume extending to the northwest of MW-12 onto the parcel adjacent to the Property to the east, and as far south as Bramble Lane, located to the southeast of the Property.

5.2.1.4 Neighborhood U-Serve-N-Save, 3690 Portola Drive, Santa Cruz

This site is located approximately 375 feet to the west of the Property and is listed in the EDR report with listings related to the site's former use as a gas station. On August 8, 1991, one 12,000-gallon gasoline UST, one 10,000-gallon gasoline UST, one 5,000-gallon gasoline UST, and one 280-gallon waste oil UST were removed from the site.

At the time the USTs were removed, the soils in the UST pit were determined to be contaminated with petroleum hydrocarbons. Approximately 1,250 cubic yards of soil was removed in an attempt to remove the contamination. Following the UST removals, five groundwater monitoring wells were installed. Over the course of cleanup and monitoring activities at the site, maximum concentrations of TPHg, benzene, and oil and grease in site soils was 6,900 mg/kg, 37 mg/kg, and 23,000 mg/kg, respectively. Maximum concentrations of TPHg and benzene in groundwater were 1,600 ppb and 69 ppb, respectively. MtBE was not detected in soil or groundwater at the site.

In August 1997, two groundwater monitoring wells were removed because they had been installed incorrectly. The remaining three groundwater monitoring wells were removed in April 1998. Based on the soil data from samples collected from borings installed in 1997 and 1998, RWQCB issued a letter dated June 8, 1998 indicating that no further investigation appeared to be warranted at this site. Based on the analytical results from remedial excavation activities performed at this site it is unlikely that petroleum hydrocarbons from this site have impacted the Property.

5.2.1.5 Former Chevron #3-2436, 4000 Portola Drive, Santa Cruz

This site is located approximately 400 feet to the east of the Property, at the southwest corner of Portola Drive and 41st Avenue. A gasoline station had occupied the site from 1953 until 1974. Although data from previous investigations show the possibility of a separate release from this site, RWQCB determined in 2006 that the site across the street at 4001 Portola site was largely responsible for the hydrocarbon plume in the area and directed cleanup orders to the property owner of 4001 Portola Drive. Since that time, corrective action has been focused on the 4001 Portola Drive site. Details for this site are presented below.

5.2.1.6 Opal Cliffs Auto Center, 4001 Portola Drive, Santa Cruz

This site is located approximately 550 feet to the northeast of the Property and is the former location of one 2,000-gallon gasoline UST, two 550-gallon USTs, and one 265-gallon waste oil UST that were removed from the site in August 1992. The site had operated as a gasoline station from 1950 until sometime in the late 1980s.

Subsequent to the UST removals, several investigations have been conducted to delineate the petroleum hydrocarbon plume, which has been determined to be commingled with the plume associated with the former Chevron station at 4000 Portola Drive. Since 1993, twenty-nine soil borings and twenty-nine groundwater monitoring wells have been installed at the site and to the south of the site, in the down-gradient direction of shallow groundwater flow. In addition, several temporary well points and sub-slab gas probes have been installed during remedial investigations. Maximum concentrations of TPHg, diesel range total petroleum hydrocarbons (TPHd), and benzene in soil were detected at 11,700 ppm, 2,100 ppm, and 130 ppm, respectively. The highest concentrations of petroleum hydrocarbons were detected in soils located southeast of the site, in the down-gradient direction of shallow groundwater flow.

Groundwater monitoring has been conducted on a quarterly or semi-annual basis since 1994. Since that time, the maximum concentrations of TPHg and benzene detected in groundwater are 1,700,000 ppb and 17,000 ppb, respectively. According to data collected by the current environmental consultant for the site, the groundwater hydrocarbon plume is defined to the north, east, south, and west of the site. Although PCE and TCE have been detected in several wells to the south of the site (and to the

southeast of the Property), the source area for these solvents is unknown and is not the focus of monitoring and cleanup activities currently underway at 4001 Portola Drive.

Based on the current site conditions, the regulatory status, and the site's location in the cross-gradient direction of shallow groundwater flow relative to the Property, it is unlikely that petroleum hydrocarbons originating from this site have migrated to the Property.

5.2.1.7 Emile's Sports Car Performance, Inc., 3501 Portola Drive, Santa Cruz

This site is located approximately 950 feet west from the Property, and is the former location of three 4,000-gallon gasoline USTs, one 6,000-gallon gasoline UST, one 5,000-gallon gasoline UST, and one 500-gallon waste oil UST that were removed in February 1991. During UST removal activities, 73 milligrams per kilogram (mg/kg) of motor oil was detected in soil beneath the waste oil UST; petroleum hydrocarbon contamination in the soils beneath the gasoline USTs was not encountered. Petroleum hydrocarbon contamination was discovered in shallow soils beneath product lines and dispensers.

In May 1992, seven soil borings were installed near the former dispenser locations. Maximum concentrations of TPHg in soil was 718 mg/kg. TPHg was detected in groundwater at a maximum concentration of 116,800 ppb. In November 1999, five additional soil borings were installed at and in the site vicinity. During that investigation, TPHg and benzene were detected in soil and groundwater at maximum concentrations of 180 ppb and 0.65 ppb, respectively. Soil samples collected from borings did not contain detectable concentrations of petroleum hydrocarbons.

Based on the investigation conducted in November 1999, no further action was required by RWQCB and SCCEHS in letters dated May 22, 2000 and June 5, 2000. Based on the regulatory history of the site, and the distance of the site from the Property, it is unlikely that petroleum hydrocarbons from this site have impacted the Property.

6.0 HISTORICAL REVIEW

6.1 Physical Setting and Historical Use Sources

Several sources were used to evaluate the physical setting and historical uses of the Property. These sources included historical topographic maps, historical aerial photographs, historical address listings, and interviews with persons knowledgeable about the Property history. The following details RRM's inquiry regarding the physical setting and historical Property uses.

6.1.1 Historical Topographic Maps

Topographic Maps (topos) are created by the United States Geological Survey. Historical topos for the Property and vicinity were obtained from EDR. EDR provided copies of topographic maps for the Property vicinity for the years 1914, 1954, 1968, 1980, 1987, and 1994. Selected details pertaining to the Property vicinity from each map are described below.

1914 (scale: 1:62,500) The Property is shown to the south of Portola Drive and appeared to be undeveloped. An unnamed railroad is shown adjacent to the Property along Portola Drive. The Southern Pacific railroad corridor is shown further to the north of the Property. 38th Avenue appeared to be

constructed to the north of Portola Drive, and is shown developed with several structures (represented by small filled-in squares).

1954 (scale: 1:24,000) Dense development, signified by pink map coloration, is present in the Property vicinity to the south of Portola Drive and to the northeast, which was designated the Opal Cliffs community during that era. The railroad adjacent to Portola Drive shown on the 1914 topo was not present. 38th Avenue is shown to the south of Portola Drive, extending to East Cliff Drive, which follows the contour of the ocean bluffs. Portola Drive is depicted as a secondary highway connecting Capitola to the northeast and Santa Cruz to the west.

1968 (scale: 1:24,000) The features on the 1968 topo were generally the same as shown on the 1954 topo. General development had increased in the area between Portola Drive and the Southern Pacific railroad corridor, which remained to the north of the Property.

1980 (scale: 1:24,000) As above.

1987 (scale: 1:50,000) As above; the extent of development shown is similar to present conditions.

1994 (scale: 1:24,000) As above.

A copy of EDR's Historical Topographic Map Report is presented in Attachment C.

6.1.2 Aerial Photograph Review

RRM reviewed digitized aerial photographs in Google Earth and in the collection maintained by the University of California, Santa Cruz. Aerial photographs of the Property and vicinity were available for the years 1931, 1943, 1956, 1966, 1975, 1984, 1989, 2001, and 2013 (Google Earth). The purpose of the aerial photograph review was to determine historical Property uses and to verify the information collected from other sources. The results of this review are presented below.

April 1, 1931

[Scale: 1:12,000]

The Property vicinity during this era was characterized by large, sparsely developed parcels. The Property itself and parcel adjacent to east appeared to be vacant, undeveloped land. Portola Drive and 38th Avenue appeared to the north and west of the Property, respectively. Parcels to the south of the Property along 38th appeared to be developed with structures that resembled dwellings and associated outbuildings, barns, and/or garages. Several parcels in the vicinity of the Property appeared to be used for agriculture. Parcels to the north of the Property across Portola Drive appeared to be associated with farms or dwellings along 38th Avenue.

October 2, 1943

[Scale: 1:10,000]

By the early 1940s, many of the major roadways and streets that exist today in the Property vicinity had been built. The Property remained vacant, undeveloped land. The parcels to the south of the Property appeared to be occupied by dwellings and buildings that were associated with an orchard. Parcels to the west of the Property across 38th Avenue appeared to be occupied by small structures associated with a dwelling or large barn. Development on parcels to the north, across Portola Drive, had increased during the last decade. Several parcels along 38th Avenue appeared to be developed with farms or dwellings.

June 4, 1956

[Scale: 1:10,000]

Development in the Property vicinity appeared to have increased. The Property appeared to be occupied by a large rectangular building situated on the east half of the parcel. The west portion of the Property appeared to have an access point or driveway leading from 38th Avenue into the parcel. The southerly adjacent parcel appeared to be occupied by a dwelling. Dwellings also appeared to be present to the west along 38th Avenue. Portions of the orchard and associated structures present in 1943 on parcels to the south of the Property appeared to be present. The parcel on the northeast corner of Portola Drive and 38th Avenue appeared to be occupied by two small structures adjacent to a vacant field. The parcel to the west across 38th Avenue appeared to be occupied by a small structure with open space fronting Portola Drive. Other areas in the Property vicinity were developed with structures resembling commercial buildings, dwellings, mobile homes, and small farms.

June 14, 1966

[Scale: 1:3,600]

The Property appeared to be occupied by the same structure as shown on the aerial photograph from 1956. An addition to the structure appeared to be present, built onto the southwest (rear) side of the structure. The structure occupied the majority of the eastern portion of the parcel. A narrow rectangular structure or awning appeared to occupy the southeast corner of the Property. Areas of the Property not occupied by the structure appeared to be used for parking (facing Portola Drive) and storage (facing 38th Avenue). A small rectangular structure appeared to be present on along the western boundary of the Property. The parcel adjacent to the Property to the south appeared to be occupied by the same dwelling as shown in previous photos. The parcel to the west of the Property at the southwest corner of Portola Drive and 38th Avenue appeared to be occupied by a small structure and canopy suggestive of a gas station. The parcel adjacent to the Property to the east appeared to be occupied by a small structure backed by a large, vacant field. Parcels to the north of the Property across Portola Drive appeared generally the same as in the June 4, 1956 aerial photo.

October 14, 1975

[Scale: 1:10,000]

As above, with the exception of Portola Drive, which appeared to have been widened into a divided, four lane road. The parcel adjacent to the Property to the east, as described above, appeared to be occupied by a small structure backed by a large, vacant field with a footpath or unpaved driveway leading from the northwest corner of the parcel to the southeast corner.

April 2, 1984

[Scale: 1:10,000]

The Property appeared to be generally the same as in the aerial photographs from 1966 and 1975. The northwest portion of the Property appeared to be used for storage of lumber, given that a lumber business was operating at the Property during this time. A drive through area appeared to be present between the lumber storage area and the structure. Surrounding parcels appear generally as above.

October 18, 1989

[Scale: 1:12,000]

As above, with the exception of a large, rectangular object resembling a trailer or temporary storage unit that appeared to be present in the vacant field on the easterly adjacent parcel.

June 7, 2001

[Scale: 1:12,000]

With the exception of the area along the northwestern portion of the Property, which appeared to be in use as storage for lumber, the Property and surrounding vicinity appeared as today. The structure and vacant field present on the parcel adjacent to the east of the Property appeared to have been redeveloped with two large structures that are present today. The narrow rectangular structure or awning in the southeast portion of the Property appeared to have been removed.

April 15, 2013 (Google Earth)⁶

The Property and surrounding vicinity appeared as it does today.

6.1.3 City Directories

Polk and Haines City Directories are annual street directories that provide tenant and/or owner information for specific addresses. Listings from the Polk and Haines Directories for the Property and Property vicinity were obtained from the Santa Cruz Public Library (Central Branch) and reviewed in approximate five-year intervals. These directories were reviewed to evaluate former occupants, and thus uses, of the Property.

The first address listing for the Property was in the directory from 1953. Prior directories did not list the Property address. In 1953, Pleasure Point Lumber was listed at 3800 Portola Drive. In the directories from 1956-57, 1959, and 1961, Ralph's Lawn Mower Shop was listed in addition to Pleasure Point Lumber. The directories from 1963, 1968, 1973, 1978, 1982-83, 1988, and 1993 listed only Pleasure Point Lumber at the Property address. In the directories from 1998, 2003, and 2008, Big Creek Lumber was listed at the Property address. The 2009, 2012, and 2013 directories did not list a name or business at 3800 Portola Drive. Directories from 2010 and 2011 were not available.

6.2 Historical Use Summary for the Property

The Property was initially developed sometime in the early 1950s. According to SCCAO, the Property was developed with improvements in 1955; however, in the historical telephone and address directory from 1953, Pleasure Point Lumber was listed for the Property address. Pleasure Point Lumber operated at the Property since the time it was initially developed, and from sometime in the mid-1950s to early 1960s, the Property was also used by a lawn mower shop. Big Creek Lumber operated a lumber retail business at the Property from the mid 1990s until 2008.

In 2009, Big Creek Lumber had been reported to have moved, according to a site inspection conducted on June 2, 2009 by SCCEHS. The inspector from SCCEHS noted in their report that all hazardous materials had been removed. Following Big Creek Lumber's departure from the Property, a PG&E contractor, Wellington Energy, leased the Property until August 2013. Since that time, the Property has been vacant.

⁶ Google Earth V 7.0.3.8542. (April 15, 2013). 3800 Portola Drive, Santa Cruz, CA. 36deg57'46.63"N 121deg58'01.21"W, Eye alt 1003 feet. DigitalGlobe 2013. <http://www.earth.google.com> [November 11, 2013].

6.3 Historical Use Summary for Adjacent Parcels

The parcel adjacent to the Property to the east was first developed sometime between 1943 and 1956, when a small structure resembling an outbuilding or shed appeared to occupy the north portion of the parcel on an aerial photograph from 1956. An additional structure appeared to have been built sometime between 1966 and 1975, adjacent to the smaller structure. By 2001, the easterly adjacent parcel appeared to have been developed with the structures that are present today, which are currently used for a self storage business.

The parcel adjacent to the Property to the north across Portola Drive was developed sometime prior to 1956 and had been used as a gasoline station from the early 1970s to the late 1980s. It is currently an auto service shop. The parcel adjacent to the Property to the west, across 38th Avenue, also was a former gasoline station. This service station was not listed in the EDR report and records were not available at SCCEHS. Parcels to the south of the Property have been in continuous use as residences since early in the 1900s. The parcel adjoining the Property to the south was initially developed sometime between 1943 and 1956 with the same dwelling that exists today.

7.0 PROPERTY INSPECTION

7.1 Methodology and Limiting Conditions

The Property was inspected by RRM staff on November 18, 2013. The purpose of the inspection was to further evaluate Property conditions with respect to the current or previous presence of contamination from hazardous materials, petroleum hydrocarbons, and hazardous waste. The Property inspection was limited to areas that were immediately accessible.

7.2 General Site Setting and Observations

The Property is located within a mixed commercial and residential neighborhood within the Pleasure Point district of Santa Cruz, California. The Property is situated on the southeast corner at the intersection of Portola Drive and 38th Avenue. An asphalt-paved parking area fronts the Property building adjacent to Portola Drive. The drive through alongside where lumber was formerly stored and the area at the southeast corner of the Property is paved in asphalt. A chain link fence borders the east, south, and west of the Property.

7.3 Site Improvements and Building Construction

The Property is improved with a single-story warehouse-style building with mezzanine levels in the north portion and alongside the east and west walls of the structure. A sloped roof on the west side of the building is contiguous with a canopy over areas formerly used for lumber and machinery storage. The building is of wood frame construction with interior walls constructed of either wood or sheetrock. A single toilet restroom is present in the southwest corner of the building. Former lumber storage racks constructed of wood and built upon bare soil are present along the building east and west interior walls. Flooring in the main portion of the building is either paved with concrete, asphalt, or is bare soil. Flooring within interior office/administrative areas is either concrete, or covered in linoleum or carpet. Large sliding doors are present near the southwest corner and front of building on north side.

7.3.1 HVAC Systems

The Property building utilizes electric baseboard heating units within office/administrative areas. There are no air conditioners or cooling systems present on the Property.

7.3.2 Elevators and Conveyances

The Property building has no elevators or similar conveyances.

7.3.3 Industrial Equipment / Manufacturing Processes

There was no industrial equipment present at the Property during this assessment.

7.3.4 Radiological Hazards

Radiological hazards are conditions that result from the deposition, storage, or use of radioactive substances that pose a threat to human health or the environment. There were no radiological hazards discovered at the Property or in the vicinity.

7.3.5 Underground Storage Tanks (USTs)

There were no current or former USTs or evidence of current/past USTs observed on the Property or discovered during this assessment.

7.3.6 Aboveground Storage Tanks (ASTs)

There were no ASTs observed on the Property. According to the SCCEH-maintained HMMP file for Big Creek Lumber, a 288-gallon propane tank had been present in the southwest corner of the Property. The propane was reportedly used for fueling the forklifts used in the lumber business.

7.3.7 Hydraulic Lifts and Equipment

Hydraulic equipment was not observed on the Property during this assessment.

7.3.8 Generators and Emergency Power

A pad-mounted rotary phase generator was observed on the Property adjacent to the west exterior wall of the building.

7.3.9 Wastewater Treatment, Clarifiers, Separators

All wastewater generated at the Property is serviced through the city's municipal sewer system. No other wastewater treatment systems, clarifiers, or separators were observed at the Property during the inspection.

7.3.10 Pits, Ponds, Lagoons

No pits or ponds etc., are present.

7.3.11 Septic Systems

No septic systems or evidence of septic systems were observed or discovered on the Property during this assessment.

7.3.12 Stained Soil / Distressed Vegetation

Stained soil and/or distressed vegetation can indicate the presence of contamination or hazardous substances inhibiting the normal growth of plants. RRM observed areas of the Property occupied by bare soil and/or landscaping and did not observe distressed vegetation or stained soil.

7.3.13 Spills, Leaks, Corrosion, and Odors

Other than minor surface staining from water in the restroom, and evidence of water leakage from an ice machine used by a former tenant, RRM did not observe any spills, leaks, corrosion or odors that could indicate the presence of hazardous materials, during the Property inspection.

7.3.14 Cisterns, Sumps, Floor Drains

There were no cisterns or floor drains observed on the Property.

7.3.15 Storm Drains, Other Drains

Roof gutter drains were observed adjacent to the Property building at various exterior locations and emptied into small storm drains outside the building.

7.3.16 Mines, Oil and Gas Wells

There are no documented mines, oil, or gas wells on the Property or nearby the Property.

7.3.17 Pipelines

There are no documented pipelines or other conveyances other than for common utilities (natural gas, water, sewer, electrical) on the Property, or within close enough proximity to affect the Property.

7.3.18 Polychlorinated Biphenyls (PCBs)

PCBs are insulating or coolant fluids that are commonly found in indoor fluorescent light ballasts manufactured before 1979 and in power pole transformers. The Property was initially developed prior to 1978. It is possible that lighting fixtures within the building were manufactured prior to 1979.

7.4 Hazardous Substances in Connection with Identified Uses

Other than minimal amounts of interior and/or exterior paints and cleaning supplies, hazardous substances were not observed on the Property at the time of the Property inspection. All containers of cleaning supplies and paints appeared to be intact and in good condition.

7.5 Unidentified Substance Containers

Unidentified containers were not observed on the Property during the inspection.

7.6 Other Conditions Noted

Based on the age of the Property building, it is possible that some of the construction materials contain asbestos or lead. Sampling for potential asbestos or lead-containing materials was outside the scope of this assessment.

8.0 INTERVIEWS

In an email dated November 7, 2013, RRM contacted Ms. Alison Jones, Staff Environmental Scientist at the Central Coast RWQCB, regarding the solvent plume that is documented on parcels near the Property. RWQCB contacted the owner of the subject Property in a letter dated April 14, 2005 with a request to supply information about the storage and handling of hazardous materials at the Property. At that time, RWQCB was attempting to locate the source of the chlorinated solvents that were discovered in groundwater monitoring wells in the Property vicinity. Ms. Jones stated that the source for the solvents have not yet been identified. Ms. Jones also reported that Mr. Ken DeFrees, owner of the Property, responded to RWQCB's request and supplied information about the hazardous materials storage and handling practices being conducted by Big Creek Lumber, the tenant at the Property during that time. A copy of this correspondence is included in Attachment D.

On November 18, 2013, RRM spoke to Mr. Mike White, Interim Operations Manager for Big Creek Lumber and an employee of the company for approximately 36 years. Mr. White reported that Big Creek Lumber used the Property only for retail sale of lumber; treatment processes of lumber had not been conducted at the Property. Mr. White reported that he was unaware of the presence of any USTs or ASTs, with the exception of an above-ground tank used for propane fuel storage. Mr. White also reported that hazardous materials used at the Property during Big Creek Lumber's tenure were limited to small quantities of lubricants and solvents used in maintaining equipment and machinery.

Mr. Ken DeFrees, one of the current owners of the Property, was interviewed on November 18, 2013, during the site inspection. Mr. DeFrees reported that he purchased the Property in approximately 1979. According to Mr. DeFrees, the Property was used as a lumber retail business since the time it was first developed, in the early 1950s. Mr. DeFrees also reported that Wellington Energy, a contractor for PG&E, leased the Property for approximately two years following Big Creek Lumber's departure. Mr. DeFrees reported that Wellington Energy used the Property for storage of smart meters and service vehicles.

Mr. DeFrees reported that he was not aware of the current or past storage of hazardous materials, other than for the lumberyard businesses, petroleum products, or the use of USTs at the Property. Mr. DeFrees also reported that he was not aware of any liens or governmental notification relating to past or current violations of environmental laws by users of the Property.

9.0 TIER 1 VAPOR ENCROACHMENT SCREEN

Vapor encroachment is the migration of vapors into subsurface soils from on or off-site soils and/or groundwater that is contaminated with petroleum hydrocarbons or other volatile organic compounds. The migration of contaminated vapors into a building or structure can pose a health risk to occupants. To assess for the potential of vapor encroachment, ASTM issued the Standard Guide for Vapor Encroachment Screening (VES) on Property Involved in Real Estate Transactions, ASTM E 2600-10. The guide is intended for use on a voluntary basis by parties who wish to conduct a VES on a parcel of real estate to determine if a vapor encroachment condition (VEC) exists at the parcel. The VES consists

of two tiers of screening. Tier 1 consists of an initial, non-invasive approach using similar methodology as performing a Phase I ESA. If the Tier 1 screening cannot rule out the possibility of a VEC, then a Tier 2 screening can be conducted.

RRM conducted a Tier 1 VES on the Property in general accordance with ASTM E 2600-10 and has identified one site within the area of concern (AOC). The AOC is a radius of approximately one-third of a mile around the Property; governmental records should be reviewed for any sites of potential concern within the AOC.

Sites With Potential for a Vapor Encroachment Condition within the Area of Concern

- 3912 Portola Drive – Walter Eller Properties

The Walter Eller Properties site is discussed in section 5.2.1.3 of this report and is within one-third of a mile from the Property. PCE and TCE have been detected in groundwater samples from a monitoring well located approximately 135 feet away from the southeastern border of the Property, and in other wells and test borings located further south and southeast of this well. Based on this finding, a VEC at the Property cannot be ruled out.

9.1 Additional Information Used in VES Determination

To further determine the likelihood of a VEC existing at the Property, RRM reviewed additional information as outlined in ASTM E 2600-10.

9.1.1 Geological and Soil Characteristics

The Property and surrounding vicinity are situated on a marine terrace that is characterized by unconsolidated alluvial deposits (silt, clay, sand, gravel, with finer-grained clays, silts, silty clays, sandy silts, and sandy clays) to a depth of approximately ten feet bgs. Below the alluvial deposits is the Purisima Formation, which generally is non-water bearing at its uppermost level. Such soils are generally of moderate to high permeability, and are typically permeable to migrating soil vapors.

9.1.2 Contaminant Characteristics

The primary contaminant of concern of this VES is PCE (perchloroethylene, tetrachloroethylene), which is a non-flammable, colorless liquid that is approximately 60% more dense than water. In the vapor phase, it has a sharp, sweet odor that can be detected at 50 parts per million, and from a liquid volatilizes rapidly to the atmosphere from water and soil (EPA, 1994). Because of its relative density to water, PCE released into groundwater will dissolve and continue to migrate (sink) downward until it reaches an aquitard, or barrier, and will then migrate laterally or pool in one or more area(s), continuing to dissolve into surrounding groundwater.

PCE degrades or naturally attenuates via a dechlorination process through metabolic functions of microbes (bacterial organisms) present in the subsurface. PCE can persist in groundwater for long periods of time because the degradation process requires anaerobic conditions, or environments without oxygen. These anaerobic environments tend to be less prevalent in shallow subsurface soils where shallow groundwater is being recharged, and thus oxygenated, more rapidly than in deeper zones.

9.1.3 Contaminated Plume Migration

The migration properties of a PCE plume can be influenced by several factors. The soil type, presence of preferential pathways such as utility trenches, the quantity of the release, and duration of the release are some of the various factors that affect the migration of PCE in the subsurface. In some cases, PCE plumes can extend as long as a mile from the original source (SCVWD, 2007).

According to recent conversations with RWQCB regarding the PCE plume to the east and south of the Property, the source of the PCE has not yet been identified. The findings from previous investigations into the PCE plume suggest the source is likely up-gradient (to the northwest) of the well that is 135 feet southeast from the Property. PCE has also been detected in groundwater monitoring wells on sites further southeast of the Property, which indicates the PCE is migrating southeastward, in the general direction of regional shallow groundwater flow. The findings of this Phase I ESA indicate the Property is not a likely source of the PCE contamination. Based on investigations conducted on nearby sites, the most recent data from groundwater monitoring performed on nearby sites, and the direction of regional shallow groundwater flow, it is likely the PCE is migrating through groundwater down-gradient from a source to the northwest of the Property.

9.1.4 Significant and/or Preferential Pathways for Contaminant Migration

A significant or preferential pathway is the path of least resistance for migration of a liquid or vapor. In soil, a preferential pathway is usually a permeable layer that readily permits the flow of water or vapor. Faults, cracks (such as in a building foundation or in piping), pipes, and utility trenches lined with permeable material can also act as significant conduits for the migration of contaminants. Other than subsurface utility corridors beneath Portola Drive and 38th Avenue, there are no known significant or preferential pathways associated with the Property.

9.1.5 Groundwater

Shallow groundwater flow in the Property vicinity is predominantly to the southeast. The Property appears to be down-gradient of the likely location of the PCE source.

10.0 FINDINGS

The following summarizes the information obtained from the historic record review, aerial photograph review, topographic map review, address listings, interviews, Property inspection, and regulatory agency file review.

The Property is comprised of two parcels totaling approximately 35,370 square feet situated on the southeast corner of the intersection of Portola Drive with 38th Avenue, in the unincorporated Pleasure Point district of Santa Cruz, Santa Cruz County, California. The Property location is shown on the Soquel, California Quadrangle of the USGS 7.5-minute topographic map series (Figure 1). Surface topography in the Property vicinity is generally flat. Surface elevation at the Property is approximately 45 feet above msl. Other than the Pacific Ocean, located approximately 1,200 feet to the southeast, the nearest surface water relative to the Property is Moran Lake, a coastal lagoon located approximately one-half mile to the west of the Property.

The Property is improved with a single-story warehouse-style building with mezzanine levels in the north portion and alongside the east and west walls of the structure. A sloped roof on the western side of the building is contiguous with a canopy over areas formerly used for lumber and machinery storage. The building is of wood frame construction with interior walls constructed of either wood or sheetrock. A single toilet restroom is present in the southwest corner of the building. Former lumber storage racks constructed of wood and built upon bare soil are present along the east and west interior walls of the building. Flooring in the main portion of the building is either paved with concrete, asphalt, or is bare soil. Flooring within interior office/administrative areas is either concrete, or covered in linoleum or carpet. Large sliding doors are present near the southwest corner and front of building on north side. An asphalt-paved parking area fronts the Property building adjacent to Portola Drive. The drive through alongside where lumber was formerly stored and the area at the southeast corner of the Property is paved in asphalt. A chain link fence borders the east, south, and west of the Property. The Property building is currently vacant.

Historic street directories, historical aerial photographs, county regulatory files, and interviews with the current Property owner and former tenant were used to determine historic Property uses. From these sources it was determined that the Property was developed in the early 1950s for use as a retail lumber business. Prior to its development, the Property appeared to be vacant land. Pleasure Point Lumber operated at the Property since the time it was initially developed, and from sometime in the mid-1950s to early 1960s, the Property was also used by a lawn mower shop. Big Creek Lumber operated a lumber retail business at the Property from the mid 1990s until 2008. In 2009, Big Creek Lumber had been reported to have moved, according to a site inspection conducted on June 2, 2009 by SCCEHS. The inspector from SCCEHS noted in their report that all hazardous materials had been removed. Following Big Creek Lumber's departure from the Property, a PG&E contractor, Wellington Energy, leased the Property until August 2013. Since that time, the Property has been vacant.

Other than minimal amounts of interior and/or exterior paints and cleaning supplies, hazardous substances were not observed on the Property at the time of the Property inspection. All containers of cleaning supplies and paints appeared to be intact and in good condition.

Based on the findings of government database research, several sites were identified in the vicinity of the Property where known recognized environmental conditions were present. A file review for the subject Property and sites in the Property vicinity conducted at SCCEHS indicated that it is likely that contaminants from an unidentified source in the Property vicinity have migrated onto the Property.

According to records available through SCCEH and GeoTracker, the chlorinated solvents PCE and TCE have been detected in monitoring wells down-gradient of the Property; the closest monitoring well to the Property is approximately 135 feet to the east of the Property. The source of the chlorinated solvent plume has not yet been identified. Based on the findings of this Phase I ESA, and the direction of regional shallow groundwater flow (documented to the south and southeast), it is likely the source of the PCE and TCE is located to the northwest of the Property.

To address the likelihood that PCE and TCE have impacted the Property, RRM conducted a Tier 1 Vapor Encroachment Screen (VES) on the Property in general accordance with ASTM Standard E 2600-10. Although the source of the PCE and TCE contamination has not yet been identified, based on review of available governmental records documenting conditions at this site, it is RRM's opinion that a vapor

encroachment condition (VEC) likely exists at the Property resulting from these contaminants migrating through groundwater.

11.0 OPINION

RRM has developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312. We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527 of 3800 Portola Drive, Santa Cruz, California; Assessors Parcel Numbers 032-092-01 and 032-092-05 (the Property). Any exceptions to, or deletions from, this practice are described in Section 2.4 of this report.

We offer the following opinion as to whether this inquiry, conducted in accordance with 40 CFR Part 312, has identified conditions indicative of releases or threatened releases of hazardous substances, pollutants, contaminants, petroleum and petroleum products, and controlled substances on, at, in, or to the subject Property.

- This assessment has revealed no evidence of recognized environmental conditions in connection with the Property.
- Based on information in the EDR report, site investigation and remediation documents available in the GeoTracker database, and from SCCEH for environmental conditions at nearby sites, it appears that contaminants from an off-Property, unknown source, may have impacted, or have the potential to impact the Property.

12.0 CONCLUSIONS AND RECOMMENDATIONS

This Phase I ESA documents groundwater conditions at nearby sites that indicate the Property has potentially been impacted with tetrachloroethylene (PCE). If a greater degree of certainty is desired regarding the concentrations of PCE that may exist in soil, soil gas, and/or groundwater beneath the Property, a limited subsurface investigation should be performed.

Based on the age of the Property building, it is possible that some of the construction materials contain asbestos or lead. An asbestos and lead survey should be conducted prior to any demolition, remodeling, or maintenance that may disturb these materials.

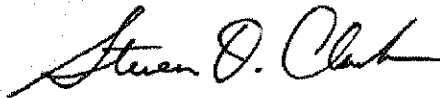
13.0 QUALIFICATIONS AND SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

The following describes the specific qualifications of the environmental professionals who performed this assessment. Further detail regarding these qualifications can be obtained by contacting RRM.

- **Steven Clark** is a California State Registered Professional Geologist, Certified Hydrogeologist, and former Registered Environmental Assessor⁷. Mr. Clark has been performing site assessments, investigations, and development and implementation of corrective action measures at contaminated sites for over 20 years. Mr. Clark received his Bachelor of Science degree in Geology from Humboldt State University in 1985.
- **Cate Townsend** is an RRM Staff Geologist and received her Bachelor of Science degree from the University of California at Santa Cruz in 1996 and has been performing work involved with environmental site assessments and remediation since 1998.

We declare that to the best of our professional knowledge and belief, we meet the definition of Environmental Professional pursuant to 40 CFR Part 312. We have the specific qualifications based on education, training, and experience to assess a property regarding its nature, history, and setting.

Sincerely,
RRM, Inc.



Steven D. Clark
Professional Geologist
Certified Hydrogeologist



Cate Townsend
Geologist

⁷ Formerly Registered Environmental Assessor (REA 1) 30196, the REA program was terminated as of July 1, 2012, with the passage of State Senate Bill 1018.

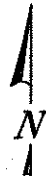
14.0 REFERENCES

The following references were used in inquiry related to this assessment:

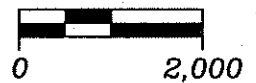
- American Society for Testing and Materials, Standard Practice E 1527-05
- American Society for Testing and Materials, Standard Practice E 1527-13
- Environmental Data Resources, Inc. (EDR), The EDR Radius Map Report 3779737.2s; November 7, 2013
- EDR, The EDR Historical Topographic Map Report, 3779737.4, November 7, 2013
- United States Geological Survey, Soquel, California Quadrangle of the USGS 7.5-minute topographic map series, 1954; photo revised 1994
- Santa Cruz County Assessors Office; Selected Records
- Santa Cruz County Environmental Health; Selected Records
- State of California Water Resources Control Board GeoTracker Database; Selected Records
- RRM, Inc., *Soil and Water Investigation Report, Walt Eller Properties*, November 19, 2003
- RRM, Inc., *Walt Eller Properties, 3910 Portola Drive, Santa Cruz, California*, August 16, 2004
- Santa Clara Valley Water District (SCVWD), *Study of Potential for Groundwater Contamination from Past Dry Cleaner Operations in Santa Clara Valley*, 2007, (SCVWD, 2007)
- Environmental Protection Agency (EPA), *Chemical Summary for Perchloroethylene*, August 1994, (EPA, 1994)



QUADRANGLE LOCATION



SCALE IN FEET



Ref. IA710/IA710-SALDING
Base Map from TOPGII NGM

SITE LOCATION MAP

DeFrees/Wagner Property

3800 Portola Drive
Santa Cruz, California

FIGURE:

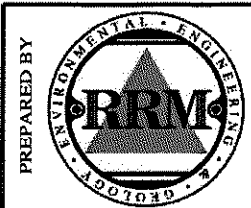
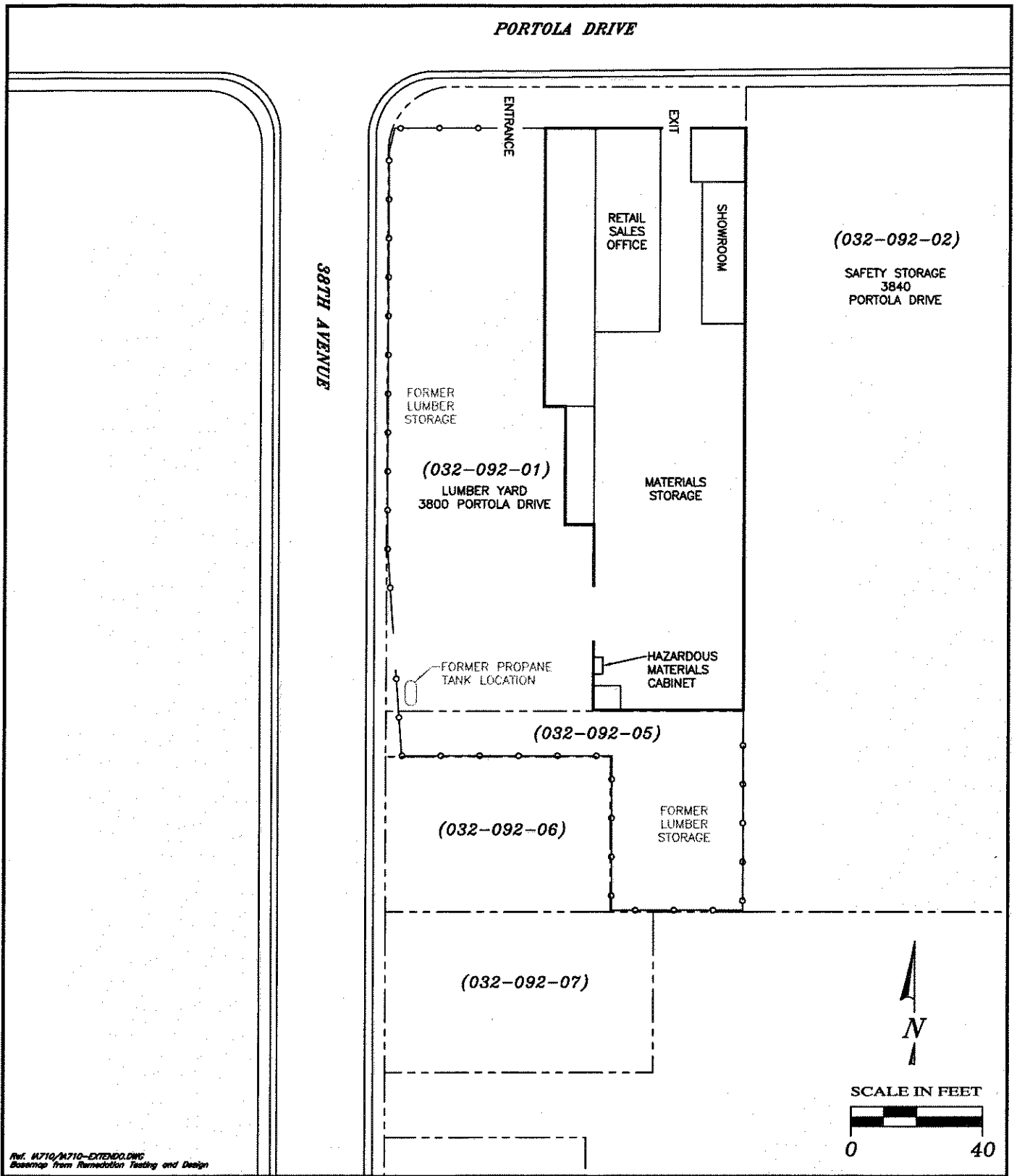
1

PROJECT:

IA710

PREPARED BY





SITE MAP

DeFrees/Wagner Property
3800 Portola Drive
Santa Cruz, California

FIGURE:
2
PROJECT:
IA710

A

PROPERTY INSPECTION PHOTOGRAPHS



OVERVIEW OF PROPERTY, VIEWED TO SOUTHWEST FROM ACROSS PORTOLA DRIVE



WEST SIDE OF BUILDING VIEWED FROM SOUTHWEST PROPERTY CORNER



BUILDING WEST SIDE, SHOWING FORMER LUMBER STORAGE AREA



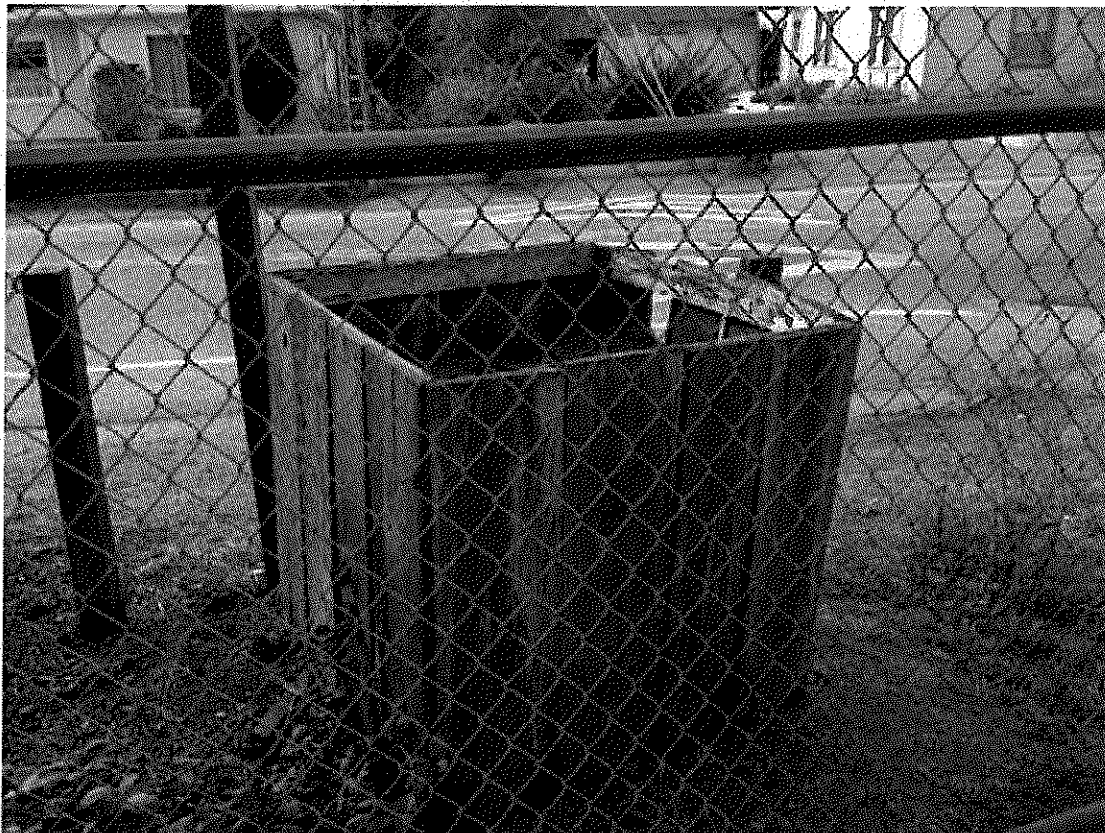
BUILDING WEST SIDE, SHOWING FORMER LUMBER, MACHINERY, AND EQUIPMENT AREAS



BUILDING SOUTH SIDE VIEWED FROM SOUTHEAST PROPERTY CORNER



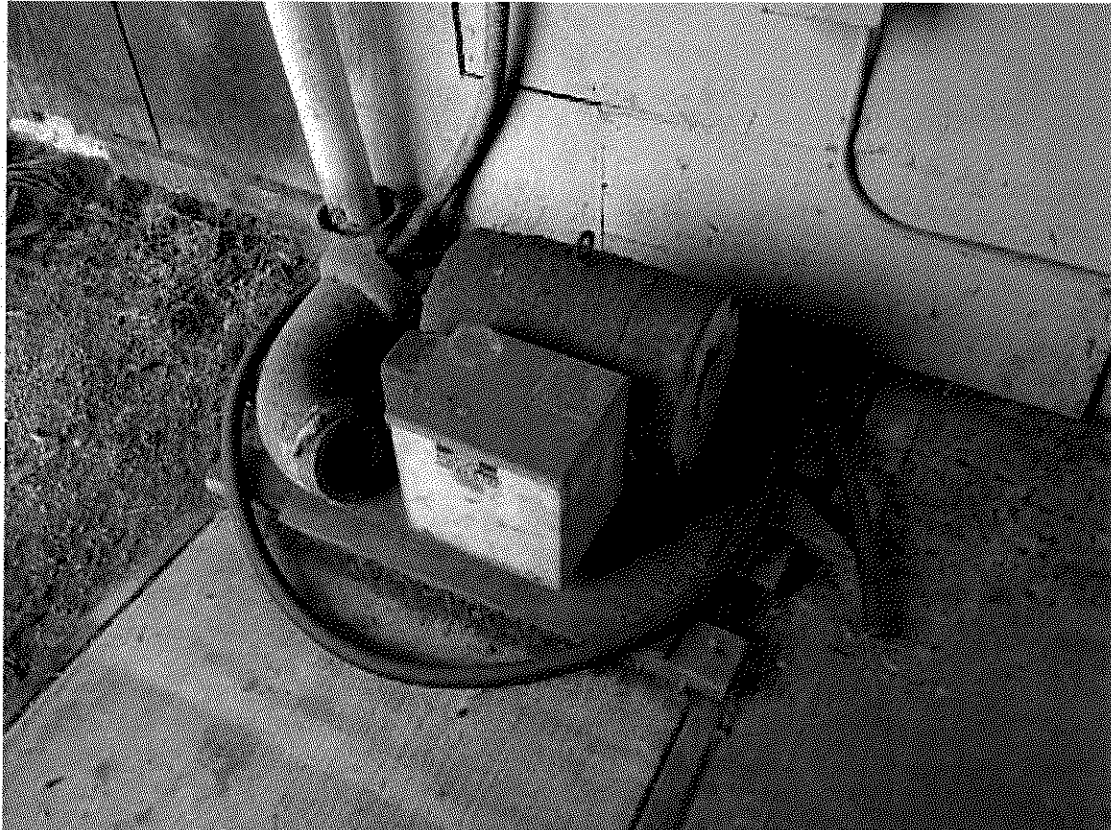
SOUTHEAST CORNER



BOX PLANTER IN FORMER LOCATION OF PROPANE TANK ON SOUTHWEST PROPERTY CORNER



EMPTY 55-GALLON STEEL DRUM AT SOUTHWEST CORNER OF BUILDING



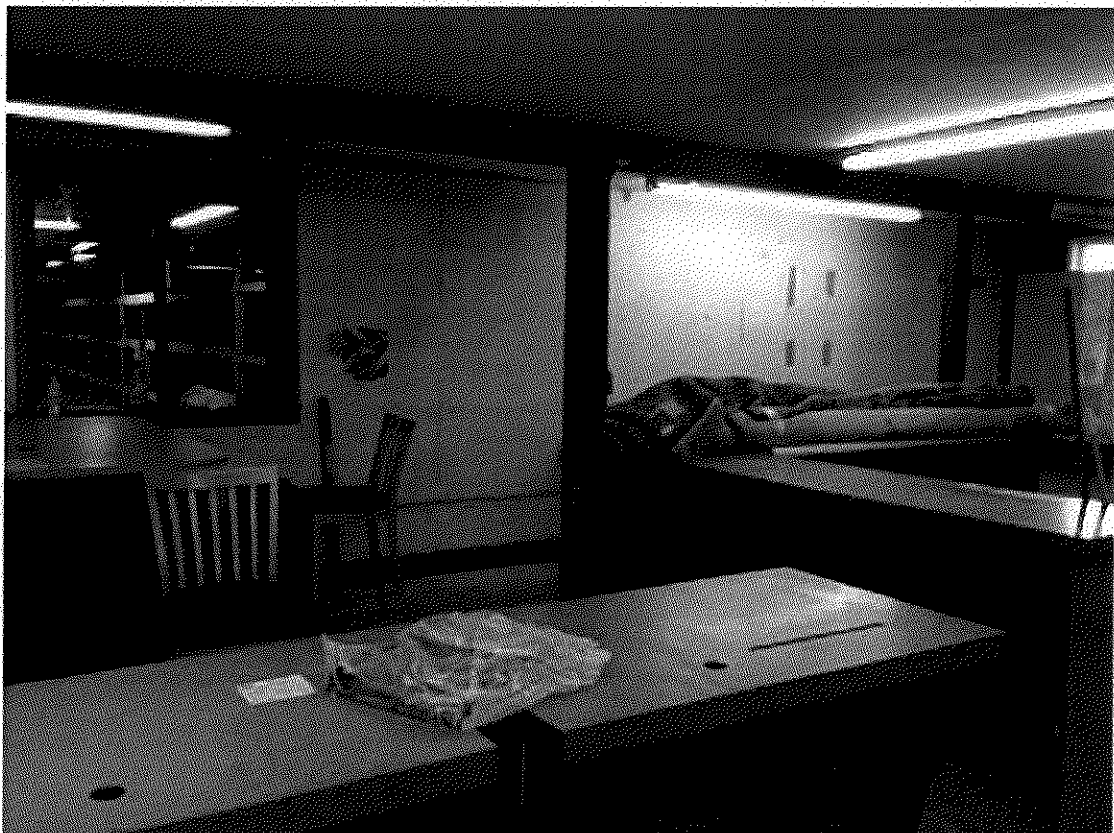
ROTARY PHASE GENERATOR ADJACENT TO WEST SIDE OF BUILDING



BUILDING ENTRANCE ON NORTH SIDE, VIEWED TOWARD PORTOLA DRIVE



OFFICE AND SHOWROOM FOR FORMER BUSINESS, BIG CREEK LUMBER



BUILDING OFFICES



BUILDING OFFICES



MEZZANINE LEVEL IN WEST INTERIOR OF BUILDING



PAINT BUCKETS STORED ON MEZZANINE LEVEL



LUMBER STORAGE AREA ON MEZZANINE LEVEL



LUMBER STORAGE RACKS BELOW MEZZANINE LEVEL



LUMBER STORAGE RACKS CONSTRUCTED ON BARE SOIL



SOUTHEAST PORTION OF BUILDING



RESTROOM IN SOUTHWEST CORNER OF BUILDING



BUILDING INTERIOR, SOUTHWEST CORNER

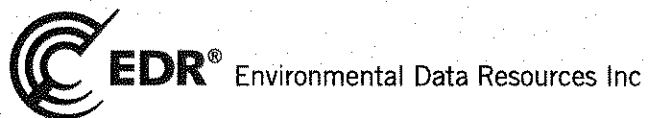
B

**EDR RADIUS MAP™ REPORT
WITH GEOCHECK®**

3800 Portola Drive
3800 Portola Drive
Santa Cruz, CA 95062

Inquiry Number: 3779737.2s
November 07, 2013

The EDR Radius Map™ Report with GeoCheck®



440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	8
Orphan Summary	45
Government Records Searched/Data Currency Tracking	GR-1
 <u>GEOCHECK ADDENDUM</u>	
Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-9
Physical Setting Source Map Findings	A-11
Physical Setting Source Records Searched	A-28

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2013 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

3800 PORTOLA DRIVE
SANTA CRUZ, CA 95062

COORDINATES

Latitude (North): 36.9634000 - 36° 57' 48.24"
Longitude (West): 121.9673000 - 121° 58' 2.28"
Universal Transverse Mercator: Zone 10
UTM X (Meters): 591933.2
UTM Y (Meters): 4091107.2
Elevation: 47 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 36121-H8 SOQUEL, CA
Most Recent Revision: 1994

AERIAL PHOTOGRAPHY IN THIS REPORT

Photo Year: 2012
Source: USDA

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL..... National Priority List

EXECUTIVE SUMMARY

Proposed NPL..... Proposed National Priority List Sites
NPL LIENS..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL..... National Priority List Deletions

Federal CERCLIS list

CERCLIS..... Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY..... Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP..... CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG..... RCRA - Large Quantity Generators
RCRA-SQG..... RCRA - Small Quantity Generators
RCRA-CESQG..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS..... Engineering Controls Sites List
US INST CONTROL..... Sites with Institutional Controls
LUCIS..... Land Use Control Information System

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE..... State Response Sites

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Information System

State and tribal leaking storage tank lists

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

UST..... Active UST Facilities

EXECUTIVE SUMMARY

AST..... Aboveground Petroleum Storage Tank Facilities
INDIAN UST..... Underground Storage Tanks on Indian Land
FEMA UST..... Underground Storage Tank Listing

State and tribal voluntary cleanup sites

VCP..... Voluntary Cleanup Program Properties
INDIAN VCP..... Voluntary Cleanup Priority Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

ODI..... Open Dump Inventory
DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations
WMUDS/SWAT..... Waste Management Unit Database
SWRCY..... Recycler Database
HAULERS..... Registered Waste Tire Haulers Listing
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands

Local Lists of Hazardous waste / Contaminated Sites

US CDL..... Clandestine Drug Labs
HIST Cal-Sites..... Historical Calsites Database
SCH..... School Property Evaluation Program
Toxic Pits..... Toxic Pits Cleanup Act Sites
CDL..... Clandestine Drug Labs
US HIST CDL..... National Clandestine Laboratory Register

Local Land Records

LIENS 2..... CERCLA Lien Information
LIENS..... Environmental Liens Listing
DEED..... Deed Restriction Listing

Records of Emergency Release Reports

HMIRS..... Hazardous Materials Information Reporting System
CHMIRS..... California Hazardous Material Incident Report System
LDS..... Land Disposal Sites Listing
MCS..... Military Cleanup Sites Listing
SPILLS 90..... SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR..... RCRA - Non Generators
DOT OPS..... Incident and Accident Data
DOD..... Department of Defense Sites
FUDS..... Formerly Used Defense Sites
CONSENT..... Superfund (CERCLA) Consent Decrees

EXECUTIVE SUMMARY

ROD.....	Records Of Decision
UMTRA.....	Uranium Mill Tailings Sites
US MINES.....	Mines Master Index File
TRIS.....	Toxic Chemical Release Inventory System
TSCA.....	Toxic Substances Control Act
FTTS.....	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS.....	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS.....	Section 7 Tracking Systems
ICIS.....	Integrated Compliance Information System
PADS.....	PCB Activity Database System
MLTS.....	Material Licensing Tracking System
RADINFO.....	Radiation Information Database
FINDS.....	Facility Index System/Facility Registry System
RAATS.....	RCRA Administrative Action Tracking System
RMP.....	Risk Management Plans
CA BOND EXP. PLAN.....	Bond Expenditure Plan
UIC.....	UIC Listing
NPDES.....	NPDES Permits Listing
Cortese.....	"Cortese" Hazardous Waste & Substances Sites List
Notify 65.....	Proposition 65 Records
DRYCLEANERS.....	Cleaner Facilities
WIP.....	Well Investigation Program Case List
ENF.....	Enforcement Action Listing
HAZNET.....	Facility and Manifest Data
EMI.....	Emissions Inventory Data
INDIAN RESERV.....	Indian Reservations
SCRD DRYCLEANERS.....	State Coalition for Remediation of Drycleaners Listing
COAL ASH DOE.....	Steam-Electric Plant Operation Data
COAL ASH EPA.....	Coal Combustion Residues Surface Impoundments List
HWT.....	Registered Hazardous Waste Transporter Database
HWP.....	EnviroStor Permitted Facilities Listing
Financial Assurance.....	Financial Assurance Information Listing
LEAD SMELTERS.....	Lead Smelter Sites
2020 COR ACTION.....	2020 Corrective Action Program List
US AIRS.....	Aerometric Information Retrieval System Facility Subsystem
PRP.....	Potentially Responsible Parties
WDS.....	Waste Discharge System
EPA WATCH LIST.....	EPA WATCH LIST
US FIN ASSUR.....	Financial Assurance Information
PCB TRANSFORMER.....	PCB Transformer Registration Database
PROC.....	Certified Processors Database
MWMP.....	Medical Waste Management Program Listing

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP..... EDR Proprietary Manufactured Gas Plants

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

EXECUTIVE SUMMARY

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property. Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 09/05/2013 has revealed that there is 1 ENVIROSTOR site within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>OPAL CLIFFS SCHOOL SITE</i> Status: No Further Action	<i>4400 JADE STREET</i>	<i>NE 1/2 - 1 (0.613 mi.)</i>	<i>24</i>	<i>41</i>

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the LUST list, as provided by EDR, and dated 09/16/2013 has revealed that there are 7 LUST sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
PORTOLA ARCO	3801 PORTOLA DR	E 0 - 1/8 (0.035 mi.)	A3	10
<i>ED'S PORTOLA ARCO</i> Status: Completed - Case Closed	<i>3801 PORTOLA DR</i>	<i>E 0 - 1/8 (0.035 mi.)</i>	<i>A5</i>	<i>12</i>
CHEVRON SS #3-2436 (FORMER) Status: Completed - Case Closed	4000 PORTOLA DR	E 0 - 1/8 (0.076 mi.)	11	19
<i>OPAL CLIFFS AUTO CENTER</i> Status: Open - Remediation	<i>4001 PORTOLA DR</i>	<i>E 0 - 1/8 (0.105 mi.)</i>	<i>C14</i>	<i>25</i>
OPAL CLIFFS AUTO	4001 PORTOLA DR	E 0 - 1/8 (0.105 mi.)	C15	34
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>NEIGHBORHOOD U-SERVE-N-SAVE</i> Status: Completed - Case Closed	<i>3690 PORTOLA DR</i>	<i>W 0 - 1/8 (0.071 mi.)</i>	<i>B10</i>	<i>16</i>

EXECUTIVE SUMMARY

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
EMILE'S SPORTS CAR PERFORMANCE Status: Completed - Case Closed	3501 PORTOLA DR	W 1/8 - 1/4 (0.179 mi.)	E21	37

SLIC: SLIC Region comes from the California Regional Water Quality Control Board.

A review of the SLIC list, as provided by EDR, and dated 09/16/2013 has revealed that there are 2 SLIC sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
WALTER ELLER PROPERTIES Facility Status: Open - Site Assessment	3912 PORTOLA DRIVE	E 0 - 1/8 (0.041 mi.)	A6	14

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
PLEASURE POINT ROADHOUSE PROPE Facility Status: Completed - Case Closed	3905 E CLIFF DR	S 1/4 - 1/2 (0.279 mi.)	23	41

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Registered Storage Tanks

CA FID UST: The Facility Inventory Database contains active and inactive underground storage tank locations. The source is the State Water Resource Control Board.

A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there are 3 CA FID UST sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
PORTOLA ARCO INC.	3801 PORTOLA DR	E 0 - 1/8 (0.035 mi.)	A1	8
OPAL CLIFFS AUTO CENTER	4001 PORTOLA DR	E 0 - 1/8 (0.105 mi.)	C13	23
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
NEIGHBORHOOD U-SERVE-N-SAVE	3690 PORTOLA DR	W 0 - 1/8 (0.071 mi.)	B9	15

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 2 HIST UST sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
PORTOLA ARCO INC.	3801 PORTOLA DR	E 0 - 1/8 (0.035 mi.)	A2	9
OPAL CLIFFS AUTO CENTER	4001 PORTOLA DR	E 0 - 1/8 (0.105 mi.)	C14	25

EXECUTIVE SUMMARY

SWEEPS UST: Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 3 SWEEPS UST sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>PORTOLA ARCO INC.</i>	<i>3801 PORTOLA DR</i>	<i>E 0 - 1/8 (0.035 mi.)</i>	<i>A1</i>	<i>8</i>
<i>OPAL CLIFFS AUTO CENTER</i>	<i>4001 PORTOLA DR</i>	<i>E 0 - 1/8 (0.105 mi.)</i>	<i>C13</i>	<i>23</i>
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>NEIGHBORHOOD U-SERVE-N-SAVE</i>	<i>3690 PORTOLA DR</i>	<i>W 0 - 1/8 (0.071 mi.)</i>	<i>B10</i>	<i>16</i>

Other Ascertainable Records

HIST CORTESE: The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there are 4 HIST CORTESE sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>ED'S PORTOLA ARCO</i>	<i>3801 PORTOLA DR</i>	<i>E 0 - 1/8 (0.035 mi.)</i>	<i>A5</i>	<i>12</i>
<i>OPAL CLIFFS AUTO CENTER</i>	<i>4001 PORTOLA DR</i>	<i>E 0 - 1/8 (0.105 mi.)</i>	<i>C14</i>	<i>25</i>
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>NEIGHBORHOOD U-SERVE-N-SAVE</i>	<i>3690 PORTOLA DR</i>	<i>W 0 - 1/8 (0.071 mi.)</i>	<i>B10</i>	<i>16</i>
<i>EMILE'S SPORTS CAR PERFORMANCE</i>	<i>3501 PORTOLA DR</i>	<i>W 1/8 - 1/4 (0.179 mi.)</i>	<i>E21</i>	<i>37</i>

CUPA Listings: A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

A review of the CUPA Listings list, as provided by EDR, has revealed that there are 5 CUPA Listings sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>ED'S PORTOLA ARCO</i>	<i>3801 PORTOLA DR</i>	<i>E 0 - 1/8 (0.035 mi.)</i>	<i>A5</i>	<i>12</i>
<i>VERIZON WIRELESS - PORTOLA & 4</i>	<i>3840 PORTOLA DR</i>	<i>SE 0 - 1/8 (0.057 mi.)</i>	<i>8</i>	<i>15</i>
<i>OPAL CLIFFS AUTO CENTER</i>	<i>4001 PORTOLA DR</i>	<i>E 0 - 1/8 (0.105 mi.)</i>	<i>C14</i>	<i>25</i>
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>GLENN P DAVIS AUTO REPAIR</i>	<i>3505 PORTOLA DR #B</i>	<i>W 0 - 1/8 (0.123 mi.)</i>	<i>D18</i>	<i>37</i>
<i>EMILE'S SPORTS CAR PERFORMANCE</i>	<i>3501 PORTOLA DR</i>	<i>W 1/8 - 1/4 (0.179 mi.)</i>	<i>E21</i>	<i>37</i>

EXECUTIVE SUMMARY

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR US Hist Auto Stat: EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR US Hist Auto Stat list, as provided by EDR, has revealed that there are 6 EDR US Hist Auto Stat sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
Not reported	3801 PORTOLA DR	E 0 - 1/8 (0.035 mi.)	A4	11
Not reported	4001 PORTOLA DR	E 0 - 1/8 (0.105 mi.)	C16	35
Not reported	4180 COURT DR	ESE 1/8 - 1/4 (0.173 mi.)	20	37

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
Not reported	3505 PORTOLA DR	W 0 - 1/8 (0.123 mi.)	D17	36
Not reported	3503 PORTOLA DR	W 1/8 - 1/4 (0.151 mi.)	19	37
Not reported	3501 PORTOLA DR	W 1/8 - 1/4 (0.179 mi.)	E22	40

EDR US Hist Cleaners: EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR US Hist Cleaners list, as provided by EDR, has revealed that there are 2 EDR US Hist Cleaners sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
Not reported	890 38TH AVE	N 0 - 1/8 (0.081 mi.)	12	23

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
Not reported	3621 PORTOLA DR	W 0 - 1/8 (0.055 mi.)	B7	15

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 5 records.

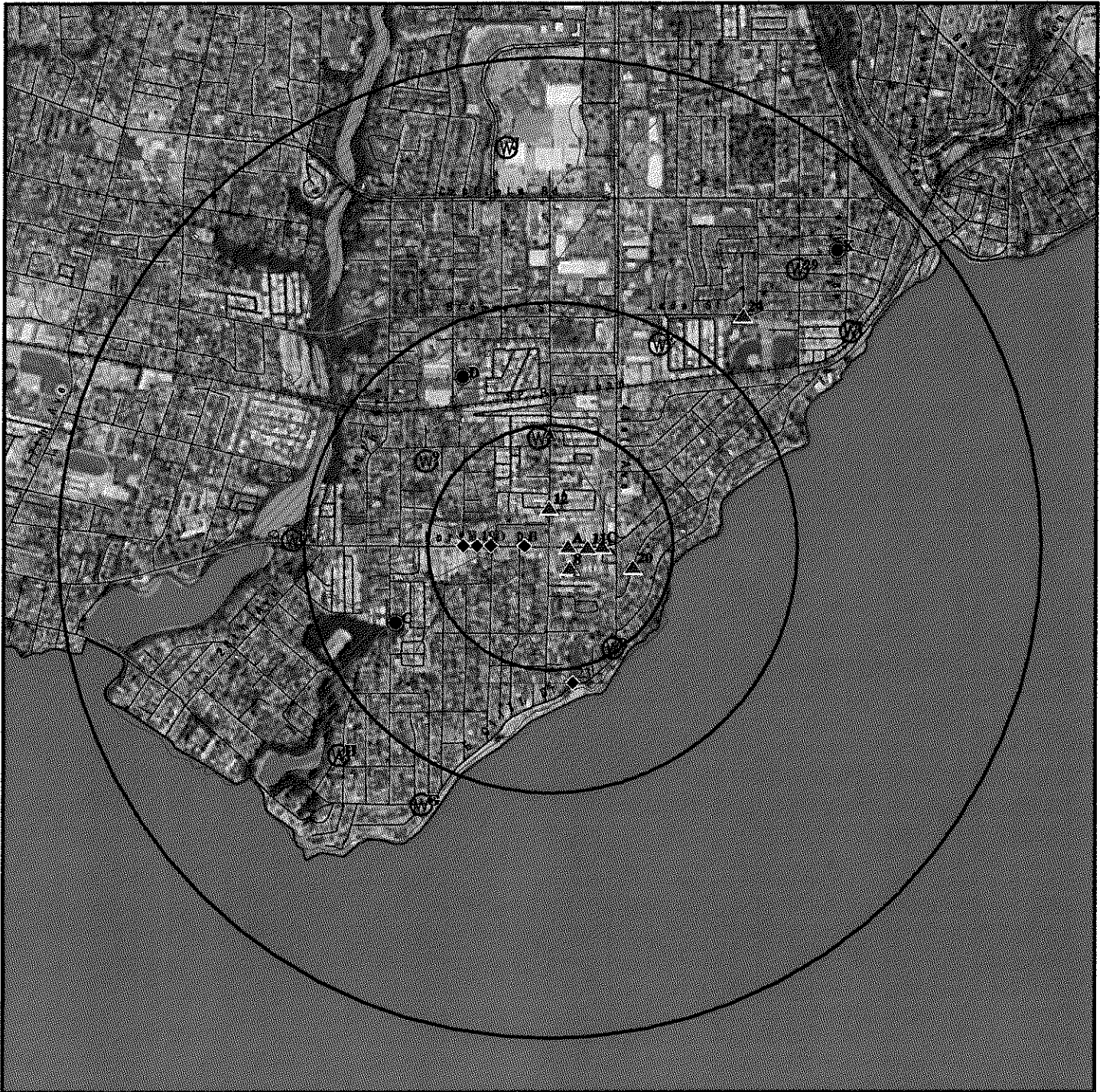
Site Name

SCCSD RIO PUMPING STATION
PG&E - OPAL CLIFFS SUBSTATION
NEW BRIGHTON PUMPING STATION
EAST CLIFF DRIVE CLEANERS
CALIFORNIA DEPARTMENT OF TRANSPORT

Database(s)

HIST CORTESE, LUST
CUPA Listings
UST
HAZNET
RCRA-SQG

OVERVIEW MAP - 3779737.2s



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites



- Indian Reservations BIA
- County Boundary
- Power transmission lines
- Oil & Gas pipelines from USGS
- ▨ 100-year flood zone
- ▧ 500-year flood zone
- National Wetland Inventory
- Areas of Concern



This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: 3800 Portola Drive ADDRESS: 3800 Portola Drive Santa Cruz CA 95062 LAT/LONG: 36.9634 / 121.9673	CLIENT: Remediation Risk Management CONTACT: Cate Townsend INQUIRY #: 3779737.2s DATE: November 07, 2013 2:22 pm
--	---

DETAIL MAP - 3779737.2s



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- ⊕ Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- ▨ Indian Reservations BIA
- County Boundary
- Power transmission lines
- Oil & Gas pipelines from USGS
- ▨ 100-year flood zone
- ▨ 500-year flood zone
- National Wetland Inventory
- Areas of Concern

SITE NAME: 3800 Portola Drive ADDRESS: 3800 Portola Drive Santa Cruz CA 95062 LAT/LONG: 36.9634 / 121.9673	CLIENT: Remediation Risk Management CONTACT: Cate Townsend INQUIRY #: 3779737.2s DATE: November 07, 2013 2:26 pm
--	---

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
<u>STANDARD ENVIRONMENTAL RECORDS</u>								
<i>Federal NPL site list</i>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
<i>Federal Delisted NPL site list</i>								
Delisted NPL	1.000		0	0	0	0	NR	0
<i>Federal CERCLIS list</i>								
CERCLIS	0.500		0	0	0	NR	NR	0
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
<i>Federal CERCLIS NFRAP site List</i>								
CERC-NFRAP	0.500		0	0	0	NR	NR	0
<i>Federal RCRA CORRACTS facilities list</i>								
CORRACTS	1.000		0	0	0	0	NR	0
<i>Federal RCRA non-CORRACTS TSD facilities list</i>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<i>Federal RCRA generators list</i>								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
<i>Federal institutional controls / engineering controls registries</i>								
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
LUCIS	0.500		0	0	0	NR	NR	0
<i>Federal ERNS list</i>								
ERNS	TP		NR	NR	NR	NR	NR	0
<i>State- and tribal - equivalent NPL</i>								
RESPONSE	1.000		0	0	0	0	NR	0
<i>State- and tribal - equivalent CERCLIS</i>								
ENVIROSTOR	1.000		0	0	0	1	NR	1
<i>State and tribal landfill and/or solid waste disposal site lists</i>								
SWF/LF	0.500		0	0	0	NR	NR	0
<i>State and tribal leaking storage tank lists</i>								
LUST	0.500		6	1	0	NR	NR	7

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SLIC	0.500		1	0	1	NR	NR	2
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
FEMA UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
US HIST CDL	TP		NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
CA FID UST	0.250		3	0	NR	NR	NR	3
HIST UST	0.250		2	0	NR	NR	NR	2
SWEEPS UST	0.250		3	0	NR	NR	NR	3
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
LIENS	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CHMIRS	TP		NR	NR	NR	NR	NR	0
LDS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
MCS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
DOD	1.000		0	0	0	0	NR	0
FUDS	1.000		0	0	0	0	NR	0
CONSENT	1.000		0	0	0	0	NR	0
ROD	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
Cortese	0.500		0	0	0	NR	NR	0
HIST CORTESE	0.500		3	1	0	NR	NR	4
CUPA Listings	0.250		4	1	NR	NR	NR	5
Notify 65	1.000		0	0	0	0	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
HAZNET	TP		NR	NR	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
HWT	0.250		0	0	NR	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

<u>Database</u>	<u>Search Distance (Miles)</u>	<u>Target Property</u>	<u>< 1/8</u>	<u>1/8 - 1/4</u>	<u>1/4 - 1/2</u>	<u>1/2 - 1</u>	<u>> 1</u>	<u>Total Plotted</u>
PROC	0.500		0	0	0	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	1.000		0	0	0	0	NR	0
EDR US Hist Auto Stat	0.250		3	3	NR	NR	NR	6
EDR US Hist Cleaners	0.250		2	0	NR	NR	NR	2

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number
EPA ID Number

A1 PORTOLA ARCO INC.
East 3801 PORTOLA DR
< 1/8 SANTA CRUZ, CA 95062
0.035 mi.
187 ft. Site 1 of 6 in cluster A

CA FID UST S101625344
SWEEPS UST N/A

Relative:
Higher

CA FID UST:
Facility ID: 44000087
Regulated By: UTNKA
Regulated ID: 00050210
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 4084757227
Mail To: Not reported
Mailing Address: 3801 PORTOLA DR
Mailing Address 2: Not reported
Mailing City,St,Zip: SANTA CRUZ 95062
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

Actual:
48 ft.

SWEEPS UST:

Status: Active
Comp Number: 50210
Number: 9
Board Of Equalization: 44-027141
Referral Date: 07-01-85
Action Date: Not reported
Created Date: 12-31-88
Tank Status: A
Owner Tank Id: 1
Swrcb Tank Id: 44-000-050210-000001
Actv Date: 07-01-85
Capacity: 2000
Tank Use: M.V. FUEL
Stg: P
Content: REG UNLEADED
Number Of Tanks: 3

Status: Active
Comp Number: 50210
Number: 9
Board Of Equalization: 44-027141
Referral Date: 07-01-85
Action Date: Not reported
Created Date: 12-31-88
Tank Status: A
Owner Tank Id: 2
Swrcb Tank Id: 44-000-050210-000002
Actv Date: 07-01-85
Capacity: 2000
Tank Use: M.V. FUEL
Stg: P
Content: LEADED
Number Of Tanks: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PORTOLA ARCO INC. (Continued)

S101625344

Status: Active
Comp Number: 50210
Number: 9
Board Of Equalization: 44-027141
Referral Date: 07-01-85
Action Date: Not reported
Created Date: 12-31-88
Tank Status: A
Owner Tank Id: 3
Swrcb Tank Id: 44-000-050210-000003
Actv Date: 07-01-85
Capacity: 1000
Tank Use: OIL
Stg: W
Content: WASTE OIL
Number Of Tanks: Not reported

A2
East
< 1/8
0.035 mi.
187 ft.

PORTOLA ARCO INC.
3801 PORTOLA DR
SANTA CRUZ, CA 95062

HIST UST U001602036
N/A

Site 2 of 6 in cluster A

Relative:
Higher

Actual:
48 ft.

HIST UST:
Region: STATE
Facility ID: 0000050210
Facility Type: Other
Other Type: REPAIR FACILITY
Total Tanks: 0003
Contact Name: NATHAN YOUNG
Telephone: 4084757227
Owner Name: NATHAN YOUNG
Owner Address: 3801 PORTOLA DRIVE
Owner City,St,Zip: SANTA CRUZ, CA 95062

Tank Num: 001
Container Num: 1
Year Installed: 1974
Tank Capacity: 00002000
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Tank Construction: Not reported
Leak Detection: Stock Inventor, None

Tank Num: 002
Container Num: 2
Year Installed: 1974
Tank Capacity: 00002000
Tank Used for: PRODUCT
Type of Fuel: REGULAR
Tank Construction: Not reported
Leak Detection: Stock Inventor, None

Tank Num: 003
Container Num: 3
Year Installed: 1974
Tank Capacity: 00001000
Tank Used for: WASTE

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number
 EPA ID Number

PORTOLA ARCO INC. (Continued)

U001602036

Type of Fuel: WASTE OIL
 Tank Construction: Not reported
 Leak Detection: Stock Inventor, None

A3
East
< 1/8
0.035 mi.
187 ft.

PORTOLA ARCO
3801 PORTOLA DR
SANTA CRUZ, CA 95062
Site 3 of 6 in cluster A

LUST S105124613
N/A

Relative:
Higher

Actual:
48 ft.

LUST REG 3:
 Region: 3
 Regional Board: Central Coast Region
 Facility County: Santa Cruz
 Global ID: T0608700294
 Status: Case Closed
 Case Number: 895
 Local Case Num: Not reported
 Case Type: O
 Substance: Gasoline
 Quantity: Not reported
 Abatement Method: No Action Taken - no action has as yet been taken at the site
 Leak Source: Tank
 Leak Cause: Corrosion
 How Stopped: Not reported
 How Discovered: OM
 Release Date: 02/02/1990
 Discovered Date: Not reported
 Enter Date: 12/24/1990
 Stop Date: Not reported
 Review Date: 09/20/2002
 Enforce Date: Not reported
 Close Date: 9/20/02
 Enforcement Type: CLOS
 Responsible Party: 3801 PORTOLA DRIVE
 RP Address: 3801 PORTOLA DRIVE
 Contact: Not reported
 Cross Street: 38TH
 Local Agency: 44000
 Lead Agency: Regional Board
 Staff Initials: TAS
 Confirm Leak: Not reported
 Workplan: Not reported
 Prelim Assess: Not reported
 Pollution Char: 03/26/1992
 Remedial Plan: Not reported
 Remedial Action: Not reported
 Monitoring: 08/10/1999
 Pilot Program: UST
 Interim Action: Not reported
 Funding: R
 MTBE Class: Not reported
 Max MTBE Grnd Wtr: 8
 Max MTBE Soil: Not reported
 Max MTBE Data: 12/05/2000
 MTBE Tested: YES
 Lat/Long: 36.96349843 / -121.9672436
 Soil Qualifier: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number
EPA ID Number

PORTOLA ARCO (Continued)

S105124613

Grnd Wtr Qualifier: =
Mtbe Concentratn: 10
Mtbe Fuel: 1
Org Name: Not reported
Basin Plan: 4.11
Beneficial: MUN
Priority: Not reported
UST Cleanup Fund ID: Not reported
Suspended: Not reported
Operator: Not reported
Water System: Not reported
Well Name: Not reported
Distance From Well: 0
Assigned Name: Not reported
Summary: RWQCB REQUESTED MORE INFORMATION ABOUT THE LATERAL EXTENT OF PETROLEUM PRODUCT CONTAMINATION.3/15/99: DOWNGRADIENT EXTENT OF GW CONTAMINATION DEFINED.4/1/99: WORKPLAN APPROVED FOR SOIL & EXCAVATION AND GW EXTRACTION ACTIVITIES, M.WELL REPLACEMENT. NOT

A4
East
< 1/8
0.035 mi.
187 ft.

3801 PORTOLA DR
SANTA CRUZ, CA 95062

Site 4 of 6 in cluster A

EDR US Hist Auto Stat 1015458569
N/A

Relative:
Higher
Actual:
48 ft.

EDR Historical Auto Stations:

Name: EDS PORTOLA ARCO
Year: 1999
Address: 3801 PORTOLA DR

Name: EDS PORTOLA ARCO
Year: 2000
Address: 3801 PORTOLA DR

Name: EDS PORTOLA ARCO
Year: 2001
Address: 3801 PORTOLA DR

Name: EDS PORTOLA ARCO
Year: 2002
Address: 3801 PORTOLA DR

Name: EDS PORTOLA ARCO
Year: 2003
Address: 3801 PORTOLA DR

Name: EDS PORTOLA ARCO
Year: 2004
Address: 3801 PORTOLA DR

Name: EDS PORTOLA ARCO
Year: 2005
Address: 3801 PORTOLA DR

Name: EDS PORTOLA ARCO
Year: 2006
Address: 3801 PORTOLA DR

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

(Continued)

1015458569

Name: EDS PORTOLA ARCO
Year: 2007
Address: 3801 PORTOLA DR

Name: EDS PORTOLA ARCO
Year: 2008
Address: 3801 PORTOLA DR

Name: EDS PORTOLA ARCO
Year: 2009
Address: 3801 PORTOLA DR

Name: EDS PORTOLA ARCO
Year: 2010
Address: 3801 PORTOLA DR

Name: EDS PORTOLA ARCO
Year: 2011
Address: 3801 PORTOLA DR

Name: EDS PORTOLA ARCO
Year: 2012
Address: 3801 PORTOLA DR

A5
East
< 1/8
0.035 mi.
187 ft.

ED'S PORTOLA ARCO
3801 PORTOLA DR
SANTA CRUZ, CA 95062

HIST CORTESE
LUST
CUPA Listings

S101309576
N/A

Site 5 of 6 in cluster A

Relative:
Higher

CORTESE:
Region: CORTESE
Facility County Code: 44
Reg By: LTNKA
Reg Id: 895

Actual:
48 ft.

LUST:
Region: STATE
Global Id: T0608700294
Latitude: 36.963498427
Longitude: -121.96724355
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 09/20/2002
Lead Agency: CENTRAL COAST RWQCB (REGION 3)
Case Worker: TAS
Local Agency: SANTA CRUZ COUNTY LOP
RB Case Number: 895
LOC Case Number: Not reported
File Location: State Records Center
Potential Media Affect: Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern: Gasoline
Site History: Not reported

[Click here to access the California GeoTracker records for this facility:](#)

Contact:

Global Id: T0608700294

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number
EPA ID Number

ED'S PORTOLA ARCO (Continued)

S101309576

Contact Type: Regional Board Caseworker
Contact Name: TOM SAYLES
Organization Name: CENTRAL COAST RWQCB (REGION 3)
Address: 895 AEROVISTA PL, SUITE 101
City: SAN LUIS OBISPO
Email: tsayles@waterboards.ca.gov
Phone Number: Not reported

Global Id: T0608700294
Contact Type: Local Agency Caseworker
Contact Name: SCOTT CARSON
Organization Name: SANTA CRUZ COUNTY LOP
Address: 701 Ocean Street, Room 312
City: SANTA CRUZ
Email: scott.carson@co.santa-cruz.ca.us
Phone Number: Not reported

Status History:
Global Id: T0608700294
Status: Completed - Case Closed
Status Date: 09/20/2002

Global Id: T0608700294
Status: Open - Case Begin Date
Status Date: 02/02/1990

Global Id: T0608700294
Status: Open - Site Assessment
Status Date: 03/26/1992

Global Id: T0608700294
Status: Open - Verification Monitoring
Status Date: 08/10/1999

Regulatory Activities:
Global Id: T0608700294
Action Type: ENFORCEMENT
Date: 09/20/2002
Action: Closure/No Further Action Letter

Global Id: T0608700294
Action Type: ENFORCEMENT
Date: 03/01/2002
Action: Staff Letter

Global Id: T0608700294
Action Type: RESPONSE
Date: 08/01/2002
Action: Well Destruction Report

Global Id: T0608700294
Action Type: Other
Date: 01/01/1950
Action: Leak Reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number
EPA ID Number

ED'S PORTOLA ARCO (Continued)

S101309576

CUPA SANTA CRUZ:

Facility Id: FA0002674
Region: SANTA CRUZ
Cross Street: 38TH ST
Description: HAZARDOUS WASTE GENERATOR (HMMP STD FORM)

Facility Id: FA0002674
Region: SANTA CRUZ
Cross Street: 38TH ST
Description: HMMP STANDARD FORM FILING FEE

A6
East
< 1/8
0.041 mi.
217 ft.

WALTER ELLER PROPERTIES
3912 PORTOLA DRIVE
SANTA CRUZ, CA 95062

SLIC S106455277
N/A

Site 6 of 6 in cluster A

Relative:
Higher

Actual:
48 ft.

SLIC:
Region: STATE
Facility Status: Open - Site Assessment
Status Date: 05/04/2004
Global Id: SL0608738858
Lead Agency: CENTRAL COAST RWQCB (REGION 3)
Lead Agency Case Number: Not reported
Latitude: 36.9631118598906
Longitude: -121.966502666473
Case Type: Cleanup Program Site
Case Worker: DS
Local Agency: Not reported
RB Case Number: S315
File Location: Not reported
Potential Media Affected: Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern: Not reported
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

SLIC REG 3:

Region: 3
Leak Site Cross Street: Not reported
RB Case In: S315
Entered Into Database: Not reported
Discovered: Not reported
RB Case In: WALT ELLER COMPANY
Responsible Party: PATTI ELLER ROBB
RP Contact: Not reported
RP Phone: Not reported
RP Number: Not reported
RP Address: 3912 PORTOLA DRIVE SUITE 4
RP City,St,Zip: SANTA CRUZ, CA 95062
Date First Reported: Not reported
Lead Agency: Regional Board
Program Type: SLIC
Facility Status: Pollution Characterization
Case Type: Other ground water affected
Case Type Undetermined: No
Case Type Soil Impacted: No

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

WALTER ELLER PROPERTIES (Continued)

S106455277

Case Type Surface Water: No
Case Type Drinkin Water Well: No
Case Type Drinking Water Aqfr: No
Case Type Other Grnd Wtr: Yes
PCA: Not reported

B7
West
< 1/8
0.055 mi.
289 ft.

3621 PORTOLA DR
SANTA CRUZ, CA 95062

EDR US Hist Cleaners **S1015049585**
N/A

Site 1 of 3 in cluster B

Relative:
Lower

EDR Historical Cleaners:
Name: LAUNDRYWORKS NO 2
Year: 1999
Address: 3621 PORTOLA DR

Actual:
45 ft.

Name: LAUNDRY WORKS
Year: 2001
Address: 3621 PORTOLA DR

Name: LAUNDRYWORKS
Year: 2008
Address: 3621 PORTOLA DR

Name: LAUNDRYWORKS
Year: 2009
Address: 3621 PORTOLA DR

8
SE
< 1/8
0.057 mi.
300 ft.

VERIZON WIRELESS - PORTOLA & 40TH
3840 PORTOLA DR
SANTA CRUZ, CA 95062

CUPA Listings **S112832999**
N/A

Relative:
Higher

CUPA SANTA CRUZ:
Facility Id: FA0007271
Region: SANTA CRUZ
Cross Street: MAIN ST
Description: HMMP SHORT FORM BASE FEE

Actual:
47 ft.

B9
West
< 1/8
0.071 mi.
375 ft.

NEIGHBORHOOD U-SERVE-N-SAVE
3690 PORTOLA DR
SANTA CRUZ, CA 95060

CA FID UST **S101594706**
N/A

Site 2 of 3 in cluster B

Relative:
Lower

CA FID UST:
Facility ID: 44000116
Regulated By: UTNKI
Regulated ID: Not reported
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: Not reported
Mail To: Not reported

Actual:
45 ft.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

NEIGHBORHOOD U-SERVE-N-SAVE (Continued)

S101594706

Mailing Address: P O BOX
Mailing Address 2: Not reported
Mailing City,St,Zip: SANTA CRUZ 95060
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Inactive

B10
West
< 1/8
0.071 mi.
375 ft.

NEIGHBORHOOD U-SERVE-N-SAVE
3690 PORTOLA DR
SANTA CRUZ, CA 95062

HIST CORTESE **S102434305**
LUST **N/A**
SWEEPS UST

Site 3 of 3 in cluster B

Relative:
Lower

CORTESE:
Region: CORTESE
Facility County Code: 44
Reg By: LTNKA
Reg Id: 1097

Actual:
45 ft.

LUST:

Region: STATE
Global Id: T0608700018
Latitude: 36.9634109
Longitude: -121.9685579
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 06/08/1998
Lead Agency: CENTRAL COAST RWQCB (REGION 3)
Case Worker: BWH
Local Agency: Not reported
RB Case Number: 1097
LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern: Gasoline
Site History: Not reported

[Click here to access the California GeoTracker records for this facility:](#)

Status History:

Global Id: T0608700018
Status: Completed - Case Closed
Status Date: 06/08/1998

Global Id: T0608700018
Status: Open - Case Begin Date
Status Date: 09/22/1989

Global Id: T0608700018
Status: Open - Remediation
Status Date: 10/02/1995

Global Id: T0608700018
Status: Open - Site Assessment

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number
EPA ID Number

NEIGHBORHOOD U-SERVE-N-SAVE (Continued)

S102434305

Status Date: 07/09/1991
Global Id: T0608700018
Status: Open - Site Assessment
Status Date: 10/05/1993
Global Id: T0608700018
Status: Open - Site Assessment
Status Date: 01/20/1994
Global Id: T0608700018
Status: Open - Verification Monitoring
Status Date: 08/30/1996

Regulatory Activities:

Global Id: T0608700018
Action Type: ENFORCEMENT
Date: 06/08/1998
Action: Closure/No Further Action Letter
Global Id: T0608700018
Action Type: ENFORCEMENT
Date: 04/15/1998
Action: Closure/No Further Action Letter
Global Id: T0608700018
Action Type: Other
Date: 01/01/1950
Action: Leak Reported

LUST REG 3:

Region: 3
Regional Board: Central Coast Region
Facility County: Santa Cruz
Global ID: T0608700018
Status: Case Closed
Case Number: 1097
Local Case Num: Not reported
Case Type: O
Substance: Gasoline
Quantity: Not reported
Abatement Method: U
Leak Source: UNK
Leak Cause: UNK
How Stopped: Not reported
How Discovered: OM
Release Date: 09/22/1989
Discovered Date: Not reported
Enter Date: 07/09/1991
Stop Date: Not reported
Review Date: 08/27/1998
Enforce Date: Not reported
Close Date: 6/8/98
Enforcement Type: Not reported
Responsible Party: EDWARD W. NESS, JR.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)
EDR ID Number
EPA ID Number

NEIGHBORHOOD U-SERVE-N-SAVE (Continued)

S102434305

RP Address: 17291 IRVINE BLVD SUITE 253
Contact: Not reported
Cross Street: Not reported
Local Agency: 44000
Lead Agency: Regional Board
Staff Initials: BWH
Confirm Leak: Not reported
Workplan: 10/5/93
Prelim Assess: 1/20/94
Pollution Char: 07/09/1991
Remedial Plan: Not reported
Remedial Action: 10/2/95
Monitoring: 08/30/1996
Pilot Program: UST
Interim Action: 0
Funding: Not reported
MTBE Class: *
Max MTBE Grnd Wtr: Not reported
Max MTBE Soil: Not reported
Max MTBE Data: / /
MTBE Tested: NT
Lat/Long: 36.9632908 / -121.9685093
Soil Qualifier: Not reported
Grnd Wtr Qualifier: Not reported
Mtbe Concentratn: 0
Mtbe Fuel: 1
Org Name: Not reported
Basin Plan: 4.11
Beneficial: Not reported
Priority: 3A3
UST Cleanup Fund ID: Not reported
Suspended: Not reported
Operator: Not reported
Water System: BILL KOCHER
Well Name: BELTZ WELL 09 - INACTIVE
Distance From Well: 0
Assigned Name: 4410010-025
Summary: SEMIANNUAL GW MONITORINGTHIS CASE IS CLOSED

SWEEPS UST:

Status: Not reported
Comp Number: 19032
Number: Not reported
Board Of Equalization: Not reported
Referral Date: Not reported
Action Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 44-000-019032-000001
Actv Date: Not reported
Capacity: 12000
Tank Use: M.V. FUEL
Stg: PRODUCT
Content: LEADED
Number Of Tanks: 3

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number
 EPA ID Number

NEIGHBORHOOD U-SERVE-N-SAVE (Continued)

S102434305

Status: Not reported
 Comp Number: 19032
 Number: Not reported
 Board Of Equalization: Not reported
 Referral Date: Not reported
 Action Date: Not reported
 Created Date: Not reported
 Tank Status: Not reported
 Owner Tank Id: Not reported
 Swrcb Tank Id: 44-000-019032-000002
 Actv Date: Not reported
 Capacity: 10000
 Tank Use: M.V. FUEL
 Stg: PRODUCT
 Content: REG UNLEADED
 Number Of Tanks: Not reported

Status: Not reported
 Comp Number: 19032
 Number: Not reported
 Board Of Equalization: Not reported
 Referral Date: Not reported
 Action Date: Not reported
 Created Date: Not reported
 Tank Status: Not reported
 Owner Tank Id: Not reported
 Swrcb Tank Id: 44-000-019032-000003
 Actv Date: Not reported
 Capacity: 5000
 Tank Use: M.V. FUEL
 Stg: PRODUCT
 Content: LEADED
 Number Of Tanks: Not reported

11
 East
 < 1/8
 0.076 mi.
 399 ft.

CHEVRON SS #3-2436 (FORMER)
4000 PORTOLA DR
SANTA CRUZ, CA 95062

LUST S105050810
N/A

Relative:
Higher

LUST:
 Region: STATE
 Global Id: T0608799983
 Latitude: 36.9632618799747
 Longitude: -121.965107917786
 Case Type: LUST Cleanup Site
 Status: Completed - Case Closed
 Status Date: 08/07/2006
 Lead Agency: CENTRAL COAST RWQCB (REGION 3)
 Case Worker: TAS
 Local Agency: SANTA CRUZ COUNTY LOP
 RB Case Number: 3326
 LOC Case Number: 3326
 File Location: Not reported
 Potential Media Affect: Other Groundwater (uses other than drinking water)
 Potential Contaminants of Concern: Gasoline
 Site History: Responsible party transfer to 4001 Portola property site.

Actual:
50 ft.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)
EDR ID Number
EPA ID Number

CHEVRON SS #3-2436 (FORMER) (Continued)

S105050810

[Click here to access the California GeoTracker records for this facility:](#)

Contact:

Global Id: T0608799983
Contact Type: Local Agency Caseworker
Contact Name: SCOTT CARSON
Organization Name: SANTA CRUZ COUNTY LOP
Address: 701 Ocean Street, Room 312
City: SANTA CRUZ
Email: scott.carson@co.santa-cruz.ca.us
Phone Number: Not reported

Global Id: T0608799983
Contact Type: Regional Board Caseworker
Contact Name: TOM SAYLES
Organization Name: CENTRAL COAST RWQCB (REGION 3)
Address: 895 AEROVISTA PL, SUITE 101
City: SAN LUIS OBISPO
Email: tsayles@waterboards.ca.gov
Phone Number: Not reported

Status History:

Global Id: T0608799983
Status: Completed - Case Closed
Status Date: 08/07/2006

Global Id: T0608799983
Status: Open - Case Begin Date
Status Date: 10/02/1999

Global Id: T0608799983
Status: Open - Site Assessment
Status Date: 10/02/1999

Global Id: T0608799983
Status: Open - Verification Monitoring
Status Date: 03/06/2001

Regulatory Activities:

Global Id: T0608799983
Action Type: RESPONSE
Date: 04/20/2003
Action: Monitoring Report - Quarterly

Global Id: T0608799983
Action Type: RESPONSE
Date: 07/20/2003
Action: Monitoring Report - Quarterly

Global Id: T0608799983
Action Type: ENFORCEMENT
Date: 04/01/2004
Action: Preparation of Record for Appeal/Referral/Petition

Global Id: T0608799983
Action Type: Other

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CHEVRON SS #3-2436 (FORMER) (Continued)

S105050810

Date: 01/01/1950
Action: Leak Reported

Global Id: T0608799983
Action Type: RESPONSE
Date: 01/20/2004
Action: Monitoring Report - Quarterly

Global Id: T0608799983
Action Type: RESPONSE
Date: 07/20/2002
Action: Monitoring Report - Quarterly

Global Id: T0608799983
Action Type: RESPONSE
Date: 04/20/2005
Action: Monitoring Report - Quarterly

Global Id: T0608799983
Action Type: ENFORCEMENT
Date: 03/06/2001
Action: Staff Letter

Global Id: T0608799983
Action Type: Other
Date: 01/01/1950
Action: Leak Stopped

Global Id: T0608799983
Action Type: RESPONSE
Date: 10/20/2003
Action: Monitoring Report - Quarterly

Global Id: T0608799983
Action Type: RESPONSE
Date: 07/20/2004
Action: Monitoring Report - Quarterly

Global Id: T0608799983
Action Type: Other
Date: 01/01/1950
Action: Leak Discovery

Global Id: T0608799983
Action Type: RESPONSE
Date: 10/20/2002
Action: Monitoring Report - Quarterly

Global Id: T0608799983
Action Type: RESPONSE
Date: 01/20/2003
Action: Monitoring Report - Quarterly

LUST REG 3:

Region: 3
Regional Board: Central Coast Region

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CHEVRON SS #3-2436 (FORMER) (Continued)

S105050810

Facility County: Santa Cruz
Global ID: T0608799983
Status: Post remedial action monitoring
Case Number: 3326
Local Case Num: 3326
Case Type: O
Substance: Gasoline
Quantity: Not reported
Abatement Method: Not reported
Leak Source: UNK
Leak Cause: UNK
How Stopped: Not reported
How Discovered: OM
Release Date: 12/01/2000
Discovered Date: 12/1/00
Enter Date: / /
Stop Date: 12/1/00
Review Date: 07/22/2002
Enforce Date: Not reported
Close Date: Not reported
Enforcement Type: LET
Responsible Party: MARK LAFFERTY
RP Address: 6001 BOLLINGER CANYON RD
Contact: Not reported
Cross Street: Not reported
Local Agency: 44000
Lead Agency: Regional Board
Staff Initials: TAS
Confirm Leak: Not reported
Workplan: Not reported
Prelim Assess: Not reported
Pollution Char: 10/02/1999
Remedial Plan: Not reported
Remedial Action: Not reported
Monitoring: 03/06/2001
Pilot Program: UST
Interim Action: Not reported
Funding: Not reported
MTBE Class: C
Max MTBE Grnd Wtr: 50
Max MTBE Soil: Not reported
Max MTBE Data: 08/16/2002
MTBE Tested: YES
Lat/Long: 36.96322505 / -121.965521
Soil Qualifier: Not reported
Grnd Wtr Qualifier: <
Mtbe Concentratn: 4
Mtbe Fuel: 1
Org Name: Not reported
Basin Plan: Not reported
Beneficial: Not reported
Priority: Not reported
UST Cleanup Fund ID: Not reported
Suspended: Not reported
Operator: Not reported
Water System: Not reported
Well Name: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site _____ Database(s) _____ EDR ID Number
EPA ID Number

CHEVRON SS #3-2436 (FORMER) (Continued)

S105050810

Distance From Well: 0
Assigned Name: Not reported
Summary: HAZMAT INCIDENT REPORT FILED. NOT FULLY DOWNGRADIENT. MW-13, 14, 15
SAMPLED QUARTERLY AND MW-9, 11, 12 SAMPLED SEMI-ANNUALLY.

12
North
< 1/8
0.081 mi.
429 ft.

890 38TH AVE
SANTA CRUZ, CA 95062

EDR US Hist Cleaners **S1015103302**
N/A

Relative:
Higher

EDR Historical Cleaners:

Name: JASMIN CARPET CLEANING
Year: 2007
Address: 890 38TH AVE

Actual:
48 ft.

Name: JASMIN CARPET CLEANING
Year: 2008
Address: 890 38TH AVE

Name: JASMIN CARPET CLEANING
Year: 2009
Address: 890 38TH AVE

C13
East
< 1/8
0.105 mi.
557 ft.

OPAL CLIFFS AUTO CENTER
4001 PORTOLA DR
SANTA CRUZ, CA 95062

CA FID UST **S101625342**
SWEEPS UST **N/A**

Site 1 of 4 in cluster C

Relative:
Higher

CA FID UST:

Facility ID: 44000711
Regulated By: UTNKA
Regulated ID: 00035606
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 4084750284
Mail To: Not reported
Mailing Address: 955 HIGH ST
Mailing Address 2: Not reported
Mailing City,St,Zip: SANTA CRUZ 95062
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

Actual:
50 ft.

SWEEPS UST:

Status: Not reported
Comp Number: 35606
Number: Not reported
Board Of Equalization: 44-034501
Referral Date: Not reported
Action Date: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number
EPA ID Number

OPAL CLIFFS AUTO CENTER (Continued)

S101625342

Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 44-000-035606-000001
Actv Date: Not reported
Capacity: 550
Tank Use: M.V. FUEL
Stg: PRODUCT
Content: REG UNLEADED
Number Of Tanks: 4

Status: Not reported
Comp Number: 35606
Number: Not reported
Board Of Equalization: 44-034501
Referral Date: Not reported
Action Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 44-000-035606-000002
Actv Date: Not reported
Capacity: 550
Tank Use: M.V. FUEL
Stg: PRODUCT
Content: REG UNLEADED
Number Of Tanks: Not reported

Status: Not reported
Comp Number: 35606
Number: Not reported
Board Of Equalization: 44-034501
Referral Date: Not reported
Action Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 44-000-035606-000003
Actv Date: Not reported
Capacity: 2000
Tank Use: M.V. FUEL
Stg: PRODUCT
Content: REG UNLEADED
Number Of Tanks: Not reported

Status: Not reported
Comp Number: 35606
Number: Not reported
Board Of Equalization: 44-034501
Referral Date: Not reported
Action Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 44-000-035606-000004
Actv Date: Not reported
Capacity: 265

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

OPAL CLIFFS AUTO CENTER (Continued)

S101625342

Tank Use: OIL
Stg: WASTE
Content: WASTE OIL
Number Of Tanks: Not reported

Status: Active
Comp Number: 35606
Number: 3
Board Of Equalization: 44-034501
Referral Date: 07-21-92
Action Date: 09-29-92
Created Date: 12-31-88
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: Not reported
Actv Date: Not reported
Capacity: Not reported
Tank Use: Not reported
Stg: Not reported
Content: Not reported
Number Of Tanks: Not reported

**C14
East
< 1/8
0.105 mi.
557 ft.**

**OPAL CLIFFS AUTO CENTER
4001 PORTOLA DR
SANTA CRUZ, CA 95062
Site 2 of 4 in cluster C**

**HIST CORTESE U001602032
LUST N/A
HIST UST
CUPA Listings**

**Relative:
Higher**

CORTESE:
Region: CORTESE
Facility County Code: 44
Reg By: LTNKA
Reg Id: 2219

**Actual:
50 ft.**

LUST:

Region: STATE
Global Id: T0608700040
Latitude: 36.9636047819141
Longitude: -121.965065002441
Case Type: LUST Cleanup Site
Status: Open - Remediation
Status Date: 02/11/2011
Lead Agency: CENTRAL COAST RWQCB (REGION 3)
Case Worker: TAS
Local Agency: SANTA CRUZ COUNTY LOP
RB Case Number: 2219
LOC Case Number: Not reported
File Location: Regional Board
Potential Media Affect: Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern: Gasoline
Site History: Cleanup and Abatement Order - Groundwater Monitoring and Sampling suspended until 1Q 2010 due to funding issues. Reduced to semiannual monitoring beginning with first quarter 2010 - 9/15/2009

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id: T0608700040

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

OPAL CLIFFS AUTO CENTER (Continued)

U001602032

Contact Type: Local Agency Caseworker
Contact Name: SCOTT CARSON
Organization Name: SANTA CRUZ COUNTY LOP
Address: 701 Ocean Street, Room 312
City: SANTA CRUZ
Email: scott.carson@co.santa-cruz.ca.us
Phone Number: Not reported

Global Id: T0608700040
Contact Type: Regional Board Caseworker
Contact Name: TOM SAYLES
Organization Name: CENTRAL COAST RWQCB (REGION 3)
Address: 895 AEROVISTA PL, SUITE 101
City: SAN LUIS OBISPO
Email: tsayles@waterboards.ca.gov
Phone Number: Not reported

Status History:

Global Id: T0608700040
Status: Open - Assessment & Interim Remedial Action
Status Date: 02/08/2010

Global Id: T0608700040
Status: Open - Case Begin Date
Status Date: 08/26/1992

Global Id: T0608700040
Status: Open - Remediation
Status Date: 04/29/2004

Global Id: T0608700040
Status: Open - Remediation
Status Date: 02/08/2010

Global Id: T0608700040
Status: Open - Remediation
Status Date: 02/11/2011

Global Id: T0608700040
Status: Open - Site Assessment
Status Date: 04/22/1994

Global Id: T0608700040
Status: Open - Site Assessment
Status Date: 08/22/2007

Global Id: T0608700040
Status: Open - Verification Monitoring
Status Date: 04/17/2001

Regulatory Activities:

Global Id: T0608700040
Action Type: ENFORCEMENT
Date: 11/12/2003
Action: 13267 Requirement

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)
EDR ID Number
EPA ID Number

OPAL CLIFFS AUTO CENTER (Continued)

U001602032

Global Id:	T0608700040
Action Type:	ENFORCEMENT
Date:	08/23/2002
Action:	13267 Requirement
Global Id:	T0608700040
Action Type:	ENFORCEMENT
Date:	09/18/2008
Action:	Letter - Notice
Global Id:	T0608700040
Action Type:	RESPONSE
Date:	07/20/2008
Action:	Monitoring Report - Quarterly
Global Id:	T0608700040
Action Type:	RESPONSE
Date:	01/20/2004
Action:	Monitoring Report - Quarterly
Global Id:	T0608700040
Action Type:	RESPONSE
Date:	04/20/2003
Action:	Monitoring Report - Quarterly
Global Id:	T0608700040
Action Type:	REMEDIATION
Date:	01/01/1950
Action:	Other (Use Description Field)
Global Id:	T0608700040
Action Type:	RESPONSE
Date:	01/20/2007
Action:	Monitoring Report - Quarterly
Global Id:	T0608700040
Action Type:	RESPONSE
Date:	04/30/2008
Action:	Soil and Water Investigation Report
Global Id:	T0608700040
Action Type:	RESPONSE
Date:	10/20/2007
Action:	Monitoring Report - Quarterly
Global Id:	T0608700040
Action Type:	ENFORCEMENT
Date:	11/06/1997
Action:	13267 Monitoring Program
Global Id:	T0608700040
Action Type:	ENFORCEMENT
Date:	04/29/2002
Action:	13267 Requirement
Global Id:	T0608700040
Action Type:	ENFORCEMENT

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

OPAL CLIFFS AUTO CENTER (Continued)

U001602032

Date:	09/02/2008
Action:	13267 Monitoring Program
Global Id:	T0608700040
Action Type:	ENFORCEMENT
Date:	05/06/2011
Action:	Staff Letter
Global Id:	T0608700040
Action Type:	RESPONSE
Date:	04/20/2010
Action:	Monitoring Report - Semi-Annually
Global Id:	T0608700040
Action Type:	RESPONSE
Date:	04/20/2008
Action:	Monitoring Report - Quarterly
Global Id:	T0608700040
Action Type:	RESPONSE
Date:	10/20/2005
Action:	Monitoring Report - Quarterly
Global Id:	T0608700040
Action Type:	RESPONSE
Date:	10/20/2005
Action:	Well Installation Report
Global Id:	T0608700040
Action Type:	Other
Date:	01/01/1950
Action:	Leak Reported
Global Id:	T0608700040
Action Type:	RESPONSE
Date:	07/20/2003
Action:	Monitoring Report - Quarterly
Global Id:	T0608700040
Action Type:	RESPONSE
Date:	04/20/2003
Action:	Well Installation Report
Global Id:	T0608700040
Action Type:	RESPONSE
Date:	01/23/2009
Action:	Monitoring Report - Quarterly
Global Id:	T0608700040
Action Type:	RESPONSE
Date:	04/20/2009
Action:	Monitoring Report - Quarterly
Global Id:	T0608700040
Action Type:	RESPONSE
Date:	10/20/2003
Action:	Monitoring Report - Quarterly

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

OPAL CLIFFS AUTO CENTER (Continued)

U001602032

Global Id:	T0608700040
Action Type:	RESPONSE
Date:	10/20/2010
Action:	Monitoring Report - Semi-Annually
Global Id:	T0608700040
Action Type:	REMEDIATION
Date:	01/01/1950
Action:	In Situ Physical/Chemical Treatment (other than SVE)
Global Id:	T0608700040
Action Type:	REMEDIATION
Date:	01/01/1950
Action:	Soil Vapor Extraction (SVE)
Global Id:	T0608700040
Action Type:	RESPONSE
Date:	05/30/2012
Action:	Pilot Study/ Treatability Report
Global Id:	T0608700040
Action Type:	RESPONSE
Date:	07/20/2011
Action:	Remedial Progress Report
Global Id:	T0608700040
Action Type:	RESPONSE
Date:	09/30/2008
Action:	Pilot Study / Treatability Workplan
Global Id:	T0608700040
Action Type:	ENFORCEMENT
Date:	08/09/2006
Action:	Clean-up and Abatement Order - #RB3-2006-0081
Global Id:	T0608700040
Action Type:	RESPONSE
Date:	07/20/2007
Action:	Monitoring Report - Quarterly
Global Id:	T0608700040
Action Type:	RESPONSE
Date:	01/20/2003
Action:	Monitoring Report - Quarterly
Global Id:	T0608700040
Action Type:	RESPONSE
Date:	10/20/2006
Action:	Monitoring Report - Quarterly
Global Id:	T0608700040
Action Type:	REMEDIATION
Date:	01/01/1950
Action:	Monitored Natural Attenuation
Global Id:	T0608700040
Action Type:	RESPONSE

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number
EPA ID Number

OPAL CLIFFS AUTO CENTER (Continued)

U001602032

Date: 01/25/2007
Action: Other Report / Document

Global Id: T0608700040
Action Type: RESPONSE
Date: 11/30/2010
Action: Pilot Study/ Treatability Report

Global Id: T0608700040
Action Type: RESPONSE
Date: 04/20/2005
Action: Monitoring Report - Quarterly

Global Id: T0608700040
Action Type: ENFORCEMENT
Date: 06/20/2008
Action: 13267 Requirement

Global Id: T0608700040
Action Type: ENFORCEMENT
Date: 11/27/2006
Action: Technical Correspondence / Assistance / Other

Global Id: T0608700040
Action Type: ENFORCEMENT
Date: 10/22/2008
Action: 13267 Requirement

Global Id: T0608700040
Action Type: RESPONSE
Date: 01/31/2011
Action: CAP/RAP - Other Report - Regulator Responded

Global Id: T0608700040
Action Type: RESPONSE
Date: 01/20/2008
Action: Monitoring Report - Quarterly

Global Id: T0608700040
Action Type: RESPONSE
Date: 01/20/2008
Action: Monitoring Report - Quarterly

Global Id: T0608700040
Action Type: RESPONSE
Date: 07/20/2013
Action: Monitoring Report - Annually

Global Id: T0608700040
Action Type: RESPONSE
Date: 07/20/2012
Action: Monitoring Report - Annually

Global Id: T0608700040
Action Type: RESPONSE
Date: 08/04/2008
Action: Clean Up Fund - 5-Year Review Summary

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

OPAL CLIFFS AUTO CENTER (Continued)

U001602032

Global Id:	T0608700040
Action Type:	RESPONSE
Date:	09/22/1992
Action:	Unauthorized Release Form
Global Id:	T0608700040
Action Type:	RESPONSE
Date:	05/11/2010
Action:	Clean Up Fund - 5-Year Review Summary
Global Id:	T0608700040
Action Type:	RESPONSE
Date:	10/04/2012
Action:	Correspondence
Global Id:	T0608700040
Action Type:	RESPONSE
Date:	04/20/2004
Action:	Monitoring Report - Quarterly
Global Id:	T0608700040
Action Type:	RESPONSE
Date:	10/20/2004
Action:	Monitoring Report - Quarterly
Global Id:	T0608700040
Action Type:	RESPONSE
Date:	10/01/2008
Action:	Pilot Study/ Treatability Report
Global Id:	T0608700040
Action Type:	ENFORCEMENT
Date:	08/09/2006
Action:	13267 Monitoring Program
Global Id:	T0608700040
Action Type:	ENFORCEMENT
Date:	02/11/2010
Action:	13267 Requirement
Global Id:	T0608700040
Action Type:	ENFORCEMENT
Date:	12/09/2008
Action:	Staff Letter
Global Id:	T0608700040
Action Type:	ENFORCEMENT
Date:	07/07/2009
Action:	Technical Correspondence / Assistance / Other
Global Id:	T0608700040
Action Type:	ENFORCEMENT
Date:	02/11/2011
Action:	13267 Requirement
Global Id:	T0608700040
Action Type:	Other

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number
EPA ID Number

OPAL CLIFFS AUTO CENTER (Continued)

U001602032

Date: 01/01/1950
Action: Leak Discovery

Global Id: T0608700040
Action Type: RESPONSE
Date: 07/20/2004
Action: Monitoring Report - Quarterly

Global Id: T0608700040
Action Type: RESPONSE
Date: 07/20/2009
Action: Monitoring Report - Quarterly

Global Id: T0608700040
Action Type: RESPONSE
Date: 10/20/2002
Action: Monitoring Report - Quarterly

Global Id: T0608700040
Action Type: RESPONSE
Date: 06/14/2002
Action: Corrective Action Plan / Remedial Action Plan

Global Id: T0608700040
Action Type: RESPONSE
Date: 10/20/2002
Action: Other Report / Document

Global Id: T0608700040
Action Type: RESPONSE
Date: 05/20/2006
Action: Monitoring Report - Quarterly

Global Id: T0608700040
Action Type: RESPONSE
Date: 04/20/2007
Action: Monitoring Report - Quarterly

Global Id: T0608700040
Action Type: RESPONSE
Date: 01/25/2007
Action: Soil and Water Investigation Report

Global Id: T0608700040
Action Type: RESPONSE
Date: 10/20/2006
Action: Monitoring Report - Quarterly

Global Id: T0608700040
Action Type: RESPONSE
Date: 01/20/2007
Action: Monitoring Report - Quarterly

Global Id: T0608700040
Action Type: RESPONSE
Date: 07/20/2007
Action: Monitoring Report - Quarterly

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number
EPA ID Number

OPAL CLIFFS AUTO CENTER (Continued)

U001602032

Global Id: T0608700040
Action Type: RESPONSE
Date: 10/20/2008
Action: Monitoring Report - Quarterly

HIST UST:

Region: STATE
Facility ID: 00000035606
Facility Type: Gas Station
Other Type: Not reported
Total Tanks: 0003
Contact Name: RAY MCELMURRY
Telephone: 4084750284
Owner Name: ROBERT N. RUDOLPH
Owner Address: 955 HIGH ST.
Owner City,St,Zip: SANTA CRUZ, CA 95060

Tank Num: 001
Container Num: 1
Year Installed: Not reported
Tank Capacity: 00000550
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Tank Construction: Not reported
Leak Detection: Stock Inventor

Tank Num: 002
Container Num: 2
Year Installed: Not reported
Tank Capacity: 00000550
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Tank Construction: Not reported
Leak Detection: Stock Inventor

Tank Num: 003
Container Num: 3
Year Installed: Not reported
Tank Capacity: 00002000
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Tank Construction: Not reported
Leak Detection: Stock Inventor

CUPA SANTA CRUZ:

Facility Id: FA0002678
Region: SANTA CRUZ
Cross Street: 41ST AVE
Description: HAZARDOUS WASTE GENERATOR (HMMP STD FORM)

Facility Id: FA0002678
Region: SANTA CRUZ
Cross Street: 41ST AVE
Description: HMMP STANDARD FORM FILING FEE

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number
EPA ID Number

C15 **OPAL CLIFFS AUTO**
East **4001 PORTOLA DR**
< 1/8 **SANTA CRUZ, CA 95065**
0.105 mi.
557 ft. **Site 3 of 4 in cluster C**

LUST **S105034635**
N/A

Relative:
Higher

Actual:
50 ft.

LUST REG 3:
Region: 3
Regional Board: Central Coast Region
Facility County: Santa Cruz
Global ID: T0608700040
Status: Post remedial action monitoring
Case Number: 2219
Local Case Num: Not reported
Case Type: O
Substance: Gasoline
Quantity: Not reported
Abatement Method: U
Leak Source: Tank
Leak Cause: UNK
How Stopped: Not reported
How Discovered: Tank Closure
Release Date: 09/22/1992
Discovered Date: 8/26/92
Enter Date: 08/25/1992
Stop Date: Not reported
Review Date: 07/31/2002
Enforce Date: Not reported
Close Date: Not reported
Enforcement Type: LET
Responsible Party: ROBERT RUDOLPH
RP Address: 955 HIGH ST
Contact: Not reported
Cross Street: Not reported
Local Agency: 44000
Lead Agency: Regional Board
Staff Initials: TAS
Confirm Leak: Not reported
Workplan: Not reported
Prelim Assess: Not reported
Pollution Char: 04/22/1994
Remedial Plan: Not reported
Remedial Action: Not reported
Monitoring: 04/17/2001
Pilot Program: UST
Interim Action: 0
Funding: Not reported
MTBE Class: B
Max MTBE Grnd Wtr: 500
Max MTBE Soil: Not reported
Max MTBE Data: 02/01/2002
MTBE Tested: YES
Lat/Long: 36.96354243 / -121.965244
Soil Qualifier: Not reported
Grnd Wtr Qualifier: <
Mtbe Concentratn: 8
Mtbe Fuel: 1
Org Name: Not reported
Basin Plan: 4.11

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number
EPA ID Number

OPAL CLIFFS AUTO (Continued)

S105034635

Beneficial: Not reported
Priority: Not reported
UST Cleanup Fund ID: Not reported
Suspended: Not reported
Operator: Not reported
Water System: Not reported
Well Name: Not reported
Distance From Well: 0
Assigned Name: Not reported
Summary: VES PROPOSED FOR SOIL CLEANUP, GW NOT YET CHARACTERIZED, WAITING FOR
DESIGNS FOR OZONE SPARGING CAP. UST REMOVED 1992. DESIGNS FOR OZONE
SYSTEM DUE 12/1/02.

C16
East
< 1/8
0.105 mi.
557 ft.

4001 PORTOLA DR
SANTA CRUZ, CA 95062

Site 4 of 4 in cluster C

EDR US Hist Auto Stat 1015469713
N/A

Relative:
Higher

EDR Historical Auto Stations:

Actual:
50 ft.

Name: OPAL CLIFFS AUTO CENTER
Year: 1999
Address: 4001 PORTOLA DR

Name: OPAL CLIFFS AUTO CTR
Year: 2001
Address: 4001 PORTOLA DR

Name: OPAL CLIFFS AUTO CTR
Year: 2003
Address: 4001 PORTOLA DR

Name: OPAL CLIFFS AUTO CTR
Year: 2004
Address: 4001 PORTOLA DR

Name: OPAL CLIFFS AUTO CENTER
Year: 2005
Address: 4001 PORTOLA DR

Name: OPAL CLIFFS AUTO CENTER INC
Year: 2006
Address: 4001 PORTOLA DR

Name: OPAL CLIFFS AUTO CENTER
Year: 2007
Address: 4001 PORTOLA DR

Name: OPAL CLIFFS AUTO CENTER
Year: 2008
Address: 4001 PORTOLA DR

Name: OPAL CLIFFS AUTO CENTER
Year: 2009
Address: 4001 PORTOLA DR

Name: OPAL CLIFFS AUTO CTR
Year: 2010

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

(Continued)

1015469713

Address: 4001 PORTOLA DR

D17
West
< 1/8
0.123 mi.
650 ft.

3505 PORTOLA DR
SANTA CRUZ, CA 95062

EDR US Hist Auto Stat 1015443183
N/A

Site 1 of 2 in cluster D

Relative:
Lower

EDR Historical Auto Stations:

Actual:
43 ft.

Name: GLENN P DAVIS AUTO REPAIR
Year: 2001

Address: 3505 PORTOLA DR

Name: GLENN P DAVIS AUTO REPAIR
Year: 2003

Address: 3505 PORTOLA DR

Name: GLENN P DAVIS AUTO REPAIR
Year: 2004

Address: 3505 PORTOLA DR

Name: GLENN P DAVIS AUTO REPAIR
Year: 2005

Address: 3505 PORTOLA DR

Name: GLENN P DAVIS AUTO REPAIR
Year: 2006

Address: 3505 PORTOLA DR

Name: GLENN P DAVIS AUTO REPAIR
Year: 2007

Address: 3505 PORTOLA DR

Name: GLENN P DAVIS AUTO REPAIR
Year: 2008

Address: 3505 PORTOLA DR

Name: GLENN P DAVIS AUTO REPAIR
Year: 2009

Address: 3505 PORTOLA DR

Name: GLENN P DAVIS AUTO REPAIR
Year: 2010

Address: 3505 PORTOLA DR

Name: GLENN P DAVIS AUTO REPAIR
Year: 2012

Address: 3505 PORTOLA DR

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site Database(s) EDR ID Number
EPA ID Number

D18 **GLENN P DAVIS AUTO REPAIR** **CUPA Listings** **S110743278**
West **3505 PORTOLA DR #B** **N/A**
< 1/8 **SANTA CRUZ, CA 95062**
0.123 mi.
650 ft. **Site 2 of 2 in cluster D**

Relative: CUPA SANTA CRUZ:
Lower Facility Id: FA0003819
Region: SANTA CRUZ
Actual: Cross Street: 35TH AVE
43 ft. Description: HAZARDOUS WASTE GENERATOR (HMMP SHORT FORM)
Facility Id: FA0003819
Region: SANTA CRUZ
Cross Street: 35TH AVE
Description: HMMP SHORT FORM BASE FEE

19 **EDR US Hist Auto Stat** **1015443052**
West **3503 PORTOLA DR** **N/A**
1/8-1/4 **SANTA CRUZ, CA 95062**
0.151 mi.
798 ft.

Relative: EDR Historical Auto Stations:
Lower Name: FULL METAL JACKET AUTOMOTIVE
Year: 1999
Actual: Address: 3503 PORTOLA DR
39 ft.

20 **EDR US Hist Auto Stat** **1015484463**
ESE **4180 COURT DR** **N/A**
1/8-1/4 **SANTA CRUZ, CA 95062**
0.173 mi.
915 ft.

Relative: EDR Historical Auto Stations:
Higher Name: ONLINE AUTOMOTIVE
Year: 2002
Actual: Address: 4180 COURT DR
48 ft.

E21 **HIST CORTESE** **S101309577**
West **EMILE'S SPORTS CAR PERFORMANCE INC** **LUST** **N/A**
1/8-1/4 **3501 PORTOLA DR** **CUPA Listings**
0.179 mi. **SANTA CRUZ, CA 95062**
947 ft. **Site 1 of 2 in cluster E**

Relative: CORTESE:
Lower Region: CORTESE
Facility County Code: 44
Actual: Reg By: LTNKA
35 ft. Reg Id: 2323
LUST:
Region: STATE
Global Id: T0608700051
Latitude: 36.963903
Longitude: -121.969967

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number
EPA ID Number

EMILE'S SPORTS CAR PERFORMANCE INC (Continued)

S101309577

Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 05/22/2000
Lead Agency: CENTRAL COAST RWQCB (REGION 3)
Case Worker: TAS
Local Agency: SANTA CRUZ COUNTY LOP
RB Case Number: 2323
LOC Case Number: Not reported
File Location: State Records Center
Potential Media Affect: Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern: Gasoline
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id: T0608700051
Contact Type: Regional Board Caseworker
Contact Name: TOM SAYLES
Organization Name: CENTRAL COAST RWQCB (REGION 3)
Address: 895 AEROVISTA PL, SUITE 101
City: SAN LUIS OBISPO
Email: tsayles@waterboards.ca.gov
Phone Number: Not reported

Global Id: T0608700051
Contact Type: Local Agency Caseworker
Contact Name: UST CASE WORKER
Organization Name: SANTA CRUZ COUNTY LOP
Address: Not reported
City: SANTA CRUZ
Email: Not reported
Phone Number: Not reported

Status History:

Global Id: T0608700051
Status: Completed - Case Closed
Status Date: 05/22/2000

Global Id: T0608700051
Status: Open - Case Begin Date
Status Date: 02/20/1991

Global Id: T0608700051
Status: Open - Site Assessment
Status Date: 02/24/1993

Regulatory Activities:

Global Id: T0608700051
Action Type: Other
Date: 01/01/1950
Action: Leak Reported

Global Id: T0608700051
Action Type: ENFORCEMENT
Date: 06/05/2000
Action: Closure/No Further Action Letter

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number
EPA ID Number

EMILE'S SPORTS CAR PERFORMANCE INC (Continued)

S101309577

Global Id: T0608700051
Action Type: ENFORCEMENT
Date: 05/22/2000
Action: Closure/No Further Action Letter

Global Id: T0608700051
Action Type: Other
Date: 01/01/1950
Action: Leak Stopped

Global Id: T0608700051
Action Type: Other
Date: 01/01/1950
Action: Leak Discovery

LUST REG 3:

Region: 3
Regional Board: Central Coast Region
Facility County: Santa Cruz
Global ID: T0608700051
Status: Preliminary site assessment underway
Case Number: 2323
Local Case Num: Not reported
Case Type: O
Substance: Gasoline
Quantity: Not reported
Abatement Method: U
Leak Source: Piping
Leak Cause: UNK
How Stopped: Not reported
How Discovered: OM
Release Date: 02/24/1993
Discovered Date: 7/8/91
Enter Date: 03/31/1993
Stop Date: 2/20/91
Review Date: 03/31/1993
Enforce Date: Not reported
Close Date: Not reported
Enforcement Type: Not reported
Responsible Party: ROBERT DETTLE
RP Address: 1101 WATER ST
Contact: Not reported
Cross Street: 35TH AVE
Local Agency: 44000
Lead Agency: Regional Board
Staff Initials: TAS
Confirm Leak: Not reported
Workplan: Not reported
Prelim Assess: 2/24/93
Pollution Char: / /
Remedial Plan: Not reported
Remedial Action: Not reported
Monitoring: / /
Pilot Program: UST
Interim Action: 0
Funding: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number
EPA ID Number

EMILE'S SPORTS CAR PERFORMANCE INC (Continued)

S101309577

MTBE Class: *
Max MTBE Grnd Wtr: Not reported
Max MTBE Soil: Not reported
Max MTBE Data: / /
MTBE Tested: YES
Lat/Long: 36.96380311 / -121.9703154
Soil Qualifier: Not reported
Grnd Wtr Qualifier: Not reported
Mtbe Concentratn: 1
Mtbe Fuel: 1
Org Name: Not reported
Basin Plan: 4.11
Beneficial: Not reported
Priority: 3
UST Cleanup Fund ID: Not reported
Suspended: Not reported
Operator: Not reported
Water System: Not reported
Well Name: Not reported
Distance From Well: 0
Assigned Name: Not reported
Summary: was local lead for many years. After completion of soil and ground water investigation, staff closed the case.

CUPA SANTA CRUZ:

Facility Id: FA0002675
Region: SANTA CRUZ
Cross Street: 38TH ST
Description: HAZARDOUS WASTE GENERATOR (HMMP SHORT FORM)

Facility Id: FA0002675
Region: SANTA CRUZ
Cross Street: 38TH ST
Description: HMMP SHORT FORM BASE FEE

E22
West
1/8-1/4
0.179 mi.
947 ft.

**3501 PORTOLA DR
SANTA CRUZ, CA 95062**

**EDR US Hist Auto Stat 1015442827
N/A**

Site 2 of 2 in cluster E

**Relative:
Lower
Actual:
35 ft.**

EDR Historical Auto Stations:
Name: EMILES SPORTS CAR PERFORMANCE
Year: 2001
Address: 3501 PORTOLA DR

Name: EMILES SPORTS CAR PERFORMANCE
Year: 2004
Address: 3501 PORTOLA DR

Name: EMILES SPORTS CAR PERFORMANCE
Year: 2005
Address: 3501 PORTOLA DR

Name: EMILES SPORTS CAR PERFORMANCE
Year: 2006
Address: 3501 PORTOLA DR

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

(Continued)

1015442827

Name: EMILES SPORTS CAR PERFORMANCE
Year: 2007
Address: 3501 PORTOLA DR

Name: SPORTS CAR PERFORMANCE JAGUAR & LAND
Year: 2008
Address: 3501 PORTOLA DR

Name: SPORTS CAR PERFORMANCE JAGUAR & LAND
Year: 2009
Address: 3501 PORTOLA DR

Name: EMILES SPORTS CAR PERFORMANCE
Year: 2010
Address: 3501 PORTOLA DR

23
South
1/4-1/2
0.279 mi.
1473 ft.

PLEASURE POINT ROADHOUSE PROPERTY
3905 E CLIFF DR
SANTA CRUZ, CA 95062

SLIC S110041770
N/A

Relative:
Lower

Actual:
40 ft.

SLIC:
Region: STATE
Facility Status: Completed - Case Closed
Status Date: 12/14/2010
Global Id: T10000001576
Lead Agency: SANTA CRUZ COUNTY LOP
Lead Agency Case Number: Not reported
Latitude: 36.9594084132419
Longitude: -121.966470479965
Case Type: Cleanup Program Site
Case Worker: RC
Local Agency: SANTA CRUZ COUNTY LOP
RB Case Number: Not reported
File Location: Not reported
Potential Media Affected: Not reported
Potential Contaminants of Concern: Not reported
Site History: Local Site Address Recorded As: 2-3905 E Cliff Dr, Santa Cruz, CA 95062

[Click here to access the California GeoTracker records for this facility:](#)

24
NE
1/2-1
0.613 mi.
3236 ft.

OPAL CLIFFS SCHOOL SITE
4400 JADE STREET
CAPITOLA, CA 95010

SCH S108936076
ENVIROSTOR N/A

Relative:
Higher

Actual:
62 ft.

SCH:
Facility ID: 60000752
Site Type: School Investigation
Site Type Detail: School
Site Mgmt. Req.: NONE SPECIFIED
Acres: 1.4

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

OPAL CLIFFS SCHOOL SITE (Continued)

S108936076

National Priorities List: NO
Cleanup Oversight Agencies: SMBRP
Lead Agency: SMBRP
Lead Agency Description: DTSC - Site Cleanup Program
Project Manager: Kamili Siglowide
Supervisor: Mark Malinowski
Division Branch: Northern California Schools & Santa Susana
Site Code: 204210
Assembly: 29
Senate: 17
Special Program Status: Not reported
Status: No Further Action
Status Date: 06/04/2009
Restricted Use: NO
Funding: School District
Latitude: 36.96938
Longitude: -121.9596
APN: 034-551-02
Past Use: AGRICULTURAL - ROW CROPS, RESIDENTIAL AREA
Potential COC: Chlordane, Chlordane, DDD, DDE, DDT, Endrin, Lead, Toxaphene, Dieldrin
Confirmed COC: 30004-NO, 30207-NO, 30023-NO, 30013-NO, 30006-NO, 30007-NO, 30008-NO, 30010-NO, No Contaminants found
Potential Description: SOIL
Alias Name: 034-551-02
Alias Type: APN
Alias Name: 204210
Alias Type: Project Code (Site Code)
Alias Name: 60000752
Alias Type: Envirostor ID Number
Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 06/25/2009
Comments: CRU memo sent to accounting unit to summarize costs associated with the PEA.
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 09/11/2008
Comments: Agreement signed, executed with a copy placed in the file an a copy sent to the Soquel Union Elementary School District.
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 12/04/2007
Comments: DTSC recommended a preliminary environmental assessment to investigate site soils for metals and pesticides.
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Work Plan
Completed Date: 01/21/2009
Comments: DTSC approved the PEA workplan to investigate the site for OCPs and

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

OPAL CLIFFS SCHOOL SITE (Continued)

S108936076

arsenic.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 06/04/2009
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 02/10/2012
Comments: DTSC approved the PEA Addendum with a no further action determination.
Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

ENVIROSTOR:

Site Type: School Investigation
Site Type Detailed: School
Acres: 1.4
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Kamili Siglowide
Supervisor: Mark Malinowski
Division Branch: Northern California Schools & Santa Susana
Facility ID: 60000752
Site Code: 204210
Assembly: 29
Senate: 17
Special Program: Not reported
Status: No Further Action
Status Date: 06/04/2009
Restricted Use: NO
Site Mgmt. Req.: NONE SPECIFIED
Funding: School District
Latitude: 36.96938
Longitude: -121.9596
APN: 034-551-02
Past Use: AGRICULTURAL - ROW CROPS, RESIDENTIAL AREA
Potential COC: Chlordane, Chlordane, DDD, DDE, DDT, Endrin, Lead, Toxaphene, Dieldrin
Confirmed COC: Chlordane, Chlordane, DDD, DDE, DDT, Endrin, Lead, Toxaphene, Dieldrin, 30004-NO, 30207-NO, 30023-NO, 30013-NO, 30006-NO, 30007-NO, 30008-NO, 30010-NO, No Contaminants found
Potential Description: SOIL
Alias Name: 034-551-02
Alias Type: APN

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

OPAL CLIFFS SCHOOL SITE (Continued)

S108936076

Alias Name: 204210
Alias Type: Project Code (Site Code)
Alias Name: 60000752
Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 06/25/2009
Comments: CRU memo sent to accounting unit to summarize costs associated with the PEA.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 09/11/2008
Comments: Agreement signed, executed with a copy placed in the file an a copy sent to the Soquel Union Elementary School District.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 12/04/2007
Comments: DTSC recommended a preliminary environmental assessment to investigate site soils for metals and pesticides.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Work Plan
Completed Date: 01/21/2009
Comments: DTSC approved the PEA workplan to investigate the site for OCPs and arsenic.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 06/04/2009
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 02/10/2012
Comments: DTSC approved the PEA Addendum with a no further action determination.
Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

Count: 5 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CAPITOLA	S110743255	PG&E - OPAL CLIFFS SUBSTATION	41ST AVE	95010	CUPA Listings
CAPITOLA	U003786122	NEW BRIGHTON PUMPING STATION	NEW BRIGHTON STATE BEACH	95010	UST
RIO DEL MAR	S103291443	SCCSD RIO PUMPING STATION	CLIFF DR	95062	HIST CORTESE, LUST
SANTA CRUZ	1010313563	CALIFORNIA DEPARTMENT OF TRANSPORT	HWY 1 AND 17 INTERCHANGE	95062	RCRA-SQG
SANTA CRUZ	S113171128	EAST CLIFF DRIVE CLEANERS	2 1503 E CLIFF DR	95062	HAZNET

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 04/26/2013	Source: EPA
Date Data Arrived at EDR: 05/09/2013	Telephone: N/A
Date Made Active in Reports: 07/10/2013	Last EDR Contact: 10/11/2013
Number of Days to Update: 62	Next Scheduled EDR Contact: 01/20/2014
	Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 10
Telephone 206-553-8665

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 04/26/2013	Source: EPA
Date Data Arrived at EDR: 05/09/2013	Telephone: N/A
Date Made Active in Reports: 07/10/2013	Last EDR Contact: 10/11/2013
Number of Days to Update: 62	Next Scheduled EDR Contact: 01/20/2014
	Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991	Source: EPA
Date Data Arrived at EDR: 02/02/1994	Telephone: 202-564-4267
Date Made Active in Reports: 03/30/1994	Last EDR Contact: 08/15/2011
Number of Days to Update: 56	Next Scheduled EDR Contact: 11/28/2011
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 04/26/2013	Source: EPA
Date Data Arrived at EDR: 05/09/2013	Telephone: N/A
Date Made Active in Reports: 07/10/2013	Last EDR Contact: 10/11/2013
Number of Days to Update: 62	Next Scheduled EDR Contact: 01/20/2014
	Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 04/26/2013	Source: EPA
Date Data Arrived at EDR: 05/29/2013	Telephone: 703-412-9810
Date Made Active in Reports: 08/09/2013	Last EDR Contact: 10/18/2013
Number of Days to Update: 72	Next Scheduled EDR Contact: 12/09/2013
	Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 07/31/2012	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/09/2012	Telephone: 703-603-8704
Date Made Active in Reports: 12/20/2012	Last EDR Contact: 10/11/2013
Number of Days to Update: 72	Next Scheduled EDR Contact: 01/20/2014
	Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 04/26/2013	Source: EPA
Date Data Arrived at EDR: 05/29/2013	Telephone: 703-412-9810
Date Made Active in Reports: 08/09/2013	Last EDR Contact: 10/18/2013
Number of Days to Update: 72	Next Scheduled EDR Contact: 12/09/2013
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 10/02/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/02/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/02/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/02/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/02/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 06/17/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/21/2013	Telephone: 703-603-0695
Date Made Active in Reports: 10/03/2013	Last EDR Contact: 09/10/2013
Number of Days to Update: 104	Next Scheduled EDR Contact: 12/23/2013
	Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 06/17/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/21/2013	Telephone: 703-603-0695
Date Made Active in Reports: 10/03/2013	Last EDR Contact: 09/10/2013
Number of Days to Update: 104	Next Scheduled EDR Contact: 12/23/2013
	Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 08/20/2013	Source: Department of the Navy
Date Data Arrived at EDR: 08/23/2013	Telephone: 843-820-7326
Date Made Active in Reports: 11/01/2013	Last EDR Contact: 08/15/2013
Number of Days to Update: 70	Next Scheduled EDR Contact: 09/02/2013
	Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2012	Source: National Response Center, United States Coast Guard
Date Data Arrived at EDR: 01/17/2013	Telephone: 202-267-2180
Date Made Active in Reports: 02/15/2013	Last EDR Contact: 10/01/2013
Number of Days to Update: 29	Next Scheduled EDR Contact: 01/13/2014
	Data Release Frequency: Annually

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 09/05/2013	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 09/05/2013	Telephone: 916-323-3400
Date Made Active in Reports: 10/10/2013	Last EDR Contact: 11/06/2013
Number of Days to Update: 35	Next Scheduled EDR Contact: 02/17/2014
	Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 09/05/2013	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 09/05/2013	Telephone: 916-323-3400
Date Made Active in Reports: 10/10/2013	Last EDR Contact: 11/06/2013
Number of Days to Update: 35	Next Scheduled EDR Contact: 02/17/2014
	Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inventory of solid waste disposal facilities or landfills. These may be active or inactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 08/19/2013	Source: Department of Resources Recycling and Recovery
Date Data Arrived at EDR: 08/19/2013	Telephone: 916-341-6320
Date Made Active in Reports: 10/08/2013	Last EDR Contact: 08/19/2013
Number of Days to Update: 50	Next Scheduled EDR Contact: 12/02/2013
	Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004	Source: California Regional Water Quality Control Board Los Angeles Region (4)
Date Data Arrived at EDR: 09/07/2004	Telephone: 213-576-6710
Date Made Active in Reports: 10/12/2004	Last EDR Contact: 09/06/2011
Number of Days to Update: 35	Next Scheduled EDR Contact: 12/19/2011
	Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003	Source: California Regional Water Quality Control Board Central Coast Region (3)
Date Data Arrived at EDR: 05/19/2003	Telephone: 805-542-4786
Date Made Active in Reports: 06/02/2003	Last EDR Contact: 07/18/2011
Number of Days to Update: 14	Next Scheduled EDR Contact: 10/31/2011
	Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004	Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Date Data Arrived at EDR: 10/20/2004	Telephone: 510-622-2433
Date Made Active in Reports: 11/19/2004	Last EDR Contact: 09/19/2011
Number of Days to Update: 30	Next Scheduled EDR Contact: 01/02/2012
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003	Source: California Regional Water Quality Control Board Lahontan Region (6)
Date Data Arrived at EDR: 09/10/2003	Telephone: 530-542-5572
Date Made Active in Reports: 10/07/2003	Last EDR Contact: 09/12/2011
Number of Days to Update: 27	Next Scheduled EDR Contact: 12/26/2011
	Data Release Frequency: No Update Planned

LUST: Geotracker's Leaking Underground Fuel Tank Report

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 09/16/2013	Source: State Water Resources Control Board
Date Data Arrived at EDR: 09/17/2013	Telephone: see region list
Date Made Active in Reports: 10/16/2013	Last EDR Contact: 10/17/2013
Number of Days to Update: 29	Next Scheduled EDR Contact: 12/30/2013
	Data Release Frequency: Quarterly

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001	Source: California Regional Water Quality Control Board San Diego Region (9)
Date Data Arrived at EDR: 04/23/2001	Telephone: 858-637-5595
Date Made Active in Reports: 05/21/2001	Last EDR Contact: 09/26/2011
Number of Days to Update: 28	Next Scheduled EDR Contact: 01/09/2012
	Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005	Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Date Data Arrived at EDR: 06/07/2005	Telephone: 760-241-7365
Date Made Active in Reports: 06/29/2005	Last EDR Contact: 09/12/2011
Number of Days to Update: 22	Next Scheduled EDR Contact: 12/26/2011
	Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008	Source: California Regional Water Quality Control Board Central Valley Region (5)
Date Data Arrived at EDR: 07/22/2008	Telephone: 916-464-4834
Date Made Active in Reports: 07/31/2008	Last EDR Contact: 07/01/2011
Number of Days to Update: 9	Next Scheduled EDR Contact: 10/17/2011
	Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005	Source: California Regional Water Quality Control Board Santa Ana Region (8)
Date Data Arrived at EDR: 02/15/2005	Telephone: 909-782-4496
Date Made Active in Reports: 03/28/2005	Last EDR Contact: 08/15/2011
Number of Days to Update: 41	Next Scheduled EDR Contact: 11/28/2011
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC: Statewide SLIC Cases

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/16/2013
Date Data Arrived at EDR: 09/17/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 10/17/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 08/27/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 66

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 08/20/2013
Date Data Arrived at EDR: 08/23/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 70

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 07/29/2013
Date Data Arrived at EDR: 07/30/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 94

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 03/01/2013
Date Data Arrived at EDR: 03/01/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Quarterly

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 08/27/2012
Date Data Arrived at EDR: 08/28/2012
Date Made Active in Reports: 10/16/2012
Number of Days to Update: 49

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 09/12/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 11/11/2011
Number of Days to Update: 59

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 08/01/2013	Source: EPA Region 4
Date Data Arrived at EDR: 08/02/2013	Telephone: 404-562-8677
Date Made Active in Reports: 11/01/2013	Last EDR Contact: 10/28/2013
Number of Days to Update: 91	Next Scheduled EDR Contact: 02/11/2014
	Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/01/2013	Source: EPA Region 1
Date Data Arrived at EDR: 05/01/2013	Telephone: 617-918-1313
Date Made Active in Reports: 11/01/2013	Last EDR Contact: 11/01/2013
Number of Days to Update: 184	Next Scheduled EDR Contact: 02/11/2014
	Data Release Frequency: Varies

State and tribal registered storage tank lists

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 09/16/2013	Source: SWRCB
Date Data Arrived at EDR: 09/17/2013	Telephone: 916-341-5851
Date Made Active in Reports: 10/16/2013	Last EDR Contact: 10/17/2013
Number of Days to Update: 29	Next Scheduled EDR Contact: 12/30/2013
	Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities

A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 08/01/2009	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 09/10/2009	Telephone: 916-327-5092
Date Made Active in Reports: 10/01/2009	Last EDR Contact: 10/07/2013
Number of Days to Update: 21	Next Scheduled EDR Contact: 01/20/2014
	Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 02/05/2013	Source: EPA Region 10
Date Data Arrived at EDR: 02/06/2013	Telephone: 206-553-2857
Date Made Active in Reports: 04/12/2013	Last EDR Contact: 10/28/2013
Number of Days to Update: 65	Next Scheduled EDR Contact: 02/11/2014
	Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 02/21/2013	Source: EPA Region 9
Date Data Arrived at EDR: 02/26/2013	Telephone: 415-972-3368
Date Made Active in Reports: 04/12/2013	Last EDR Contact: 10/28/2013
Number of Days to Update: 45	Next Scheduled EDR Contact: 02/11/2014
	Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 07/29/2013 Source: EPA Region 8
Date Data Arrived at EDR: 08/01/2013 Telephone: 303-312-6137
Date Made Active in Reports: 11/01/2013 Last EDR Contact: 10/28/2013
Number of Days to Update: 92 Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 12/31/2012 Source: EPA Region 7
Date Data Arrived at EDR: 02/28/2013 Telephone: 913-551-7003
Date Made Active in Reports: 04/12/2013 Last EDR Contact: 10/28/2013
Number of Days to Update: 43 Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/10/2011 Source: EPA Region 6
Date Data Arrived at EDR: 05/11/2011 Telephone: 214-665-7591
Date Made Active in Reports: 06/14/2011 Last EDR Contact: 10/28/2013
Number of Days to Update: 34 Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 08/20/2013 Source: EPA Region 5
Date Data Arrived at EDR: 08/23/2013 Telephone: 312-886-6136
Date Made Active in Reports: 11/01/2013 Last EDR Contact: 10/28/2013
Number of Days to Update: 70 Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 08/01/2013 Source: EPA Region 4
Date Data Arrived at EDR: 08/02/2013 Telephone: 404-562-9424
Date Made Active in Reports: 11/01/2013 Last EDR Contact: 10/28/2013
Number of Days to Update: 91 Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 09/28/2012 Source: EPA, Region 1
Date Data Arrived at EDR: 11/07/2012 Telephone: 617-918-1313
Date Made Active in Reports: 04/12/2013 Last EDR Contact: 11/01/2014
Number of Days to Update: 156 Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 10/17/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 09/05/2013
Date Data Arrived at EDR: 09/05/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 35

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/06/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 09/28/2012
Date Data Arrived at EDR: 10/02/2012
Date Made Active in Reports: 10/16/2012
Number of Days to Update: 14

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 10/01/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/24/2013
Date Data Arrived at EDR: 06/25/2013
Date Made Active in Reports: 08/09/2013
Number of Days to Update: 45

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/24/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/09/2004	Telephone: 800-424-9346
Date Made Active in Reports: 09/17/2004	Last EDR Contact: 06/09/2004
Number of Days to Update: 39	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009	Source: EPA, Region 9
Date Data Arrived at EDR: 05/07/2009	Telephone: 415-947-4219
Date Made Active in Reports: 09/21/2009	Last EDR Contact: 10/28/2013
Number of Days to Update: 137	Next Scheduled EDR Contact: 02/11/2014
	Data Release Frequency: No Update Planned

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000	Source: State Water Resources Control Board
Date Data Arrived at EDR: 04/10/2000	Telephone: 916-227-4448
Date Made Active in Reports: 05/10/2000	Last EDR Contact: 08/07/2013
Number of Days to Update: 30	Next Scheduled EDR Contact: 11/25/2013
	Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 09/16/2013	Source: Department of Conservation
Date Data Arrived at EDR: 09/19/2013	Telephone: 916-323-3836
Date Made Active in Reports: 10/17/2013	Last EDR Contact: 09/16/2013
Number of Days to Update: 28	Next Scheduled EDR Contact: 12/30/2013
	Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 04/26/2013	Source: Integrated Waste Management Board
Date Data Arrived at EDR: 04/26/2013	Telephone: 916-341-6422
Date Made Active in Reports: 05/16/2013	Last EDR Contact: 10/01/2013
Number of Days to Update: 20	Next Scheduled EDR Contact: 12/02/2013
	Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/03/2007	Telephone: 703-308-8245
Date Made Active in Reports: 01/24/2008	Last EDR Contact: 11/04/2013
Number of Days to Update: 52	Next Scheduled EDR Contact: 02/17/2014
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 08/06/2013	Source: Drug Enforcement Administration
Date Data Arrived at EDR: 09/11/2013	Telephone: 202-307-1000
Date Made Active in Reports: 10/03/2013	Last EDR Contact: 09/04/2013
Number of Days to Update: 22	Next Scheduled EDR Contact: 12/16/2013
	Data Release Frequency: Quarterly

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005	Source: Department of Toxic Substance Control
Date Data Arrived at EDR: 08/03/2006	Telephone: 916-323-3400
Date Made Active in Reports: 08/24/2006	Last EDR Contact: 02/23/2009
Number of Days to Update: 21	Next Scheduled EDR Contact: 05/25/2009
	Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 09/05/2013	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 09/05/2013	Telephone: 916-323-3400
Date Made Active in Reports: 10/10/2013	Last EDR Contact: 11/06/2013
Number of Days to Update: 35	Next Scheduled EDR Contact: 02/17/2014
	Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995	Source: State Water Resources Control Board
Date Data Arrived at EDR: 08/30/1995	Telephone: 916-227-4364
Date Made Active in Reports: 09/26/1995	Last EDR Contact: 01/26/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 04/27/2009
	Data Release Frequency: No Update Planned

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 06/30/2013	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 09/03/2013	Telephone: 916-255-6504
Date Made Active in Reports: 10/10/2013	Last EDR Contact: 09/03/2013
Number of Days to Update: 37	Next Scheduled EDR Contact: 01/13/2014
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/01/2007	Source: Drug Enforcement Administration
Date Data Arrived at EDR: 11/19/2008	Telephone: 202-307-1000
Date Made Active in Reports: 03/30/2009	Last EDR Contact: 03/23/2009
Number of Days to Update: 131	Next Scheduled EDR Contact: 06/22/2009
	Data Release Frequency: No Update Planned

Local Lists of Registered Storage Tanks

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 09/05/1995	Telephone: 916-341-5851
Date Made Active in Reports: 09/29/1995	Last EDR Contact: 12/28/1998
Number of Days to Update: 24	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/23/2009	Source: Department of Public Health
Date Data Arrived at EDR: 09/23/2009	Telephone: 707-463-4466
Date Made Active in Reports: 10/01/2009	Last EDR Contact: 09/03/2013
Number of Days to Update: 8	Next Scheduled EDR Contact: 12/16/2013
	Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990	Source: State Water Resources Control Board
Date Data Arrived at EDR: 01/25/1991	Telephone: 916-341-5851
Date Made Active in Reports: 02/12/1991	Last EDR Contact: 07/26/2001
Number of Days to Update: 18	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994	Source: State Water Resources Control Board
Date Data Arrived at EDR: 07/07/2005	Telephone: N/A
Date Made Active in Reports: 08/11/2005	Last EDR Contact: 06/03/2005
Number of Days to Update: 35	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 02/06/2013
Date Data Arrived at EDR: 04/25/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 11/01/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 06/14/2013
Date Data Arrived at EDR: 06/17/2013
Date Made Active in Reports: 08/21/2013
Number of Days to Update: 65

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 09/11/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 33

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/11/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/27/2013
Number of Days to Update: 55

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 10/01/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Annually

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 03/12/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 06/25/2013
Number of Days to Update: 55

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 10/30/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units.

Date of Government Version: 09/16/2013
Date Data Arrived at EDR: 09/17/2013
Date Made Active in Reports: 10/16/2013
Number of Days to Update: 29

Source: State Water Quality Control Board
Telephone: 866-480-1028
Last EDR Contact: 10/17/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

MCS: Military Cleanup Sites Listing

The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities.

Date of Government Version: 09/16/2013	Source: State Water Resources Control Board
Date Data Arrived at EDR: 09/17/2013	Telephone: 866-480-1028
Date Made Active in Reports: 10/16/2013	Last EDR Contact: 10/17/2013
Number of Days to Update: 29	Next Scheduled EDR Contact: 12/30/2013
	Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012	Source: FirstSearch
Date Data Arrived at EDR: 01/03/2013	Telephone: N/A
Date Made Active in Reports: 02/22/2013	Last EDR Contact: 01/03/2013
Number of Days to Update: 50	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 07/11/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/08/2013	Telephone: (415) 495-8895
Date Made Active in Reports: 09/13/2013	Last EDR Contact: 10/02/2013
Number of Days to Update: 36	Next Scheduled EDR Contact: 01/13/2014
	Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012	Source: Department of Transportation, Office of Pipeline Safety
Date Data Arrived at EDR: 08/07/2012	Telephone: 202-366-4595
Date Made Active in Reports: 09/18/2012	Last EDR Contact: 11/06/2013
Number of Days to Update: 42	Next Scheduled EDR Contact: 02/17/2014
	Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005	Source: USGS
Date Data Arrived at EDR: 11/10/2006	Telephone: 888-275-8747
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 10/18/2013
Number of Days to Update: 62	Next Scheduled EDR Contact: 01/27/2014
	Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2011 Source: U.S. Army Corps of Engineers
Date Data Arrived at EDR: 02/26/2013 Telephone: 202-528-4285
Date Made Active in Reports: 03/13/2013 Last EDR Contact: 09/10/2013
Number of Days to Update: 15 Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2013 Source: Department of Justice, Consent Decree Library
Date Data Arrived at EDR: 08/07/2013 Telephone: Varies
Date Made Active in Reports: 10/03/2013 Last EDR Contact: 09/30/2013
Number of Days to Update: 57 Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 04/26/2013 Source: EPA
Date Data Arrived at EDR: 06/11/2013 Telephone: 703-416-0223
Date Made Active in Reports: 11/01/2013 Last EDR Contact: 09/13/2013
Number of Days to Update: 143 Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010 Source: Department of Energy
Date Data Arrived at EDR: 10/07/2011 Telephone: 505-845-0011
Date Made Active in Reports: 03/01/2012 Last EDR Contact: 05/28/2013
Number of Days to Update: 146 Next Scheduled EDR Contact: 09/09/2013
Data Release Frequency: Varies

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/01/2013 Source: Department of Labor, Mine Safety and Health Administration
Date Data Arrived at EDR: 09/05/2013 Telephone: 303-231-5959
Date Made Active in Reports: 10/03/2013 Last EDR Contact: 09/05/2013
Number of Days to Update: 28 Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2011 Source: EPA
Date Data Arrived at EDR: 07/31/2013 Telephone: 202-566-0250
Date Made Active in Reports: 09/13/2013 Last EDR Contact: 08/30/2013
Number of Days to Update: 44 Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 09/29/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 64

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 09/24/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 07/20/2011
Date Data Arrived at EDR: 11/10/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 61

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 10/09/2014
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/01/2013
Date Data Arrived at EDR: 07/17/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 107

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/18/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/22/2013
Date Data Arrived at EDR: 08/02/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 91

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 09/30/2013
Date Data Arrived at EDR: 10/09/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 23

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 10/09/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 03/08/2013
Date Data Arrived at EDR: 03/21/2013
Date Made Active in Reports: 07/10/2013
Number of Days to Update: 111

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 09/11/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995	Source: EPA
Date Data Arrived at EDR: 07/03/1995	Telephone: 202-564-4104
Date Made Active in Reports: 08/07/1995	Last EDR Contact: 06/02/2008
Number of Days to Update: 35	Next Scheduled EDR Contact: 09/01/2008
	Data Release Frequency: No Update Planned

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g. the fire department) should an accident occur.

Date of Government Version: 05/08/2012	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/25/2012	Telephone: 202-564-8600
Date Made Active in Reports: 07/10/2012	Last EDR Contact: 10/28/2013
Number of Days to Update: 46	Next Scheduled EDR Contact: 02/11/2014
	Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2011	Source: EPA/NTIS
Date Data Arrived at EDR: 02/26/2013	Telephone: 800-424-9346
Date Made Active in Reports: 04/19/2013	Last EDR Contact: 08/26/2013
Number of Days to Update: 52	Next Scheduled EDR Contact: 12/09/2013
	Data Release Frequency: Biennially

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989	Source: Department of Health Services
Date Data Arrived at EDR: 07/27/1994	Telephone: 916-255-2118
Date Made Active in Reports: 08/02/1994	Last EDR Contact: 05/31/1994
Number of Days to Update: 6	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 08/19/2013	Source: State Water Resources Control Board
Date Data Arrived at EDR: 08/19/2013	Telephone: 916-445-9379
Date Made Active in Reports: 10/08/2013	Last EDR Contact: 08/19/2013
Number of Days to Update: 50	Next Scheduled EDR Contact: 12/02/2013
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UIC: UIC Listing

A listing of underground control injection wells.

Date of Government Version: 08/21/2013	Source: Department of Conservation
Date Data Arrived at EDR: 09/17/2013	Telephone: 916-445-2408
Date Made Active in Reports: 10/17/2013	Last EDR Contact: 09/17/2013
Number of Days to Update: 30	Next Scheduled EDR Contact: 12/30/2013
	Data Release Frequency: Varies

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 07/05/2013	Source: CAL EPA/Office of Emergency Information
Date Data Arrived at EDR: 07/05/2013	Telephone: 916-323-3400
Date Made Active in Reports: 08/26/2013	Last EDR Contact: 10/01/2013
Number of Days to Update: 52	Next Scheduled EDR Contact: 01/13/2014
	Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 01/22/2009	Telephone: 916-323-3400
Date Made Active in Reports: 04/08/2009	Last EDR Contact: 01/22/2009
Number of Days to Update: 76	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 10/21/1993	Source: State Water Resources Control Board
Date Data Arrived at EDR: 11/01/1993	Telephone: 916-445-3846
Date Made Active in Reports: 11/19/1993	Last EDR Contact: 09/23/2013
Number of Days to Update: 18	Next Scheduled EDR Contact: 01/08/2014
	Data Release Frequency: No Update Planned

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 09/10/2013	Source: Department of Toxic Substance Control
Date Data Arrived at EDR: 09/11/2013	Telephone: 916-327-4498
Date Made Active in Reports: 10/16/2013	Last EDR Contact: 09/10/2013
Number of Days to Update: 35	Next Scheduled EDR Contact: 12/24/2012
	Data Release Frequency: Annually

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009	Source: Los Angeles Water Quality Control Board
Date Data Arrived at EDR: 07/21/2009	Telephone: 213-576-6726
Date Made Active in Reports: 08/03/2009	Last EDR Contact: 09/30/2013
Number of Days to Update: 13	Next Scheduled EDR Contact: 01/13/2014
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 08/09/2013	Source: State Water Resources Control Board
Date Data Arrived at EDR: 08/13/2013	Telephone: 916-445-9379
Date Made Active in Reports: 10/08/2013	Last EDR Contact: 10/28/2013
Number of Days to Update: 56	Next Scheduled EDR Contact: 02/11/2014
	Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method.

Date of Government Version: 12/31/2012	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 07/16/2013	Telephone: 916-255-1136
Date Made Active in Reports: 08/26/2013	Last EDR Contact: 10/15/2013
Number of Days to Update: 41	Next Scheduled EDR Contact: 01/27/2014
	Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2010	Source: California Air Resources Board
Date Data Arrived at EDR: 06/25/2013	Telephone: 916-322-2990
Date Made Active in Reports: 08/22/2013	Last EDR Contact: 09/27/2013
Number of Days to Update: 58	Next Scheduled EDR Contact: 01/08/2014
	Data Release Frequency: Varies

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005	Source: USGS
Date Data Arrived at EDR: 12/08/2006	Telephone: 202-208-3710
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 10/18/2013
Number of Days to Update: 34	Next Scheduled EDR Contact: 01/27/2014
	Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/09/2011	Telephone: 615-532-8599
Date Made Active in Reports: 05/02/2011	Last EDR Contact: 10/21/2013
Number of Days to Update: 54	Next Scheduled EDR Contact: 02/03/2014
	Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/04/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/15/2013	Telephone: 202-566-1917
Date Made Active in Reports: 05/10/2013	Last EDR Contact: 09/27/2013
Number of Days to Update: 56	Next Scheduled EDR Contact: 12/02/2013
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/19/2011	Telephone: 202-566-0517
Date Made Active in Reports: 01/10/2012	Last EDR Contact: 11/01/2013
Number of Days to Update: 83	Next Scheduled EDR Contact: 02/11/2014
	Data Release Frequency: Varies

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 09/16/2013	Source: Department of Conservation
Date Data Arrived at EDR: 09/19/2013	Telephone: 916-323-3836
Date Made Active in Reports: 10/17/2013	Last EDR Contact: 09/16/2013
Number of Days to Update: 28	Next Scheduled EDR Contact: 12/30/2013
	Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 08/29/2013	Source: Department of Public Health
Date Data Arrived at EDR: 09/13/2013	Telephone: 916-558-1784
Date Made Active in Reports: 10/14/2013	Last EDR Contact: 09/11/2013
Number of Days to Update: 31	Next Scheduled EDR Contact: 12/23/2013
	Data Release Frequency: Varies

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005	Source: Department of Energy
Date Data Arrived at EDR: 08/07/2009	Telephone: 202-586-8719
Date Made Active in Reports: 10/22/2009	Last EDR Contact: 10/15/2013
Number of Days to Update: 76	Next Scheduled EDR Contact: 01/27/2014
	Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 08/17/2010	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/03/2011	Telephone: N/A
Date Made Active in Reports: 03/21/2011	Last EDR Contact: 09/13/2013
Number of Days to Update: 77	Next Scheduled EDR Contact: 12/23/2013
	Data Release Frequency: Varies

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 07/15/2013	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 07/16/2013	Telephone: 916-440-7145
Date Made Active in Reports: 08/12/2013	Last EDR Contact: 10/15/2013
Number of Days to Update: 27	Next Scheduled EDR Contact: 01/27/2014
	Data Release Frequency: Quarterly

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/28/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 44

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/27/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Quarterly

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 08/12/2013
Date Data Arrived at EDR: 08/20/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 49

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 08/15/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 06/30/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 08/27/2013
Number of Days to Update: 19

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 10/25/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 01/29/2013
Date Data Arrived at EDR: 02/14/2013
Date Made Active in Reports: 02/27/2013
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 09/24/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 11/11/2011
Date Data Arrived at EDR: 05/18/2012
Date Made Active in Reports: 05/25/2012
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/16/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 10/18/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: N/A

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 04/15/2013
Date Data Arrived at EDR: 07/03/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 72

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 10/04/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Quarterly

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 01/23/2013
Date Data Arrived at EDR: 01/30/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-5962
Last EDR Contact: 09/30/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 01/23/2013
Date Data Arrived at EDR: 01/30/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-5962
Last EDR Contact: 09/30/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Annually

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 06/30/2013
Date Data Arrived at EDR: 08/13/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR US Hist Auto Stat: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Proprietary Historic Dry Cleaners - Cole

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: N/A
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR US Hist Auto Stat: EDR Proprietary Historic Gas Stations - Cole

Date of Government Version: N/A	Source: N/A
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 07/25/2013	Source: Alameda County Environmental Health Services
Date Data Arrived at EDR: 07/26/2013	Telephone: 510-567-6700
Date Made Active in Reports: 08/09/2013	Last EDR Contact: 09/30/2013
Number of Days to Update: 14	Next Scheduled EDR Contact: 01/13/2014
	Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 07/25/2013	Source: Alameda County Environmental Health Services
Date Data Arrived at EDR: 07/26/2013	Telephone: 510-567-6700
Date Made Active in Reports: 08/20/2013	Last EDR Contact: 09/30/2013
Number of Days to Update: 25	Next Scheduled EDR Contact: 01/13/2014
	Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List

Cupa Facility List

Date of Government Version: 06/20/2013	Source: Amador County Environmental Health
Date Data Arrived at EDR: 06/21/2013	Telephone: 209-223-6439
Date Made Active in Reports: 08/21/2013	Last EDR Contact: 09/10/2013
Number of Days to Update: 61	Next Scheduled EDR Contact: 12/23/2013
	Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing

Cupa facility list.

Date of Government Version: 08/01/2013	Source: Public Health Department
Date Data Arrived at EDR: 08/02/2013	Telephone: 530-538-7149
Date Made Active in Reports: 08/22/2013	Last EDR Contact: 10/09/2013
Number of Days to Update: 20	Next Scheduled EDR Contact: 01/27/2014
	Data Release Frequency: No Update Planned

CALVERAS COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility Listing

Cupa Facility Listing

Date of Government Version: 06/30/2013
Date Data Arrived at EDR: 07/24/2013
Date Made Active in Reports: 08/09/2013
Number of Days to Update: 16

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 09/30/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 06/20/2013
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 08/09/2013
Number of Days to Update: 39

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 10/04/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List

List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 08/20/2013
Date Data Arrived at EDR: 08/23/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 46

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 11/04/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List

Cupa Facility list

Date of Government Version: 01/09/2013
Date Data Arrived at EDR: 01/10/2013
Date Made Active in Reports: 02/25/2013
Number of Days to Update: 46

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 11/04/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 08/20/2013
Date Data Arrived at EDR: 08/23/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 46

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 11/04/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Varies

FRESNO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 06/30/2013
Date Data Arrived at EDR: 07/16/2013
Date Made Active in Reports: 07/24/2013
Number of Days to Update: 8

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 10/09/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Semi-Annually

HUMBOLDT COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 08/09/2013
Date Data Arrived at EDR: 08/09/2013
Date Made Active in Reports: 08/22/2013
Number of Days to Update: 13

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 08/09/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

IMPERIAL COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 07/26/2013
Date Data Arrived at EDR: 08/09/2013
Date Made Active in Reports: 08/22/2013
Number of Days to Update: 13

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 33

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing

Kern County Sites and Tanks Listing.

Date of Government Version: 08/31/2010
Date Data Arrived at EDR: 09/01/2010
Date Made Active in Reports: 09/30/2010
Number of Days to Update: 29

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Quarterly

KINGS COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/22/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 42

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 01/23/2013
Date Data Arrived at EDR: 01/25/2013
Date Made Active in Reports: 02/27/2013
Number of Days to Update: 33

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 10/21/2013
Next Scheduled EDR Contact: 02/03/2014
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: No Update Planned

HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 03/28/2013
Date Data Arrived at EDR: 06/17/2013
Date Made Active in Reports: 08/21/2013
Number of Days to Update: 65

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 10/09/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities

Solid Waste Facilities in Los Angeles County.

Date of Government Version: 07/22/2013
Date Data Arrived at EDR: 07/22/2013
Date Made Active in Reports: 08/26/2013
Number of Days to Update: 35

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 10/22/2013
Next Scheduled EDR Contact: 02/03/2014
Data Release Frequency: Varies

City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/05/2009
Date Data Arrived at EDR: 03/10/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 29

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 07/17/2013
Next Scheduled EDR Contact: 11/04/2013
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/30/2013	Source: Community Health Services
Date Data Arrived at EDR: 02/21/2013	Telephone: 323-890-7806
Date Made Active in Reports: 03/25/2013	Last EDR Contact: 10/21/2013
Number of Days to Update: 32	Next Scheduled EDR Contact: 02/03/2014
	Data Release Frequency: Annually

City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 07/31/2013	Source: City of El Segundo Fire Department
Date Data Arrived at EDR: 08/01/2013	Telephone: 310-524-2236
Date Made Active in Reports: 08/27/2013	Last EDR Contact: 10/21/2013
Number of Days to Update: 26	Next Scheduled EDR Contact: 02/03/2014
	Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/28/2003	Source: City of Long Beach Fire Department
Date Data Arrived at EDR: 10/23/2003	Telephone: 562-570-2563
Date Made Active in Reports: 11/26/2003	Last EDR Contact: 10/28/2013
Number of Days to Update: 34	Next Scheduled EDR Contact: 02/11/2014
	Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Underground storage tank sites located in the city of Torrance.

Date of Government Version: 07/15/2013	Source: City of Torrance Fire Department
Date Data Arrived at EDR: 07/18/2013	Telephone: 310-618-2973
Date Made Active in Reports: 08/20/2013	Last EDR Contact: 10/09/2013
Number of Days to Update: 33	Next Scheduled EDR Contact: 01/27/2014
	Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 09/20/2013	Source: Madera County Environmental Health
Date Data Arrived at EDR: 09/24/2013	Telephone: 559-675-7823
Date Made Active in Reports: 10/18/2013	Last EDR Contact: 08/22/2013
Number of Days to Update: 24	Next Scheduled EDR Contact: 12/09/2013
	Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites

Currently permitted USTs in Marin County.

Date of Government Version: 11/26/2012	Source: Public Works Department Waste Management
Date Data Arrived at EDR: 11/28/2012	Telephone: 415-499-6647
Date Made Active in Reports: 01/21/2013	Last EDR Contact: 10/07/2013
Number of Days to Update: 54	Next Scheduled EDR Contact: 01/20/2014
	Data Release Frequency: Semi-Annually

MERCED COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility List

CUPA facility list.

Date of Government Version: 08/23/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 42

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List

CUPA Facility List

Date of Government Version: 09/04/2013
Date Data Arrived at EDR: 09/05/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 39

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing

CUPA Program listing from the Environmental Health Division.

Date of Government Version: 09/11/2013
Date Data Arrived at EDR: 09/12/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 32

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination

A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 12/05/2011
Date Data Arrived at EDR: 12/06/2011
Date Made Active in Reports: 02/07/2012
Number of Days to Update: 63

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites

Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List

CUPA facility list.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 05/29/2013
Date Data Arrived at EDR: 05/30/2013
Date Made Active in Reports: 07/15/2013
Number of Days to Update: 46

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 11/04/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups

Petroleum and non-petroleum spills.

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/13/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 56

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups

Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/13/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 56

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities

Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/13/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 56

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities

List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 08/22/2013
Date Data Arrived at EDR: 08/22/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 49

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 08/20/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites

Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 07/18/2013
Date Data Arrived at EDR: 07/18/2013
Date Made Active in Reports: 07/24/2013
Number of Days to Update: 6

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Underground Storage Tank Tank List

Underground storage tank sites located in Riverside county.

Date of Government Version: 07/18/2013
Date Data Arrived at EDR: 07/18/2013
Date Made Active in Reports: 08/20/2013
Number of Days to Update: 33

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List

List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 05/03/2013
Date Data Arrived at EDR: 07/08/2013
Date Made Active in Reports: 07/24/2013
Number of Days to Update: 16

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/07/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 05/03/2013
Date Data Arrived at EDR: 07/08/2013
Date Made Active in Reports: 08/23/2013
Number of Days to Update: 46

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/07/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 09/03/2013
Date Data Arrived at EDR: 09/03/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 37

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 08/08/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/23/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 23

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2012
Date Data Arrived at EDR: 11/06/2012
Date Made Active in Reports: 11/30/2012
Number of Days to Update: 24

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversight Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Quarterly

Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010
Date Data Arrived at EDR: 03/10/2011
Date Made Active in Reports: 03/15/2011
Number of Days to Update: 5

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST

A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 09/25/2013
Date Data Arrived at EDR: 09/27/2013
Date Made Active in Reports: 10/18/2013
Number of Days to Update: 21

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List

Cupa Facility List.

Date of Government Version: 08/26/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 44

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

SAN MATEO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Business Inventory

List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 07/02/2013
Date Data Arrived at EDR: 07/05/2013
Date Made Active in Reports: 08/23/2013
Number of Days to Update: 49

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/13/2013
Next Scheduled EDR Contact: 09/30/2013
Data Release Frequency: Annually

Fuel Leak List

A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 09/16/2013
Date Data Arrived at EDR: 09/17/2013
Date Made Active in Reports: 10/16/2013
Number of Days to Update: 29

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/16/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing

CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List

Cupa facility list

Date of Government Version: 09/03/2013
Date Data Arrived at EDR: 09/04/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 36

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report

A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing

A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 09/03/2013
Date Data Arrived at EDR: 09/06/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 38

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 08/14/2013
Date Data Arrived at EDR: 08/16/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 53

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 08/08/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List

CUPA facility listing.

Date of Government Version: 08/22/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 44

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List

Cupa Facility List.

Date of Government Version: 09/09/2013
Date Data Arrived at EDR: 09/10/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 34

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks

A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 09/18/2013
Date Data Arrived at EDR: 09/20/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 27

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/16/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Quarterly

Underground Storage Tanks

Underground storage tank sites located in Solano county.

Date of Government Version: 09/18/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 10/18/2013
Number of Days to Update: 24

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/16/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List

Cupa Facility list

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 07/05/2013
Date Data Arrived at EDR: 07/05/2013
Date Made Active in Reports: 08/21/2013
Number of Days to Update: 47

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 09/30/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites

A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 07/02/2013
Date Data Arrived at EDR: 07/05/2013
Date Made Active in Reports: 08/12/2013
Number of Days to Update: 38

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 09/30/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 33

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Semi-Annually

TUOLUMNE COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 01/14/2013
Date Data Arrived at EDR: 01/16/2013
Date Made Active in Reports: 02/27/2013
Number of Days to Update: 42

Source: Division of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 08/19/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 44

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 08/19/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 10/07/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008	Source: Environmental Health Division
Date Data Arrived at EDR: 06/24/2008	Telephone: 805-654-2813
Date Made Active in Reports: 07/31/2008	Last EDR Contact: 08/19/2013
Number of Days to Update: 37	Next Scheduled EDR Contact: 12/02/2013
	Data Release Frequency: Quarterly

Medical Waste Program List

To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 05/28/2013	Source: Ventura County Resource Management Agency
Date Data Arrived at EDR: 06/24/2013	Telephone: 805-654-2813
Date Made Active in Reports: 08/12/2013	Last EDR Contact: 10/28/2013
Number of Days to Update: 49	Next Scheduled EDR Contact: 02/11/2014
	Data Release Frequency: Quarterly

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 08/29/2013	Source: Environmental Health Division
Date Data Arrived at EDR: 09/18/2013	Telephone: 805-654-2813
Date Made Active in Reports: 10/16/2013	Last EDR Contact: 09/16/2013
Number of Days to Update: 28	Next Scheduled EDR Contact: 12/30/2013
	Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report

Underground storage tank sites located in Yolo county.

Date of Government Version: 06/24/2013	Source: Yolo County Department of Health
Date Data Arrived at EDR: 06/26/2013	Telephone: 530-666-8646
Date Made Active in Reports: 08/20/2013	Last EDR Contact: 09/23/2013
Number of Days to Update: 55	Next Scheduled EDR Contact: 01/08/2014
	Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List

CUPA facility listing for Yuba County.

Date of Government Version: 08/01/2013	Source: Yuba County Environmental Health Department
Date Data Arrived at EDR: 08/05/2013	Telephone: 530-749-7523
Date Made Active in Reports: 08/22/2013	Last EDR Contact: 11/04/2013
Number of Days to Update: 17	Next Scheduled EDR Contact: 02/17/2014
	Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 08/19/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/19/2012
Date Made Active in Reports: 08/28/2012
Number of Days to Update: 40

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 10/18/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/07/2013
Date Made Active in Reports: 09/10/2013
Number of Days to Update: 34

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 11/07/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Annually

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 07/24/2013
Date Made Active in Reports: 08/19/2013
Number of Days to Update: 26

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 10/21/2013
Next Scheduled EDR Contact: 02/03/2014
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 06/21/2013
Date Made Active in Reports: 08/05/2013
Number of Days to Update: 45

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 08/23/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 08/09/2013
Date Made Active in Reports: 09/27/2013
Number of Days to Update: 49

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 09/16/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data

Source: Rextag Strategies Corp.

Telephone: (281) 769-2247

U.S. Electric Transmission and Power Plants Systems Digital GIS Data

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities

Source: Department of Social Services

Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)

Source: United States Geologic Survey

A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

© 2010 Tele Atlas North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

GEOCHECK[®] - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

3800 PORTOLA DRIVE
3800 PORTOLA DRIVE
SANTA CRUZ, CA 95062

TARGET PROPERTY COORDINATES

Latitude (North):	36.9634 - 36° 57' 48.24"
Longitude (West):	121.9673 - 121° 58' 2.28"
Universal Transverse Mercator:	Zone 10
UTM X (Meters):	591933.2
UTM Y (Meters):	4091107.2
Elevation:	47 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	36121-H8 SOQUEL, CA
Most Recent Revision:	1994

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

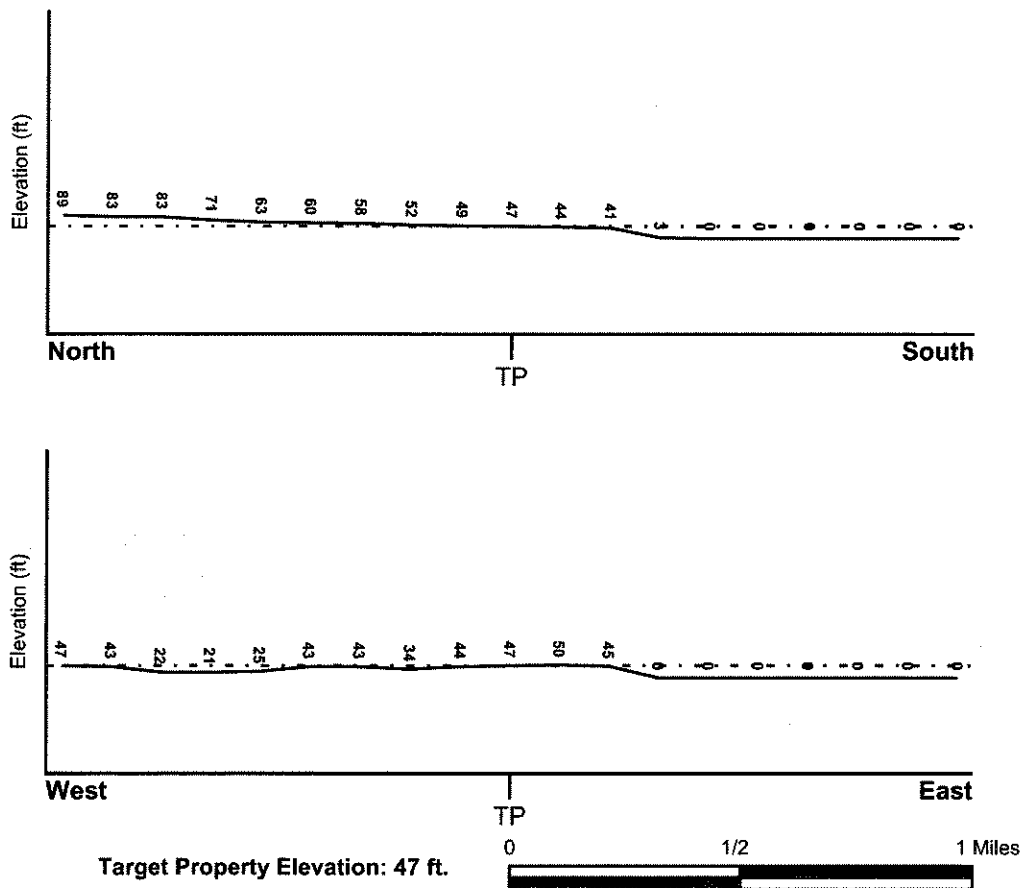
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SSW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County
SANTA CRUZ, CA

FEMA Flood
Electronic Data
YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 06087C - FEMA DFIRM Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property
SOQUEL

NWI Electronic
Data Coverage
YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data:*

Search Radius: 1.25 miles
Status: Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

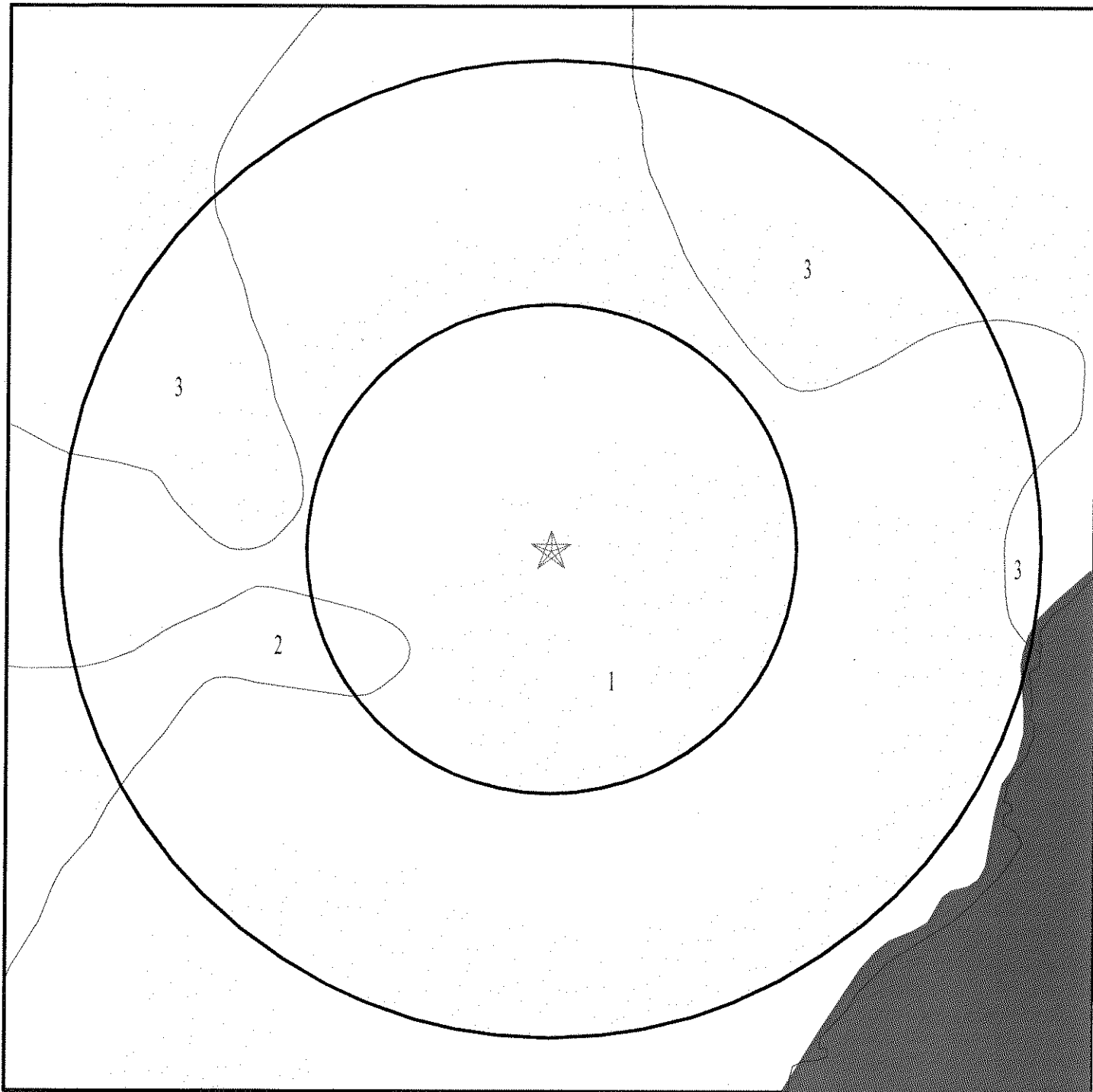
Era:	Cenozoic
System:	Tertiary
Series:	Pliocene
Code:	Tp (decoded above as Era, System & Series)

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 3779737.2s



- ★ Target Property
- ∇ SSURGO Soil
- ∇ Water



SITE NAME: 3800 Portola Drive
ADDRESS: 3800 Portola Drive
Santa Cruz CA 95062
LAT/LONG: 36.9634 / 121.9673

CLIENT: Remediation Risk Management
CONTACT: Cate Townsend
INQUIRY #: 3779737.2s
DATE: November 07, 2013 2:26 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: WATSONVILLE

Soil Surface Texture: loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Somewhat poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 114 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	18 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 7.3 Min: 5.6
2	18 inches	38 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 0.42 Min: 0.01	Max: 8.4 Min: 5.6
3	38 inches	62 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 1.4 Min: 0.42	Max: 8.4 Min: 5.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 2

Soil Component Name: WATSONVILLE

Soil Surface Texture: loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Somewhat poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 114 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	18 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 7.3 Min: 5.6
2	18 inches	38 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 0.42 Min: 0.01	Max: 8.4 Min: 5.6
3	38 inches	62 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 1.4 Min: 0.42	Max: 8.4 Min: 5.6

Soil Map ID: 3

Soil Component Name: ELKHORN

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	20 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 5.6
2	20 inches	61 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 4 Min: 1.4	Max: 7.8 Min: 5.6

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
C10	USGS40000179947	1/4 - 1/2 Mile WSW
D12	USGS40000180030	1/4 - 1/2 Mile NNW
E16	USGS40000180040	1/4 - 1/2 Mile NNE

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
E17	USGS40000180041	1/4 - 1/2 Mile NNE
J30	USGS40000180096	1/2 - 1 Mile North
K31	USGS40000180075	1/2 - 1 Mile NE
J33	USGS40000180101	1/2 - 1 Mile North
K34	USGS40000180074	1/2 - 1 Mile NE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

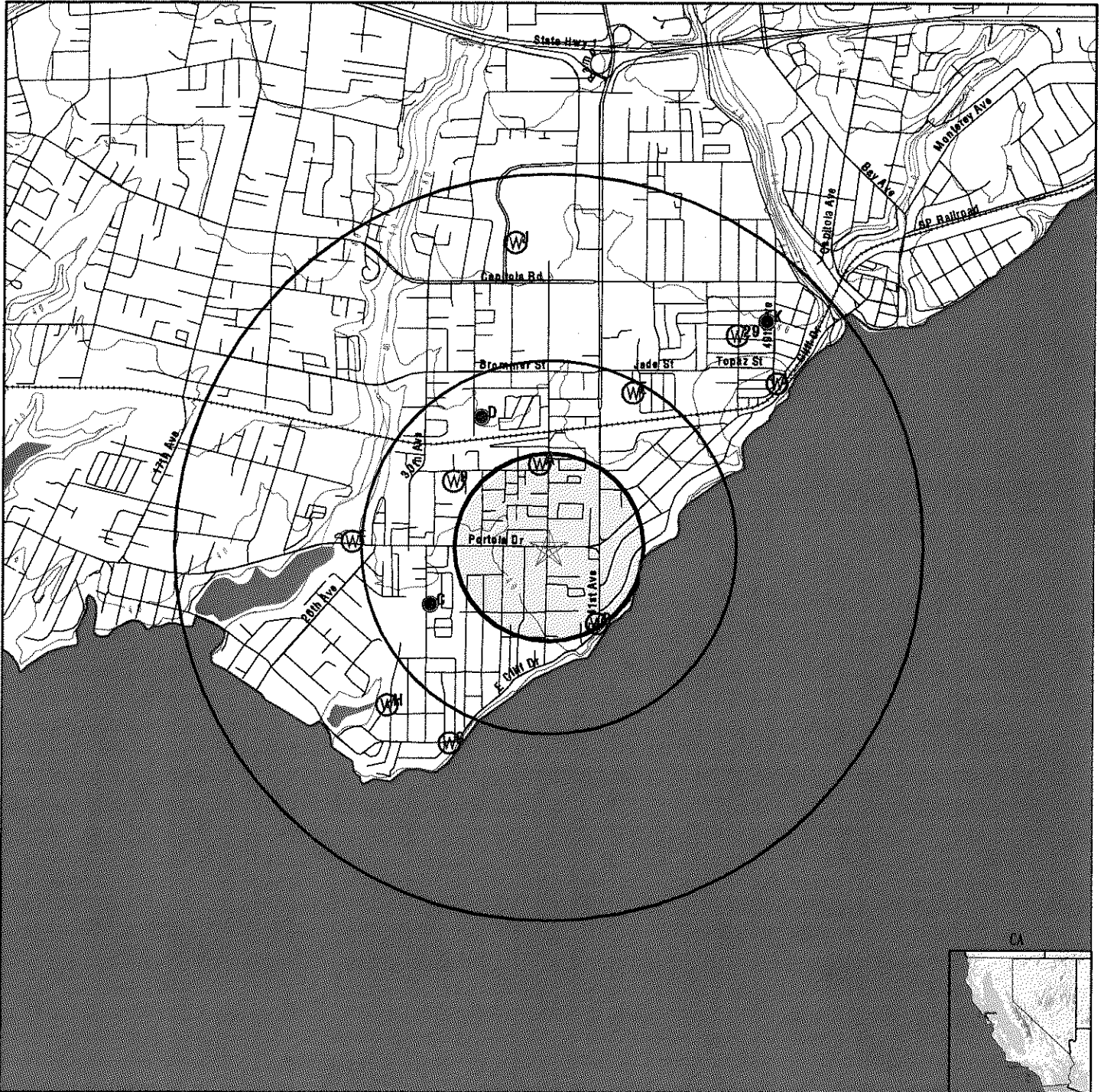
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	10558	1/8 - 1/4 Mile North
A2	10556	1/8 - 1/4 Mile North
A3	10559	1/8 - 1/4 Mile North
A4	22526	1/8 - 1/4 Mile North
A5	10560	1/8 - 1/4 Mile North
B6	CADW50000026091	1/8 - 1/4 Mile SSE
B7	CADW50000026092	1/8 - 1/4 Mile SSE
B8	CADW50000026093	1/8 - 1/4 Mile SSE
9	CADW50000026127	1/4 - 1/2 Mile NW
C11	CADW50000026098	1/4 - 1/2 Mile WSW
D13	CADW50000026170	1/4 - 1/2 Mile NNW
D14	CADW50000026166	1/4 - 1/2 Mile NNW
D15	CADW50000026167	1/4 - 1/2 Mile NNW
F18	CADW50000026117	1/2 - 1 Mile West
F19	CADW50000026118	1/2 - 1 Mile West
F20	CADW50000026119	1/2 - 1 Mile West
G21	CADW50000026066	1/2 - 1 Mile SSW
G22	CADW50000026067	1/2 - 1 Mile SSW
G23	CADW50000026068	1/2 - 1 Mile SSW
H24	CADW50000026076	1/2 - 1 Mile SW
H25	CADW50000026077	1/2 - 1 Mile SW
H26	CADW50000026078	1/2 - 1 Mile SW
I27	CADW50000026181	1/2 - 1 Mile NE
I28	CADW50000026182	1/2 - 1 Mile NE
29	22554	1/2 - 1 Mile NE
K32	CADW50000026202	1/2 - 1 Mile NE

PHYSICAL SETTING SOURCE MAP - 3779737.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME: 3800 Portola Drive
ADDRESS: 3800 Portola Drive
 Santa Cruz CA 95062
LAT/LONG: 36.9634 / 121.9673

CLIENT: Remediation Risk Management
CONTACT: Cate Townsend
INQUIRY #: 3779737.2s
DATE: November 07, 2013 2:26 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

A1
North
 1/8 - 1/4 Mile
 Higher

CA WELLS 10558

Water System Information:

Prime Station Code:	11S/01W-21B02 M	User ID:	HEN
FRDS Number:	4410010006	County:	Santa Cruz
District Number:	05	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	365800.0 1215800.0	Precision:	Undefined
Source Name:	BELTZ WELL 07		
System Number:	4410010		
System Name:	Santa Cruz Water Department		
Organization That Operates System:	809 CENTER STREET, ROOM 102 SANTA CRUZ, CA 95060		
Pop Served:	80000	Connections:	21949
Area Served:	SANTA CRUZ		

A2
North
 1/8 - 1/4 Mile
 Higher

CA WELLS 10556

Water System Information:

Prime Station Code:	11S/01W-16R02 M	User ID:	HEN
FRDS Number:	4410010004	County:	Santa Cruz
District Number:	05	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	365800.0 1215800.0	Precision:	Undefined
Source Name:	BELTZ WELL 04		
System Number:	4410010		
System Name:	Santa Cruz Water Department		
Organization That Operates System:	809 CENTER STREET, ROOM 102 SANTA CRUZ, CA 95060		
Pop Served:	80000	Connections:	21949
Area Served:	SANTA CRUZ		

A3
North
 1/8 - 1/4 Mile
 Higher

CA WELLS 10559

Water System Information:

Prime Station Code:	11S/01W-21G01 M	User ID:	HEN
FRDS Number:	4410010002	County:	Santa Cruz
District Number:	05	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	365800.0 1215800.0	Precision:	Undefined
Source Name:	BELTZ WELL 01		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

System Number: 4410010
 System Name: Santa Cruz Water Department
 Organization That Operates System:
 809 CENTER STREET, ROOM 102
 SANTA CRUZ, CA 95060
 Pop Served: 80000
 Area Served: SANTA CRUZ
 Connections: 21949

A4
North
1/8 - 1/4 Mile
Higher

CA WELLS 22526

Water System Information:

Prime Station Code: E44/010-BELTZTR	User ID: HEN
FRDS Number: 4410010001	County: Santa Cruz
District Number: 05	Station Type: WELL/AMBNT/MUN/INTAKE
Water Type: Well/Groundwater	Well Status: Active Treated
Source Lat/Long: 365800.0 1215800.0	Precision: 1 Mile (One Minute)
Source Name: BELTZ TREATMENT PLANT - TREATED	
System Number: 4410010	
System Name: Santa Cruz Water Department	
Organization That Operates System: 809 CENTER STREET, ROOM 102 SANTA CRUZ, CA 95060	
Pop Served: 80000	Connections: 21949
Area Served: SANTA CRUZ	
Sample Collected: 04/20/2011	Findings: 0.21 NTU
Chemical: TURBIDITY, LABORATORY	
Sample Collected: 05/18/2011	Findings: 5.e-002 NTU
Chemical: TURBIDITY, LABORATORY	
Sample Collected: 06/29/2011	Findings: 7.e-002 NTU
Chemical: TURBIDITY, LABORATORY	
Sample Collected: 07/27/2011	Findings: 2. TON
Chemical: ODOR THRESHOLD @ 60 C	
Sample Collected: 07/27/2011	Findings: 9.e-002 NTU
Chemical: TURBIDITY, LABORATORY	
Sample Collected: 08/23/2011	Findings: 280. UG/L
Chemical: CHLORATE	
Sample Collected: 08/24/2011	Findings: 9.e-002 NTU
Chemical: TURBIDITY, LABORATORY	
Sample Collected: 09/21/2011	Findings: 0.11 NTU
Chemical: TURBIDITY, LABORATORY	
Sample Collected: 10/04/2011	Findings: 0.613 PCI/L
Chemical: GROSS ALPHA COUNTING ERROR	
Sample Collected: 10/04/2011	Findings: 19.3 C
Chemical: SOURCE TEMPERATURE C	
Sample Collected: 10/04/2011	Findings: 1. UNITS
Chemical: COLOR	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	10/04/2011	Findings:	745. US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	10/04/2011	Findings:	7.9
Chemical:	PH, LABORATORY		
Sample Collected:	10/04/2011	Findings:	152. MG/L
Chemical:	ALKALINITY (TOTAL) AS CaCO ₃		
Sample Collected:	10/04/2011	Findings:	152. MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	10/04/2011	Findings:	254. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO ₃		
Sample Collected:	10/04/2011	Findings:	62. MG/L
Chemical:	CHLORIDE		
Sample Collected:	10/04/2011	Findings:	513. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	10/04/2011	Findings:	9.e-002 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	10/04/2011	Findings:	70. MG/L
Chemical:	CALCIUM		
Sample Collected:	10/04/2011	Findings:	18. MG/L
Chemical:	MAGNESIUM		
Sample Collected:	10/04/2011	Findings:	51. MG/L
Chemical:	SODIUM		
Sample Collected:	10/04/2011	Findings:	6.6 MG/L
Chemical:	POTASSIUM		
Sample Collected:	10/04/2011	Findings:	1.2 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	04/18/2012	Findings:	4.e-002 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	05/01/2012	Findings:	8.e-002 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	06/13/2012	Findings:	0.13 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	07/11/2012	Findings:	6.e-002 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	08/08/2012	Findings:	6.e-002 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	08/27/2012	Findings:	230. UG/L
Chemical:	CHLORATE		
Sample Collected:	09/05/2012	Findings:	7.e-002 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	10/02/2012	Findings:	1. UNITS
Chemical:	COLOR		
Sample Collected:	10/02/2012	Findings:	715. US
Chemical:	SPECIFIC CONDUCTANCE		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	10/02/2012	Findings:	8.1
Chemical:	PH, LABORATORY		
Sample Collected:	10/02/2012	Findings:	146. MG/L
Chemical:	ALKALINITY (TOTAL) AS CaCO3		
Sample Collected:	10/02/2012	Findings:	146. MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	10/02/2012	Findings:	256. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO3		
Sample Collected:	10/02/2012	Findings:	65. MG/L
Chemical:	CHLORIDE		
Sample Collected:	10/02/2012	Findings:	507. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	10/02/2012	Findings:	7.e-002 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	10/02/2012	Findings:	74. MG/L
Chemical:	CALCIUM		
Sample Collected:	10/02/2012	Findings:	20. MG/L
Chemical:	MAGNESIUM		
Sample Collected:	10/02/2012	Findings:	54. MG/L
Chemical:	SODIUM		
Sample Collected:	10/02/2012	Findings:	7. MG/L
Chemical:	POTASSIUM		
Sample Collected:	01/28/2013	Findings:	0.1 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	02/20/2013	Findings:	7.e-002 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	05/31/2013	Findings:	5.e-002 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	06/12/2013	Findings:	0.23 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	06/12/2013	Findings:	220. UG/L
Chemical:	IRON		
Sample Collected:	06/12/2013	Findings:	26. UG/L
Chemical:	MANGANESE		

A5
North
1/8 - 1/4 Mile
Higher

CA WELLS 10560

Water System Information:

Prime Station Code:	11S/01W-21G02 M	User ID:	HEN
FRDS Number:	4410010003	County:	Santa Cruz
District Number:	05	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	365800.0 1215800.0	Precision:	Undefined
Source Name:	BELTZ WELL 02		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

System Number: 4410010
 System Name: Santa Cruz Water Department
 Organization That Operates System:
 809 CENTER STREET, ROOM 102
 SANTA CRUZ, CA 95060
 Pop Served: 80000
 Area Served: SANTA CRUZ
 Connections: 21949

B6
SSE
 1/8 - 1/4 Mile
 Lower

CA WELLS CADW50000026091

Latitude :	36.96042	Casgem sta:	Not Reported
Longitude :	121.964979	Casgem s 1:	Observation
Site code:	369604N1219650W001	Basin desc:	West Santa Cruz Terrace
Local well:	Pleasure PT. Shallow	Site id:	CADW50000026091
County id:	44		
Basin cd:	3-26		
Org unit n:	South Central Region Office		

B7
SSE
 1/8 - 1/4 Mile
 Lower

CA WELLS CADW50000026092

Latitude :	36.96042	Casgem sta:	Not Reported
Longitude :	121.964979	Casgem s 1:	Observation
Site code:	369604N1219650W002	Basin desc:	West Santa Cruz Terrace
Local well:	Pleasure PT. Medium	Site id:	CADW50000026092
County id:	44		
Basin cd:	3-26		
Org unit n:	South Central Region Office		

B8
SSE
 1/8 - 1/4 Mile
 Lower

CA WELLS CADW50000026093

Latitude :	36.96042	Casgem sta:	Not Reported
Longitude :	121.964979	Casgem s 1:	Observation
Site code:	369604N1219650W003	Basin desc:	West Santa Cruz Terrace
Local well:	Pleasure PT. Deep	Site id:	CADW50000026093
County id:	44		
Basin cd:	3-26		
Org unit n:	South Central Region Office		

9
NW
 1/4 - 1/2 Mile
 Higher

CA WELLS CADW50000026127

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Latitude :	36.965952	Casgem sta:	Not Reported
Longitude :	121.971887	Casgem s 1:	Observation
Site code:	369660N1219719W001	Basin desc:	West Santa Cruz Terrace
Local well:	Santa Margarita TW	Site id:	CADW50000026127
County id:	44		
Basin cd:	3-26		
Org unit n:	South Central Region Office		

C10
WSW
 1/4 - 1/2 Mile
 Lower

FED USGS USGS40000179947

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-365741121581901		
Monloc name:	011S001W21G001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18060001	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	36.9613397
Longitude:	-121.973016	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	20.00
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19510403	Welldepth:	125
Welldepth units:	ft	Wellholeddepth:	125
Wellholeddepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1971-03-31	3.00	

C11
WSW
 1/4 - 1/2 Mile
 Lower

CA WELLS CADW50000026098

Latitude :	36.961016	Casgem sta:	Not Reported
Longitude :	121.972936	Casgem s 1:	Observation
Site code:	369610N1219729W001	Basin desc:	West Santa Cruz Terrace
Local well:	Beltz #2	Site id:	CADW50000026098
County id:	44		
Basin cd:	3-26		
Org unit n:	South Central Region Office		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

D12
NNW
 1/4 - 1/2 Mile
 Higher

FED USGS USGS40000180030

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-365807121580801		
Monloc name:	011S001W16Q001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18060001	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	36.9685617
Longitude:	-121.9699604	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	60.00
Vert measure units:	feet	Vertacc measure val:	10
Vert acmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19500101	Welldepth:	98
Welldepth units:	ft	Wellholedepth:	98
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1978-02-01	57.00	

D13
NNW
 1/4 - 1/2 Mile
 Higher

CA WELLS CADW50000026170

Latitude :	36.9686		
Longitude :	121.97		
Site code:	369686N1219700W001	Casgem sta:	11S01W16Q001M
Local well:	Not Reported	Casgem s 1:	Unknown
County id:	44		
Basin cd:	3-26	Basin desc:	West Santa Cruz Terrace
Org unit n:	South Central Region Office	Site id:	CADW50000026170

D14
NNW
 1/4 - 1/2 Mile
 Higher

CA WELLS CADW50000026166

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Latitude :	36.968311		
Longitude :	121.971166		
Site code:	369683N1219712W001	Casgem sta:	Not Reported
Local well:	Beltz #4 Shallow	Casgem s 1:	Observation
County id:	44		
Basin cd:	3-26	Basin desc:	West Santa Cruz Terrace
Org unit n:	South Central Region Office	Site id:	CADW50000026166

D15
NNW
1/4 - 1/2 Mile
Higher

CA WELLS CADW50000026167

Latitude :	36.968311		
Longitude :	121.971166		
Site code:	369683N1219712W002	Casgem sta:	Not Reported
Local well:	Beltz #4 Deep	Casgem s 1:	Observation
County id:	44		
Basin cd:	3-26	Basin desc:	West Santa Cruz Terrace
Org unit n:	South Central Region Office	Site id:	CADW50000026167

E16
NNE
1/4 - 1/2 Mile
Higher

FED USGS USGS40000180040

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-365810121574402		
Monloc name:	011S001W15L003M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18060001	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	36.9693951
Longitude:	-121.9632934	Sourcemap scale:	Not Reported
Horiz Acc measure:	Unknown	Horiz Acc measure units:	Unknown
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	75.00
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Purissima Formation		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	256
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

E17
NNE
1/4 - 1/2 Mile
Higher

FED USGS USGS40000180041

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-365810121574403		
Monloc name:	011S001W15L005M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18060001	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	36.9693951
Longitude:	-121.9632934	Sourcemap scale:	Not Reported
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	Not Reported
Vert measure units:	Not Reported	Vertacc measure val:	Not Reported
Vert accmeasure units:	Not Reported		
Vertcollection method:	Not Reported		
Vert coord refsys:	Not Reported	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

F18
West
1/2 - 1 Mile
Lower

CA WELLS CADW50000026117

Latitude :	36.963613		
Longitude :	121.97677		
Site code:	369636N1219768W001	Casgem sta:	Not Reported
Local well:	Corcoran Shallow	Casgem s 1:	Observation
County id:	44		
Basin cd:	3-26	Basin desc:	West Santa Cruz Terrace
Org unit n:	South Central Region Office	Site id:	CADW50000026117

F19
West
1/2 - 1 Mile
Lower

CA WELLS CADW50000026118

Latitude :	36.963613		
Longitude :	121.97677		
Site code:	369636N1219768W002	Casgem sta:	Not Reported
Local well:	Corcoran Medium	Casgem s 1:	Observation
County id:	44		
Basin cd:	3-26	Basin desc:	West Santa Cruz Terrace
Org unit n:	South Central Region Office	Site id:	CADW50000026118

F20
West
1/2 - 1 Mile
Lower

CA WELLS CADW50000026119

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Latitude :	36.963613		
Longitude :	121.97677		
Site code:	369636N1219768W003	Casgem sta:	Not Reported
Local well:	Corcoran Deep	Casgem s 1:	Observation
County id:	44		
Basin cd:	3-26	Basin desc:	West Santa Cruz Terrace
Org unit n:	South Central Region Office	Site id:	CADW50000026119

G21
SSW
 1/2 - 1 Mile
 Lower

CA WELLS CADW50000026066

Latitude :	36.955789		
Longitude :	121.972012		
Site code:	369558N1219720W001	Casgem sta:	Not Reported
Local well:	Soquel Point Shallow	Casgem s 1:	Observation
County id:	44		
Basin cd:	3-26	Basin desc:	West Santa Cruz Terrace
Org unit n:	South Central Region Office	Site id:	CADW50000026066

G22
SSW
 1/2 - 1 Mile
 Lower

CA WELLS CADW50000026067

Latitude :	36.955789		
Longitude :	121.972012		
Site code:	369558N1219720W002	Casgem sta:	Not Reported
Local well:	Soquel Point Medium	Casgem s 1:	Observation
County id:	44		
Basin cd:	3-26	Basin desc:	West Santa Cruz Terrace
Org unit n:	South Central Region Office	Site id:	CADW50000026067

G23
SSW
 1/2 - 1 Mile
 Lower

CA WELLS CADW50000026068

Latitude :	36.955789		
Longitude :	121.972012		
Site code:	369558N1219720W003	Casgem sta:	Not Reported
Local well:	Soquel Point Deep	Casgem s 1:	Observation
County id:	44		
Basin cd:	3-26	Basin desc:	West Santa Cruz Terrace
Org unit n:	South Central Region Office	Site id:	CADW50000026068

H24
SW
 1/2 - 1 Mile
 Lower

CA WELLS CADW50000026076

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Latitude :	36.957257	Casgem sta:	Not Reported
Longitude :	121.97503	Casgem s 1:	Observation
Site code:	369573N1219750W001	Basin desc:	West Santa Cruz Terrace
Local well:	Moran Lake Shallow	Site id:	CADW50000026076
County id:	44		
Basin cd:	3-26		
Org unit n:	South Central Region Office		

H25
SW
1/2 - 1 Mile
Lower **CA WELLS** **CADW50000026077**

Latitude :	36.957257	Casgem sta:	Not Reported
Longitude :	121.97503	Casgem s 1:	Observation
Site code:	369573N1219750W002	Basin desc:	West Santa Cruz Terrace
Local well:	Moran Lake Medium	Site id:	CADW50000026077
County id:	44		
Basin cd:	3-26		
Org unit n:	South Central Region Office		

H26
SW
1/2 - 1 Mile
Lower **CA WELLS** **CADW50000026078**

Latitude :	36.957257	Casgem sta:	Not Reported
Longitude :	121.97503	Casgem s 1:	Observation
Site code:	369573N1219750W003	Basin desc:	West Santa Cruz Terrace
Local well:	Moran Lake Deep	Site id:	CADW50000026078
County id:	44		
Basin cd:	3-26		
Org unit n:	South Central Region Office		

I27
NE
1/2 - 1 Mile
Lower **CA WELLS** **CADW50000026181**

Latitude :	36.969764	Casgem sta:	Not Reported
Longitude :	121.956309	Casgem s 1:	Observation
Site code:	369698N1219563W001	Basin desc:	Soquel Valley
Local well:	SC-1A	Site id:	CADW50000026181
County id:	44		
Basin cd:	3-1		
Org unit n:	South Central Region Office		

I28
NE
1/2 - 1 Mile
Lower **CA WELLS** **CADW50000026182**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Latitude :	36.969764	Casgem sta:	Not Reported
Longitude :	121.956309	Casgem s 1:	Observation
Site code:	369698N1219563W002	Basin desc:	Soquel Valley
Local well:	SC-1B	Site id:	CADW50000026182
County id:	44		
Basin cd:	3-1		
Org unit n:	South Central Region Office		

29
NE
1/2 - 1 Mile
Higher

CA WELLS 22554

Water System Information:

Prime Station Code:	E44/017-TRTDOPA	User ID:	HEN
FRDS Number:	4410017020	County:	Santa Cruz
District Number:	05	Station Type:	STREAM/AMBNT/MUN/INTAKE
Water Type:	Well/Groundwater	Well Status:	Active Treated
Source Lat/Long:	365818.0 1215726.0	Precision:	100 Feet (one Second)
Source Name:	OPAL WTP - TREATED		
System Number:	4410017		
System Name:	Soquel Creek Water District		
Organization That Operates System:	P O BOX 158 SOQUEL, CA 95073		
Pop Served:	38460	Connections:	12820
Area Served:	SOQUEL APTOS	Findings:	170. UG/L
Sample Collected:	01/31/2011	Findings:	23. UG/L
Chemical:	IRON	Findings:	190. UG/L
Sample Collected:	01/31/2011	Findings:	22. UG/L
Chemical:	MANGANESE	Findings:	270. UG/L
Sample Collected:	02/24/2011	Findings:	30. UG/L
Chemical:	IRON	Findings:	120. UG/L
Sample Collected:	02/24/2011	Findings:	260. UG/L
Chemical:	MANGANESE	Findings:	200. UG/L
Sample Collected:	03/31/2011	Findings:	110. UG/L
Chemical:	IRON		
Sample Collected:	03/31/2011		
Chemical:	MANGANESE		
Sample Collected:	04/29/2011		
Chemical:	IRON		
Sample Collected:	05/31/2011		
Chemical:	IRON		
Sample Collected:	06/10/2011		
Chemical:	IRON		
Sample Collected:	07/29/2011		
Chemical:	IRON		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	08/31/2011	Findings:	110. UG/L
Chemical:	IRON		
Sample Collected:	09/30/2011	Findings:	150. UG/L
Chemical:	IRON		
Sample Collected:	10/27/2011	Findings:	3.2 UNITS
Chemical:	COLOR		
Sample Collected:	10/27/2011	Findings:	7.33
Chemical:	PH, LABORATORY		
Sample Collected:	10/27/2011	Findings:	0.247 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	12/21/2011	Findings:	110. UG/L
Chemical:	IRON		
Sample Collected:	04/27/2012	Findings:	210. UG/L
Chemical:	IRON		
Sample Collected:	01/29/2013	Findings:	300. UG/L
Chemical:	IRON		
Sample Collected:	01/29/2013	Findings:	33. UG/L
Chemical:	MANGANESE		
Sample Collected:	02/13/2013	Findings:	0.11 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	02/14/2013	Findings:	150. UG/L
Chemical:	IRON		
Sample Collected:	06/13/2013	Findings:	2.8 UNITS
Chemical:	COLOR		
Sample Collected:	06/13/2013	Findings:	0.129 NTU
Chemical:	TURBIDITY, LABORATORY		

J30
North
1/2 - 1 Mile
Higher

FED USGS USGS40000180096

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-365830121580501		
Monloc name:	011S001W16H001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18060001	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	36.9749504
Longitude:	-121.969127	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	80.00
Vert measure units:	feet	Vertacc measure val:	005
Vert accmeasure units:	feet		
Vertcollection method:	Altimeter		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Purisima Formation		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Aquifer type:	Not Reported	Welldepth:	102
Construction date:	Not Reported	Wellholedepth:	102
Welldepth units:	ft		
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 22

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1982-06-09	59.03		1982-05-11	57.49	
1982-04-13	56.49		1982-03-09	56.81	
1982-02-09	57.34		1981-12-08	56.64	
1981-11-09	65.39				
Note: A nearby site that taps the same aquifer was being pumped.					
1981-10-09	62.14				
Note: A nearby site that taps the same aquifer was being pumped.					
1981-09-11	62.59				
Note: A nearby site that taps the same aquifer was being pumped.					
1981-08-13	62.19		1981-07-07	60.14	
1981-06-08	59.83				
1981-04-15	56.78				
Note: The site had been pumped recently.					
1981-03-19	56.01		1981-02-19	56.40	
1981-01-16	60.25				
1980-11-20	61.64				
Note: A nearby site that taps the same aquifer was being pumped.					
1980-10-17	60.99				
Note: A nearby site that taps the same aquifer was being pumped.					
1980-09-11	61.6				
Note: A nearby site that taps the same aquifer was being pumped.					
1978-08-10	58.87				
1978-06-29	64.95				
Note: A nearby site that taps the same aquifer was being pumped.					
1966-02-16	57.3				

K31
NE
1/2 - 1 Mile
Higher

FED USGS USGS40000180075

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-365820121572102		
Monloc name:	011S001W15L002M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18060001	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	36.9721728
Longitude:	-121.9569042	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	75.00
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Aquifer type:	Not Reported	Welldepth:	256
Construction date:	19540101	Wellholedepth:	256
Welldepth units:	ft		
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 4

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1981-04-14	86		1978-08-13	78	
1967-02-01	66.64		1967-02	66.64	

K32
NE
1/2 - 1 Mile
Higher

CA WELLS CADW50000026202

Latitude :	36.9722	Casgem sta:	11S01W15L002M
Longitude :	121.9569	Casgem s 1:	Unknown
Site code:	369722N1219569W001	Basin desc:	Soquel Valley
Local well:	Not Reported	Site id:	CADW50000026202
County id:	44		
Basin cd:	3-1		
Org unit n:	South Central Region Office		

J33
North
1/2 - 1 Mile
Higher

FED USGS USGS40000180101

Org. Identifier:	USGS-CA	Drainagearea value:	Not Reported
Formal name:	USGS California Water Science Center	Contrib drainagearea:	Not Reported
Monloc Identifier:	USGS-365832121580401	Latitude:	36.975506
Monloc name:	011S001W16H002M	Sourcemap scale:	Not Reported
Monloc type:	Well	Horiz Acc measure units:	Unknown
Monloc desc:	Not Reported	Vert measure val:	Not Reported
Huc code:	18060001	Vertacc measure val:	Not Reported
Drainagearea Units:	Not Reported	Countrycode:	US
Contrib drainagearea units:	Not Reported	Welldepth:	Not Reported
Longitude:	-121.9688493	Wellholedepth:	Not Reported
Horiz Acc measure:	Unknown		
Horiz Collection method:	Interpolated from map		
Horiz coord refs:	NAD83		
Vert measure units:	Not Reported		
Vert accmeasure units:	Not Reported		
Vertcollection method:	Not Reported		
Vert coord refs:	Not Reported		
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported		
Welldepth units:	Not Reported		
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

K34
NE
1/2 - 1 Mile
Higher

FED USGS USGS40000180074

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monoc Identifier:	USGS-365820121572001		
Monoc name:	011S001W15L001M		
Monoc type:	Well		
Monoc desc:	Not Reported		
Huc code:	18060001	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	36.9721728
Longitude:	-121.9566264	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	75.00
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Purisima Formation		
Aquifer type:	Not Reported		
Construction date:	19300101	Welldepth:	211
Welldepth units:	ft	Wellholedepth:	211
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 4

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1981-04-14	85		1978-08-13	82	
1967-02-01	66.69		1967-02	66.7	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
95062	255	3

Federal EPA Radon Zone for SANTA CRUZ County: 2

- Note: Zone 1 indoor average level > 4 pCi/L.
 : Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
 : Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for SANTA CRUZ COUNTY, CA

Number of sites tested: 9

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.100 pCi/L	89%	11%	0%
Living Area - 2nd Floor	1.900 pCi/L	100%	0%	0%
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)

Source: United States Geologic Survey

A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Services

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database

Source: Department of Water Resources

Telephone: 916-651-9648

California Drinking Water Quality Database

Source: Department of Health Services

Telephone: 916-324-2319

The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations

Source: Department of Conservation

Telephone: 916-323-1779

Oil and Gas well locations in the state.

RADON

State Database: CA Radon

Source: Department of Health Services

Telephone: 916-324-2208

Radon Database for California

Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

© 2010 Tele Atlas North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

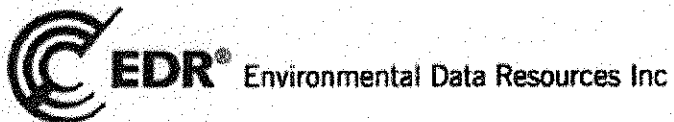
C

**EDR HISTORICAL
TOPOGRAPHIC MAP REPORT**

3800 Portola Drive
3800 Portola Drive
Santa Cruz, CA 95062

Inquiry Number: 3779737.4
November 07, 2013

EDR Historical Topographic Map Report



440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

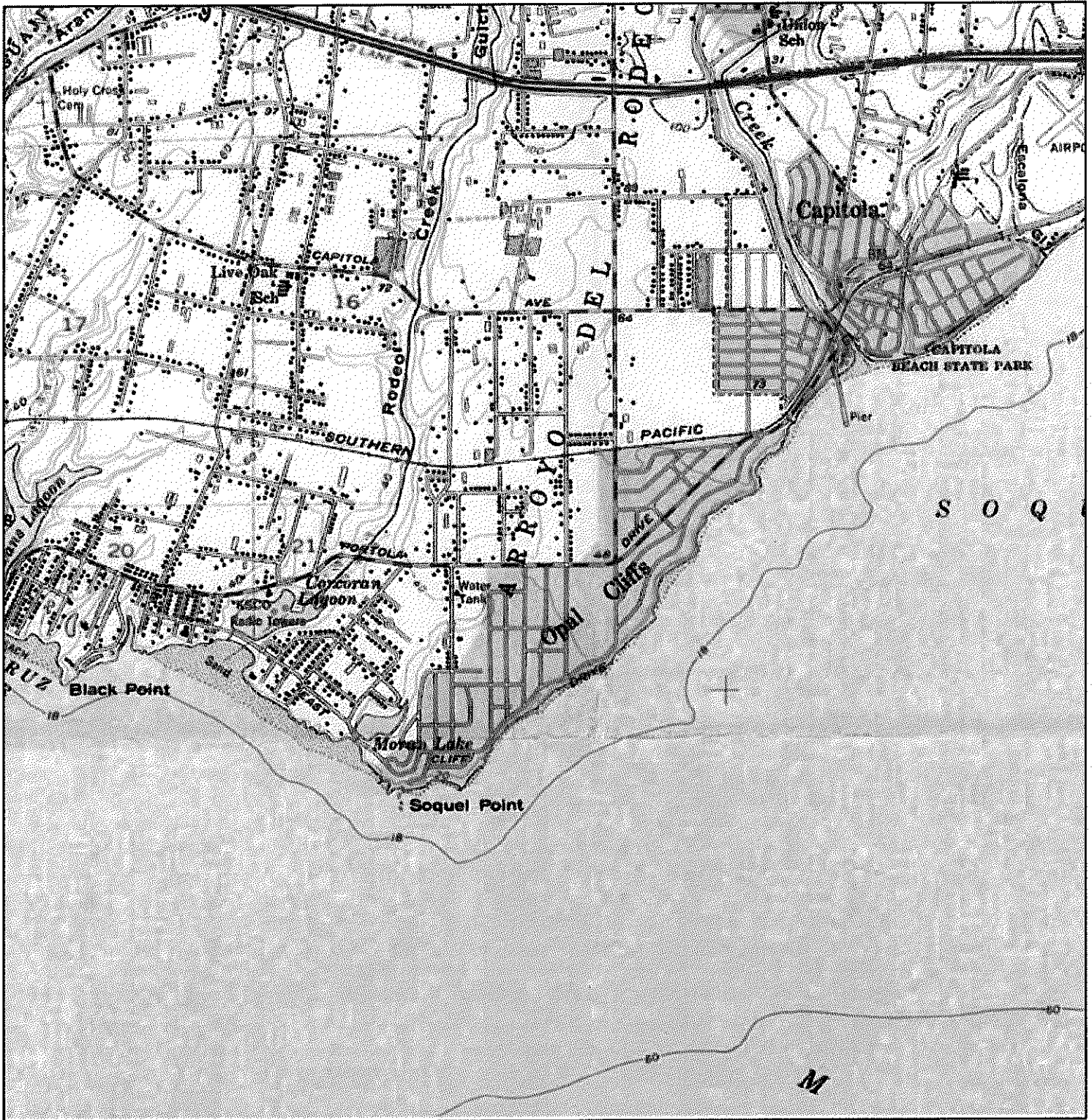
Disclaimer - Copyright and Trademark Notice


This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report AS IS. Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2013 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

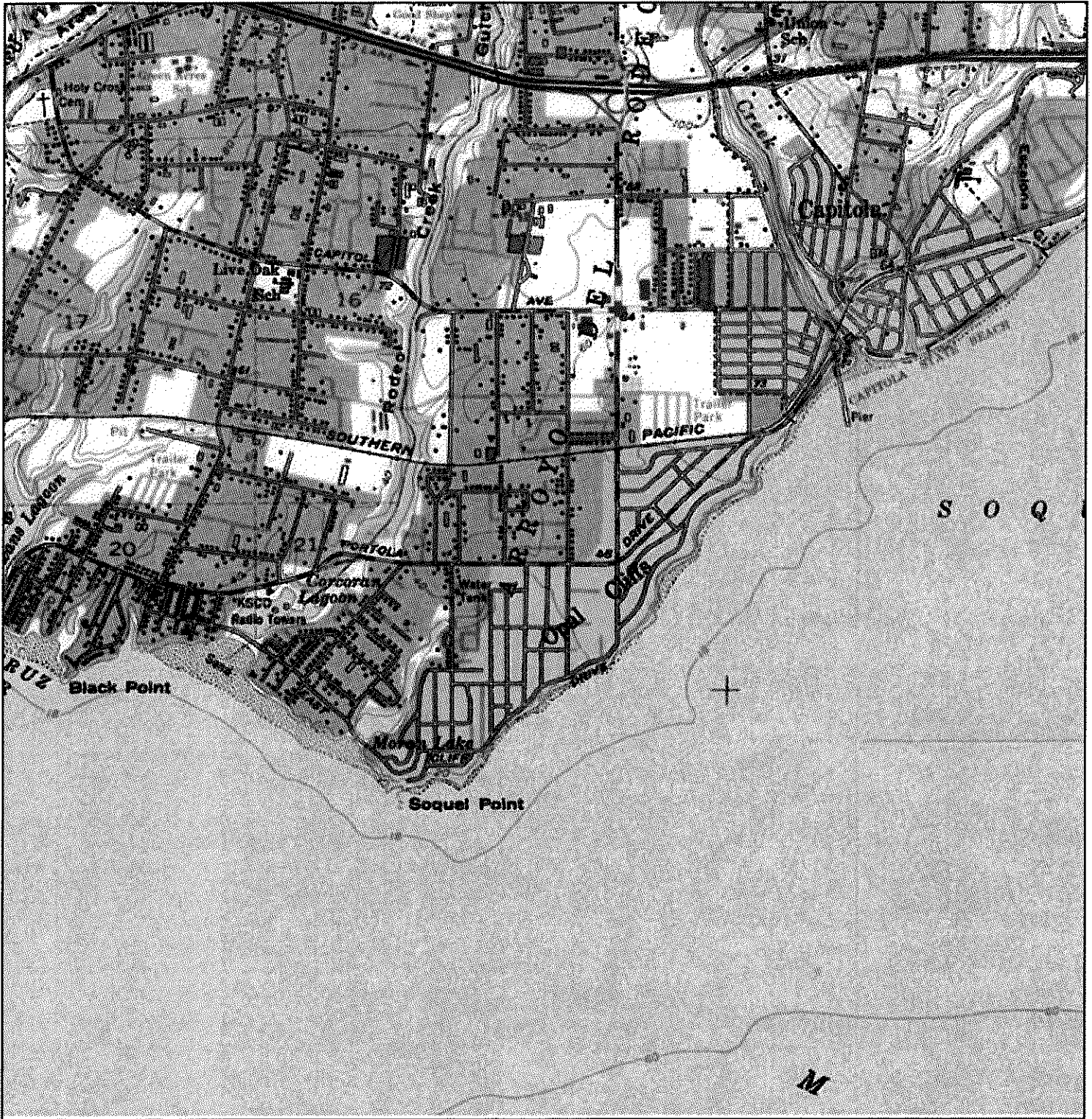
EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.


Historical Topographic Map



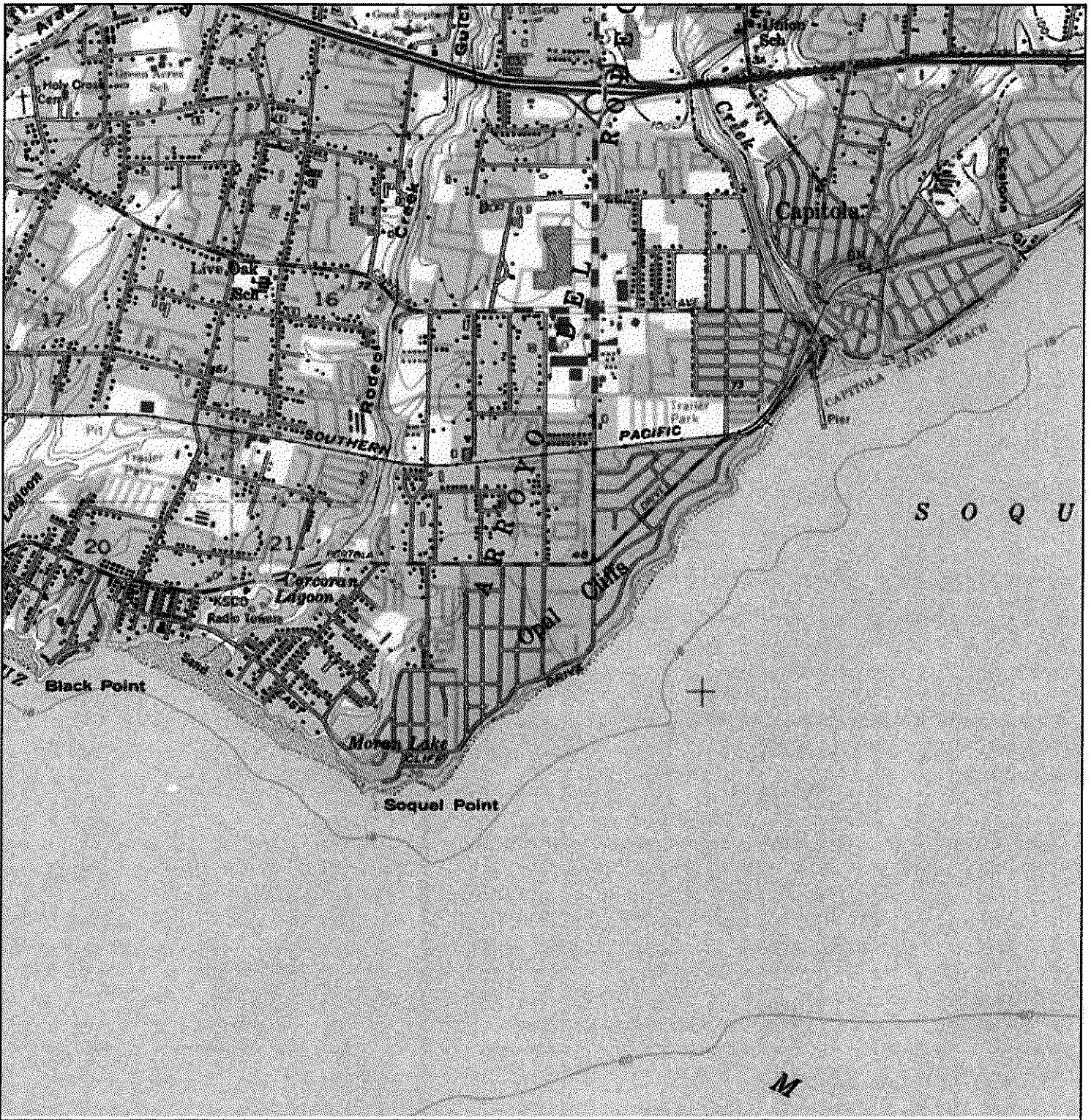
N 	TARGET QUAD NAME: SOQUEL MAP YEAR: 1954	SITE NAME: 3800 Portola Drive ADDRESS: 3800 Portola Drive Santa Cruz, CA 95062 LAT/LONG: 36.9634 / -121.9673	CLIENT: Remediation Risk Management CONTACT: Cate Townsend INQUIRY#: 3779737.4 RESEARCH DATE: 11/07/2013
	SERIES: 7.5 SCALE: 1:24000		


Historical Topographic Map



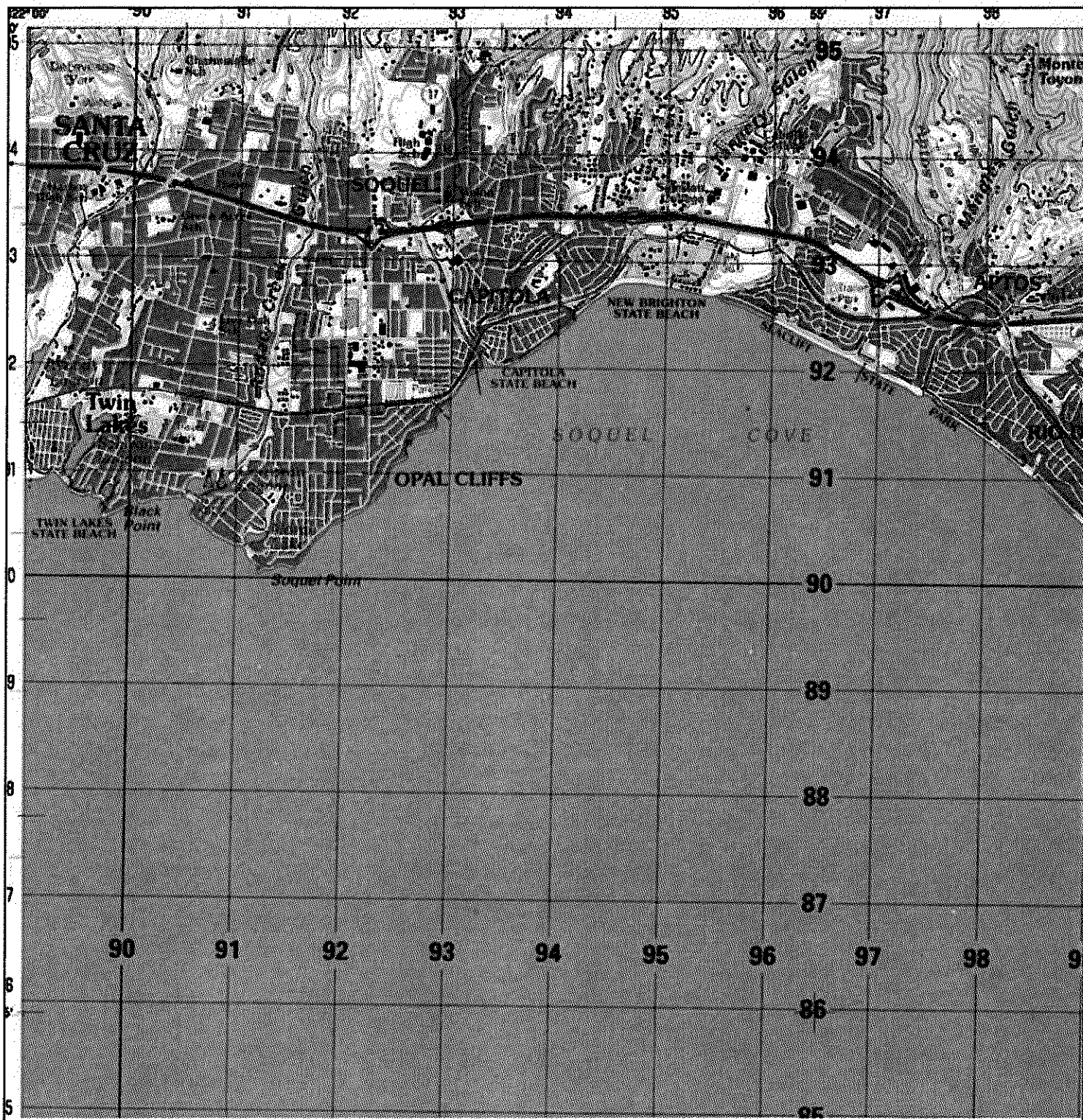
N 	TARGET QUAD NAME: SOQUEL MAP YEAR: 1968 PHOTOREVISED FROM :1954 SERIES: 7.5 SCALE: 1:24000	SITE NAME: 3800 Portola Drive ADDRESS: 3800 Portola Drive Santa Cruz, CA 95062 LAT/LONG: 36.9634 / -121.9673	CLIENT: Remediation Risk Management CONTACT: Cate Townsend INQUIRY#: 3779737.4 RESEARCH DATE: 11/07/2013

Historical Topographic Map



N 	TARGET QUAD NAME: SOQUEL MAP YEAR: 1980 PHOTOREVISED FROM :1954 SERIES: 7.5 SCALE: 1:24000	SITE NAME: 3800 Portola Drive ADDRESS: 3800 Portola Drive Santa Cruz, CA 95062 LAT/LONG: 36.9634 / -121.9673	CLIENT: Remediation Risk Management CONTACT: Cate Townsend INQUIRY#: 3779737.4 RESEARCH DATE: 11/07/2013


Historical Topographic Map



<p>N ↑</p>	<p>TARGET QUAD NAME: CAPITOLA MAP YEAR: 1987</p>	<p>SITE NAME: 3800 Portola Drive ADDRESS: 3800 Portola Drive Santa Cruz, CA 95062 LAT/LONG: 36.9634 / -121.9673</p>	<p>CLIENT: Remediation Risk Management CONTACT: Cate Townsend INQUIRY#: 3779737.4 RESEARCH DATE: 11/07/2013</p>
	<p>SERIES: 15 SCALE: 1:50000</p>		

Historical Topographic Map



 N	TARGET QUAD NAME: SOQUEL	SITE NAME: 3800 Portola Drive	CLIENT: Remediation Risk Management
	MAP YEAR: 1994	ADDRESS: 3800 Portola Drive	CONTACT: Cate Townsend
	REVISED FROM :1954	Santa Cruz, CA 95062	INQUIRY#: 3779737.4
	SERIES: 7.5	LAT/LONG: 36.9634 / -121.9673	RESEARCH DATE: 11/07/2013
	SCALE: 1:24000		

D

**REGULATORY CORRESPONDENCE RELATED
TO 3800 PORTOLA DRIVE, SANTA CRUZ**



Alan C. Lloyd, Ph.D.
Agency Secretary

California Regional Water Quality Control Board
Central Coast Region

Valado



Arnold
Schwarzenegger
Governor

Internet Address: <http://www.waterboards.ca.gov/centralcoast>
895 Azovista Place, Suite 101 San Luis Obispo, CA 93401-7906
Phone: (805) 349-3147 • FAX: (805) 343-0397

April 14, 2005

APR 19 2005

Ms. Phyllis Wagner
Mr. Kenneth De Frees
P. O. Box 1248
Capitola, CA 95010

Dear Ms. Wagner and Mr. De Frees:

SLIC: BIG CREEK LUMBER YARD - 3800 PORTOLA DRIVE, SANTA CRUZ, SANTA CRUZ COUNTY, CALIFORNIA; -- REQUEST FOR INFORMATION

The Central Coast Water Board (Water Board) is a state regulatory agency with the responsibility for protecting the quality of the waters of the state within its area of jurisdiction. The Water Board has been given authority under state law to require submission of information, direct action, establish regulations, levy penalties and/or bring legal action when necessary to protect water quality. Records from nearby Spills, Leaks, Investigation, and Cleanup case files for the Walt Eller Properties located at 3910 and 3912 Portola Drive, Santa Cruz indicate volatile organic compounds were detected in the soil and groundwater. As shown on the enclosed Figures 2 and 3 and Table 1, trichloroethylene (TCE) and tetrachlorethylene (PCE) were detected in groundwater samples collected during previous investigations. The August 22, 2003 investigation indicates a detection of 1,000 micrograms per liter ($\mu\text{g/L}$) PCE and 5.3 $\mu\text{g/L}$ TCE in the groundwater sample collected from monitoring well MW-12. The additional borings B-1 through B-3 indicate the volatile organic compounds may have migrated from possible offsite sources including your property. For your information, this Water Board's "Water Quality Control Plan, Central Coast Region" designates groundwater in the County of Santa Cruz as having beneficial uses for domestic and municipal supply, agricultural supply, and industrial supply. Therefore, the water quality objective for PCE and TCE are 5 $\mu\text{g/L}$.

Because hazardous materials, such as chlorinated solvents, may have been used and stored at your facility and because chlorinated solvents have degraded the local groundwater quality in this area, please provide the following information by July 30, 2005:

1. Provide a map showing the facility layout and a written description of your operations at 3800 Portola Drive, Santa Cruz.
2. Provide a list of hazardous materials stored and estimated quantity used at the subject property.
3. Provide copies of all environmental reports pertaining to Phase I and/or Phase II subsurface investigations at the subject site.

California Environmental Protection Agency



April 14, 2005

Failure to comply with these requirements will subject the responsible party to enforcement action by the Water Board, including issuance of an order under Water Code Sections 13267 and/or 13304, and potential administrative civil liabilities.

If you have any questions regarding this matter, please direct future correspondence to Karvn Steckling at (805)-542-4642 or Sheila Soderberg at (805)-5489-3492.

Sincerely,

Sheila Soderberg for

Roger W. Briggs
Executive Officer

S:\SLIC\Regulated Sites\Santa Cruz Co\Santa Cruz\3800 Portola Drive Big Creek Lumber\req for info.doc

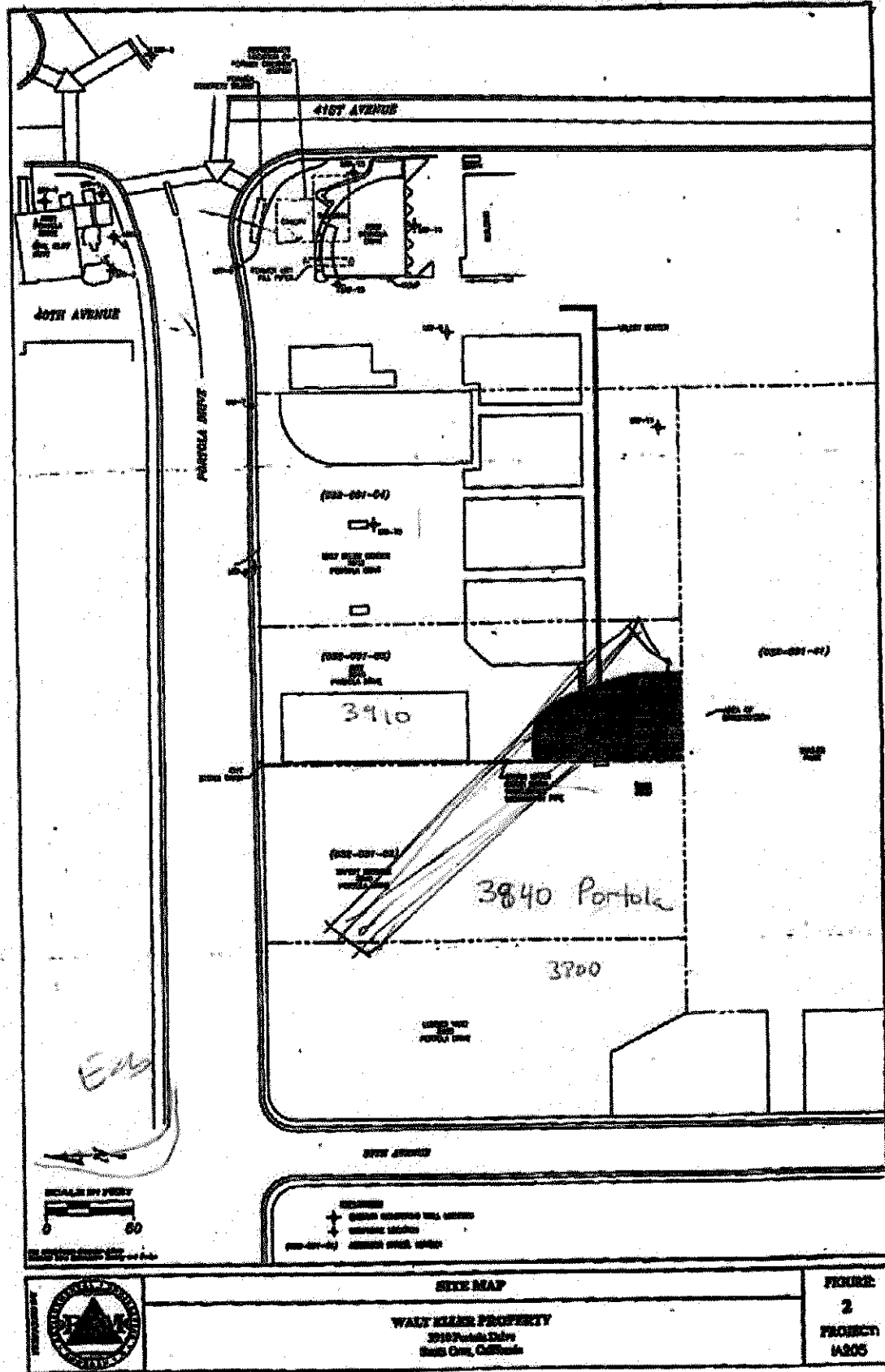
Enclosures: Figure 2 and Figure 3
Table 1

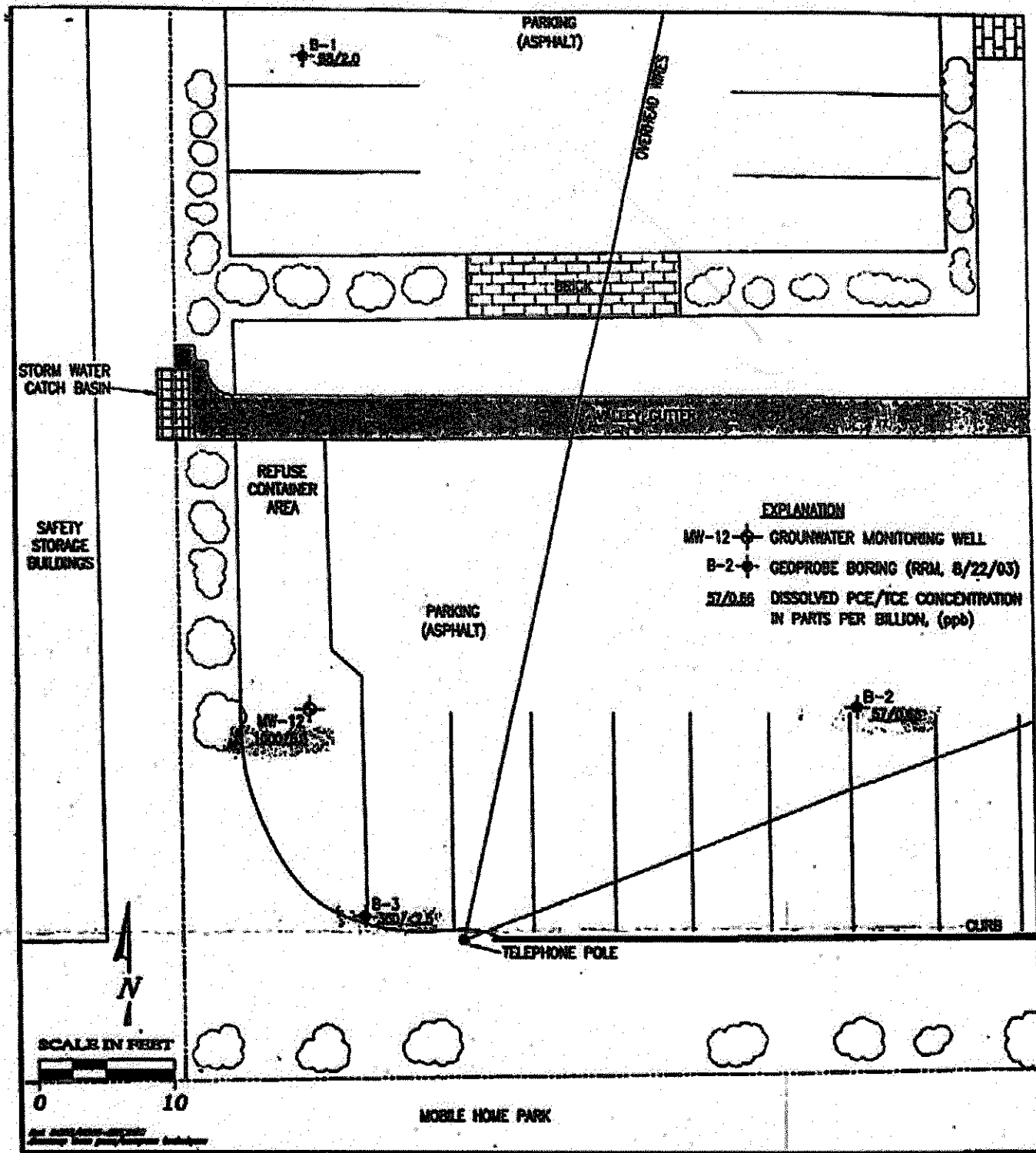
cc:

Mr. Rolando Charles
Santa Cruz County
Environmental Health Services Agency
701 Ocean Street, Room 312
Santa Cruz, CA 95060

Mr. Dave Reinsma
RRM Engineering
2560 Soquel Avenue, Suite 202
Santa Cruz, CA 95062

Ms. Patti Eller Robb
Walt Eller Company
3912 Portola Drive, Suite 4
Santa Cruz, CA 95062-5261





DISSOLVED PCE/TCE IN GROUNDWATER, AUGUST 22, 2003

WALT ELLER PROPERTY
 3910 Protola Drive
 Santa Cruz, California

FIGURE:
3
PROJECT:
IA205

05 JUL 25 PM 2:31

July 22, 2005

Ms. Karyn Steckling
CRWQCB
895 Aerovista Place, Suite 101
San Luis Obispo, Ca., 93401-7906

895 AEROVISTA PL, STE. 101
SAN LUIS OBISPO, CA 93401

RE: April 14, 2005
SLIC: Big Creek Lumber Yard- 3800 Portola Dr., Santa Cruz, Cal.
Request For Information

Dear Ms. Steckling,

Enclosed herewith is a site plan labeled to familiarize you with the operation.

Big Creek Lumber operates a retail lumber yard at this location. No manufacturing or equipment repair is done at this location. The operation is retail sales of rough and finished lumber, plywood, lattice, and associated building supplies (nails, steel fasteners, sheetrock, etc.).

Big Creek keeps an approved hazardous materials storage cabinet onsite which contains the following;

1. One five gallon can of hydraulic fluid.
2. One five gallon can of diesel fuel.
3. One five gallon can of 15-40 oil.
4. One five gallon can of two cycle mix, for chain saws.

To our knowledge the property has historically never been used for anything but retail lumber sales.

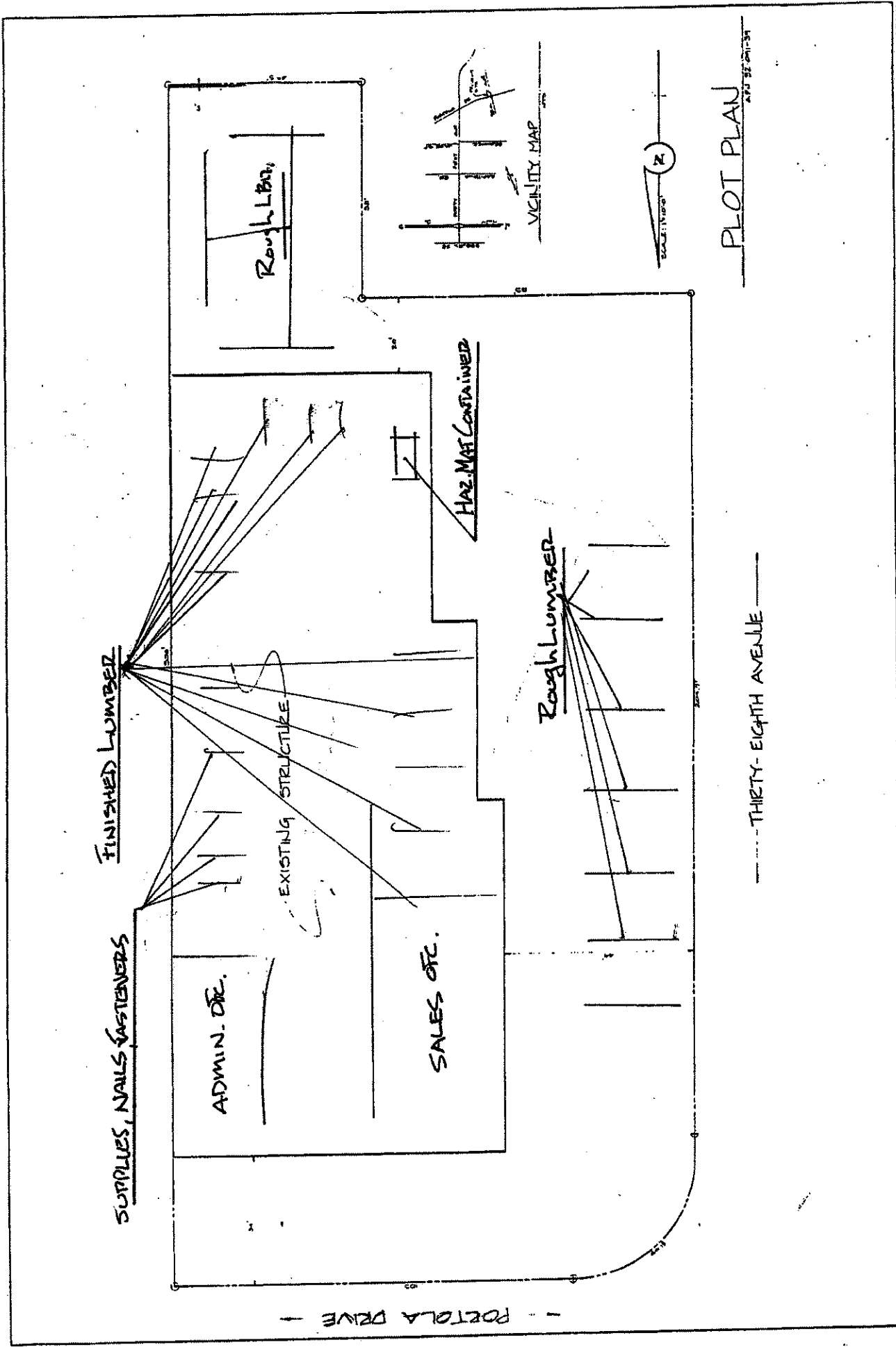
No Phase I or Phase II investigations have been done.

If you have any questions or I can be of any further assistance please contact me at 831-476-6461.

Yours truly,



Ken DeFrees



FINISHED LUMBER

SUPPLIES, NAILS FASTENERS

ADMIN. OFF.

EXISTING STRUCTURE

SALES OFF.

HAZ. MAT. CONTAINER

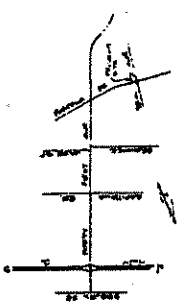
ROUGH LUMBER

ROUGH LIB.

POETOLA DRIVE

THIRTY-EIGHTH AVENUE

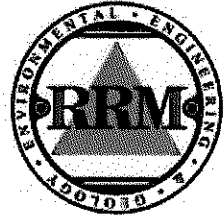
PLOT PLAN



VICINITY MAP



SCALE 1/8" = 1'-0"



May 21, 2014
RRM Project# IA710

Mr. Franklin Loffer
North Point Investments
PO Box 470577
San Francisco, California 94147

Re: Phase II Shallow Soil Gas and Groundwater Investigation
3800 Portola Drive
Santa Cruz, California

Dear Mr. Loffer:

This letter report, prepared by Remediation Risk Management, Inc. (RRM), presents the results of a subsurface soil gas and groundwater investigation (Phase II) performed at the referenced property (Figure 1). The Phase II was carried out subsequent to completion of a Phase I Environmental Site Assessment (ESA) of the property that indicated the possibility that tetrachlorethylene (PCE) from one or more nearby sites had migrated into groundwater beneath the property. The Phase I ESA recommended conducting a limited subsurface investigation for a greater degree of certainty regarding the potential presence of PCE. As a due diligence condition for obtaining financing for redevelopment of the property, the lender has requested completion of a subsurface investigation. This report documents the field and laboratory methods used to collect and assess the recommended samples, the field and laboratory results, and our conclusions and recommendations.

Summarized below are a description of the property and its background, the scope of work performed, the field and laboratory results, and our conclusions and recommendations. Supporting documentation is attached.

PROPERTY DESCRIPTION, BACKGROUND, AND FUTURE DEVELOPMENT

The subject property is comprised of two parcels totaling approximately 35,370 square feet situated on the southeast corner of the intersection of Portola Drive with 38th Avenue, in the unincorporated Pleasure Point district of Santa Cruz, Santa Cruz County, California. It is improved with a single-story warehouse-style building with a footprint of approximately 7,875 square feet that was formerly used as a lumber retail business from the early 1950s until 2008. The building is situated in the northeast portion of the parcel (Figures 1 and 2). The building is currently vacant. Redevelopment plans for the property include removing the existing building and constructing a two-story mixed-use building with an approximate footprint of 9,500 square feet that will occupy the northwest portion of the parcel. A building comprised of private garages for the residences on the second floor of the main building will occupy the southeast corner of the

parcel. The remainder of the parcel will be paved for parking with limited areas of landscaping planned along the west and south property boundaries.

The purpose of the work described herein is to evaluate soil gas and groundwater conditions beneath the property related to potential contamination from PCE that has been detected in groundwater at nearby sites.

SCOPE OF WORK

Pre-Field

Prior to initiating field activities, RRM contacted Santa Cruz County Environmental Health Services (SCCEHS) to verify permit requirements for soil borings. SCCEHS reported that permits for soil borings were not required. Site safety procedures involved creating a site-specific health and safety plan identifying potential chemical and physical hazards that may be encountered during the course of field activities. Underground Service Alert (USA) was notified to clear the proposed boring areas prior to drilling. All RRM personnel and subcontractors involved in conducting the field activities were in compliance with requirements of the Federal Occupational Safety and Health Administration (OSHA) 40-Hour Hazardous Waste Operations and Emergency Response Training.

Groundwater Investigation

Three soil borings installed for the purpose of collecting samples from first-encountered groundwater were installed on the property on April 10, 2014 using a truck-mounted Geoprobe® direct-push drill rig. Boring locations are indicated on Figure 2. Boreholes were continuously cored and logged to a total depth of approximately 18 feet below ground surface by an RRM field geologist. One ground water sample was collected from each boring and submitted to a State-certified laboratory for analysis. Upon completion of groundwater sampling at each boring location, the boreholes were backfilled with neat cement grout, and the top of each completed borehole was finished to match the surrounding area.

Soil Gas Investigation

As part of assessing potential impact of PCE at the property, two soil gas borings (SG-1 and SG-2) were advanced within the proposed footprint of the mixed-use building slated for construction. Soil gas sampling was conducted in accordance with guidelines provided in Appendix G of Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air¹. An RRM field geologist supervised installation of the borings, collected samples, and recorded field observations. The purpose of the assessment was to evaluate the potential threat of vapor intrusion posed by migration of PCE from nearby sites described in the Phase I ESA. Sample locations are shown on Figure 2.

Soil gas sampling was accomplished using temporary soil gas wells installed to approximately 5 feet bgs at sample locations SG-1 and SG-2. Wells were constructed within a single borehole advanced using

¹ California Environmental Protection Agency, Department of Toxic Substances Control (DTSC). 2011. *Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air*. October 2011.

2-inch diameter direct-push Geoprobe[®] drilling equipment. Each well was constructed using a six-inch long well screen attached to 1/8-inch diameter Teflon[®] tubing. Sand pack was placed in the annular space surrounding each well screen up to approximately six inches above each well screen. A bentonite seal was installed from the top of the sand pack to the bottom of the boring. Tube ends were fitted with brass fittings and end caps. Environmental Control Associates, Inc. (ECA) provided drilling services and well materials.

At the surface, tubing was connected to a sample manifold. The manifold was outfitted with stopcock valves, vacuum pressure gauges, a one-liter Summa[™] sample canister, and six-liter Summa[™] purge canister. Additionally, the sampling manifold was equipped with a flow regulator to restrict flow to less than 167 milliliters/minute. The Summa[™] canisters were supplied with an internal vacuum pressure of approximately 29.5 inches of mercury (inHg). The sampling procedure entailed using the six-liter Summa[™] canister to purge the sampling assembly of three volumes, after which, the one-liter Summa[™] canister was used to sample the soil gas. Sample collection continued until the vacuum pressure in sample canisters reached between 1 inHg and 4 inHg. Sample times ranged between 10 minutes and 15 minutes. Data are included on field sheets provided in Attachment B.

During sampling, helium was used as a tracer to test for leaks. This was accomplished at each sample location by using a shroud to cover the sampling assembly, and injecting helium into the space enclosed by the shroud. During sampling, the concentration of helium within the shroud was measured using a field analyzer. All samples were transported to the laboratory in an insulated container at ambient temperature and analyzed within 72 hours of collection. After sampling, the drive rods were extracted and the holes were grouted to the surface with Portland cement.

Drilling, soil gas sampling, groundwater sampling, and laboratory analytical methods are included in Attachment A. Logs of the borings are included in Attachment B. Copies of the laboratory analytical reports are included in Attachment C.

RESULTS

Subsurface Conditions

Groundwater sampling boring SB-1 was installed in the northwest portion of the property parcel near the intersection of Portola Drive and 38th Avenue. At this location, subsurface soils encountered during drilling consisted of silty sands in the interval from just below the ground surface (bgs) to 4 feet bgs. Clayey sand was encountered in the interval between 8 and 10.5 feet bgs; from 10.5 to 11 feet bgs, soils consisted of clayey sand that graded into gravelly clayey sands to a depth of 18 feet bgs, the maximum depth explored. Dark, greenish grey staining was observed in the interval between 12 and 14 feet bgs; however, soils from this layer exhibited no odors, or any other field evidence (sheen, PID readings, etc.) of the presence of hydrocarbons or VOCs.

SB-2 was installed near the southwest portion of the parcel. At this location, subsurface soils encountered during drilling consisted of silty sands in the interval from just below the ground surface to 4 feet bgs. From 4 to 11 feet bgs, soils consisted of silty clays, sandy clays, and clayey sands. From approximately 11 feet to 18 feet bgs, the maximum depth explored, soils consisted of gravelly sands. Groundwater was

encountered at approximately 15 feet bgs. SB-3 was installed near the eastern border of the property parcel, approximately 80 feet to the south of Portola Drive. Soils encountered at this location were generally consistent with lithology observed in SB-1 and SB-2 to 18 feet bgs, the maximum depth explored. Groundwater was encountered at approximately 14.5 feet bgs in SB-3.

Laboratory Analysis

Groundwater samples were submitted to Accutest Laboratories, of Santa Clara, California, and analyzed for volatile organic compounds (VOCs) including PCE using U.S. Environmental Protection Agency (EPA) Method 8260B. Curtis & Tompkins, Ltd., a California State-certified laboratory, supplied the sampling equipment and analyzed the soil gas samples. Soil gas samples were analyzed for VOCs using U.S. EPA Modified Method TO-15. Summa[®] canisters were certified as clean by the laboratory in batches equivalent to 10 percent of the number of canisters processed during a single cleaning event.

Groundwater

For all the organic compounds tested, VOCs were not detected above laboratory detection limits in groundwater samples collected from all three borings, with the following exception: PCE was detected at 0.30 micrograms per liter (or parts per billion; ppb) in the groundwater sample from Boring SB-2. The laboratory reported this detection estimated: detected at the method detection limit, but below the reporting limit. An estimated concentration is a detection that is reported at the method detection limit, but below the reporting limit. The reporting limit is the lowest concentration standard in the calibration range of each compound analyzed. This value is also the low limit for unqualified quantitative data. The method detection limit is determined using experimentation and verified through additional testing. This value represents the lowest concentration of each compound that can be qualitatively identified by the method in use.

Soil Gas

The soil gas laboratory results were compared to risk characterization environmental screening levels (ESLs) published by the San Francisco Bay Regional Water Quality Control Board². The ESLs selected were for residential land use, where ground water is considered a drinking resource (most conservative scenario), and soil impacts were shallow. Although there were low concentrations of several compounds including PCE detected in soil gas samples, all analytical results were below applicable environmental screening levels, as shown on Table 1. Laboratory analytical reports for groundwater and soil gas are included in Attachment C.

² ESLs or environmental screening levels, refer to contaminate levels for specific compounds published in: "Screening For Environmental Concerns At Sites With Contaminated Soil And Groundwater ", by the Regional Water Quality Control Board, San Francisco Bay region, February 2005, updated November 2007, revised May 2008, and most recently, December 2013.

CONCLUSIONS AND RECOMMENDATIONS

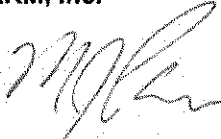
From the findings of this investigation, RRM concludes the following:

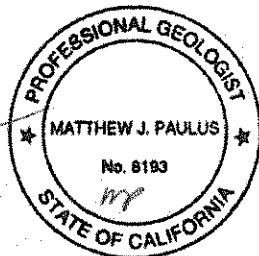
- A concentration of 0.30 ppb of PCE was detected in the groundwater sample from SB-2.
- VOCs were not detected above laboratory detection limits in the groundwater samples collected from SB-1, SB-2, and SB-3.
- Detections of PCE and other VOCs in property groundwater are below applicable screening levels and do not appear to pose an unacceptable exposure risk.
- Detections of PCE and other VOCs in property soil gas are below applicable screening levels and do not appear to pose an unacceptable exposure risk.
- All VOCs detected in soil gas and groundwater are consistent with known off site sources and plumes. The data does not indicate any current or historical release of contaminants occurred on the subject property.
- Additional sampling or mitigation measures are not necessary based on the existing data.

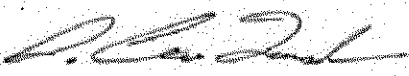
RRM recommends no additional soil or groundwater investigation for the property at this time.

Should you have any questions regarding the contents of this document, please do not hesitate to call RRM at (831) 475-8141.

Sincerely,
RRM, Inc.


Matthew Paulus, PG
Project Geologist




Cate Townsend
Geologist

Attachments: Table 1 – Soil Gas Analytical Data

Figure 1 – Site Location Map

Figure 2 – PCE Concentrations in Soil Gas and Grab Groundwater, April 10, 2014

Attachment A – Field and Analytical Procedures

Attachment B – Boring Logs and Field Notes

Attachment C – Certified Analytical Reports and Chain-of-Custody Documentation

cc:

Ms. Bonnie Frank
Real Estate Law Group, LLP
2330 Marinship Way, Ste. 211
Sausalito, CA 94965

Mr. Scott Carson
Santa Cruz County Environmental Health Services
701 Ocean St., Rm. 312
Santa Cruz, CA 95060

Ms. Alison Jones
Central Coast RWQCB
895 Aerovista Place, Ste. 101
San Luis Obispo, CA 93402

Table 1
Analytical Results for Soil Gas Samples

3800 Portola Drive
Santa Cruz, California

Compound	Units	Soil Gas Concentration		Residential Screening Level
		SG-1	SG-2	ESL
1,3-Butadiene	g/m ³	6.3	<0.19	NA
Acetone	g/m ³	21	24	16,000,000
Carbon Disulfide	g/m ³	1.1	7.2	NA
n-Hexane	g/m ³	11	6.3	NA
1,1-Dichloroethane	g/m ³	1.1	<0.19	760
2-Butanone	g/m ³	2.7	2.7	NA
Ethyl Acetate	g/m ³	4.3	<0.19	NA
Cyclohexane	g/m ³	9.0	5.6	NA
Benzene	g/m ³	8.1	3.2	42
n-Heptane	g/m ³	9.3	2.2	NA
Toluene	g/m ³	180	45	160,000
Tetrachloroethene	g/m ³	<0.023	4.1	210
Ethylbenzene	g/m ³	3.1	<0.19	490
m,p-Xylenes	g/m ³	19	2.2	52,000
o-Xylene	g/m ³	6.5	<0.19	52,000
1,2,4-Trimethylbenzene	g/m ³	1.3	<0.19	NA
Carbon Dioxide	g/m ³	39,000	41,000	NA
Oxygen	g/m ³	79,000	92,000	NA
sample depth	feet bgs	5	5	--

Notes

g/m³ = micrograms/cubic meter

<0.19 = less than the modified reporting limit or reporting limit shown

NA = not applicable / not available

ESL = San Francisco Bay Regional Water Quality Control Board, Environmental Screening Level for Soil Gas (Vapor Intrusion Concerns), Summary Table E, updated December 2013



QUADRANGLE LOCATION



SCALE IN FEET

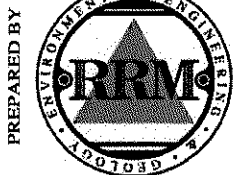


Ref. IA710/IA710-SUM.DWG
Base Map from T2P011 NG4

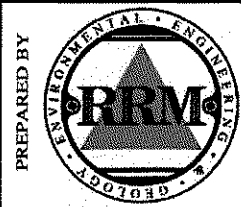
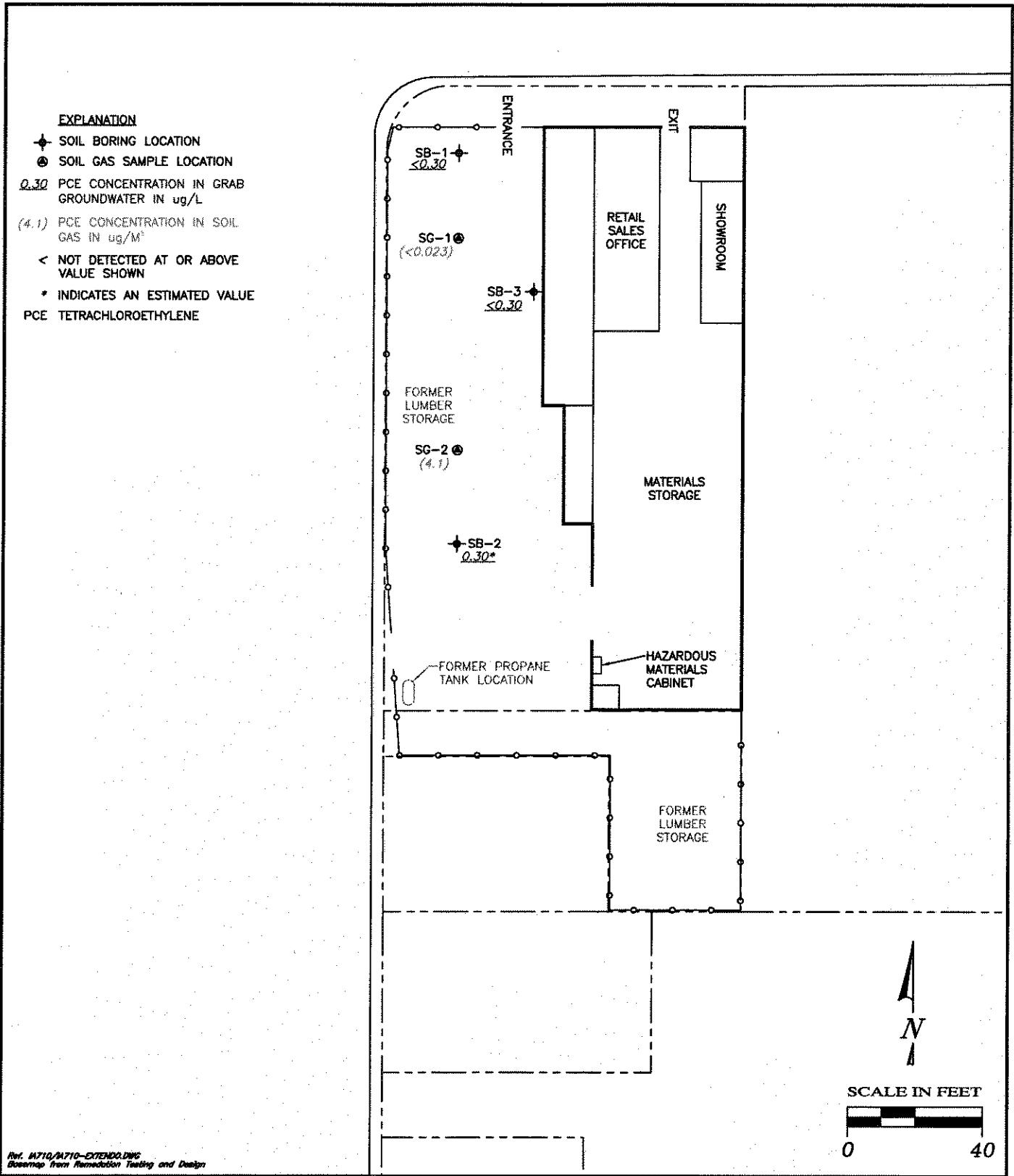
SITE LOCATION MAP

North Point Investments
3800 Portola Drive
Santa Cruz, California

FIGURE:
1
PROJECT:
IA710



PREPARED BY



**PCE CONCENTRATIONS IN SOIL GAS AND GRAB GROUNDWATER,
APRIL 10, 2014**

North Point Investments
3800 Portola Drive
Santa Cruz, California

FIGURE:
2
PROJECT:
IA710

A

FIELD AND ANALYTICAL PROCEDURES

ATTACHMENT A

FIELD AND LABORATORY PROCEDURES

SOIL BORING PROCEDURES

The soil borings were advanced using a 2-inch diameter pneumatically driven GeoProbe[®] drilling system. During advancement, the borings were logged for lithologic description by a RRM, Inc. geologist using the Unified Soil Classification System and standard geologic techniques. The borings were advanced to a maximum depth of approximately 18 feet below ground surface (bgs). Groundwater samples were collected by using clean Teflon tubing attached to a peristaltic pump. All downhole drilling and sampling equipment was cleaned between borings. Samples were placed on ice for transport to a state-certified laboratory, accompanied by a chain-of-custody documentation. Upon completion of groundwater sampling activities, the borings were backfilled with cement grout.

SOIL GAS SAMPLING PROCEDURES

Soil gas sampling was accomplished using temporary soil gas wells installed to approximately 5 feet bgs. Wells were constructed within a single borehole advanced using 2-inch diameter direct-push Geoprobe[®] drilling equipment. Each well was constructed using a six-inch long well screen attached to 1/8-inch diameter Teflon[®] tubing. Sand pack was placed in the annular space surrounding each well screen up to approximately six inches above each well screen. A bentonite seal was installed from the top of the sand pack to the bottom of the boring. Tube ends were fitted with brass fittings and end caps.

At the surface, tubing was connected to a sample manifold. The manifold was outfitted with stopcock valves, vacuum pressure gauges, a one-liter Summa[™] sample canister, and six-liter Summa[™] purge canister. Additionally, the sampling manifold was equipped with a flow regulator to restrict flow to less than 167 milliliters/minute. The Summa[™] canisters were supplied with an internal vacuum pressure of approximately 29.5 inches of mercury (inHg). The sampling procedure entailed using the six-liter Summa[™] canister to purge the sampling assembly of three volumes, after which, the one-liter Summa[™] canister was used to sample the soil gas. Sample collection continued until the vacuum pressure in sample canisters reached between 1 inHg and 4 inHg. Sample times ranged between 10 minutes and 15 minutes.

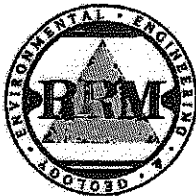
During sampling, helium was used as a tracer to test for leaks. This was accomplished at each sample location by using a shroud to cover the sampling assembly, and injecting helium into the space enclosed by the shroud. During sampling, the concentration of helium within the shroud was measured using a field analyzer. All samples were transported to the laboratory in an insulated container at ambient temperature and analyzed within 72 hours of collection. After sampling, the drive rods were extracted and the holes were grouted to the surface with Portland cement.

LABORATORY ANALYTICAL PROCEDURES

Groundwater samples were submitted to Accutest Laboratories, of Santa Clara, California, and analyzed for volatile organic compounds (VOCs) including PCE using U.S. Environmental Protection Agency (EPA) Method 8260B. Curtis & Tompkins, Ltd., a California State-certified laboratory, supplied the sampling equipment and analyzed the soil gas samples. Soil gas samples were analyzed for VOCs using U.S. EPA Modified Method TO-15. Summa[®] canisters were certified as clean by the laboratory in batches equivalent to 10 percent of the number of canisters processed during a single cleaning event.

B

BORING LOGS AND FIELD NOTES



2560 SOQUEL AVENUE, SUITE 202
SANTA CRUZ, CALIFORNIA 95062
TEL: 831.475.8141
FAX: 831.475.8249

FIELD
DATA SHEET

Client:	Project #: IA 710
Job Address: 3800 PORTOLA DRIVE	Date: 4/10/14
Weather Conditions:	Field Tech: WILLS
Equipment on site: VR GE GEOPROBE	Page: of
Arrival Time: 0730	
Departure Time: 1500	

FIELD NOTES:

PREP FOR WORK

0800 ECT ARRIVE S PREP FOR WORK

HEALTH & SAFETY

0840 BEGIN SB-1

0930 SB-1 COMPLETE

0945 BEGIN SG-1

1026 SG-1 COMPLETE

1057 SG-2 COMPLETE

~~1157~~ 1200 SB-2 COMPLETE

~~1257~~ 1330, SB-3 COMPLETE

USE He SHROUD TO TAKE SOIL GAS
SAMPLES AT SG-1 & SG-2

GROUT SG BORINGS

LOCK UP

CLEAN UP

LEAVE

Signature:

RRM Job #: 1A710
 Site Location: 3800 PORTOLA DRIVE
 Personnel: WELLS

Sample ID	Date Sampled	Time Rod Placed/Depth	Vacuum Test Results Pass/Fail?	PURGE				SAMPLE					
				Purge Canister Serial #	Purge Volume (mL or L)	Pressure @ Purge Start	Pressure @ Purge End	Sample Canister Serial #	Manifold Serial #	Sample Start Time	Sample Start Pressure	Sample Flowrate	Sample Stop Time
SG-1	4/12/14	5 FT	PASS	9	760	30	27	323	131	1355	29	1403	1
					INTERIOR HEAD								
					EXTERIOR HEAD								
SG-2	7/10/14	SFB		9	260	27	14	389	145	1417	30+	1429	5
					INTERIOR HEAD		44.8						
					EXTERNAL HEAD		0.0						

$$\left[\pi (1)^2 \right] 12 + \left[\pi (0.17)^2 \right] (8 \times 12)$$

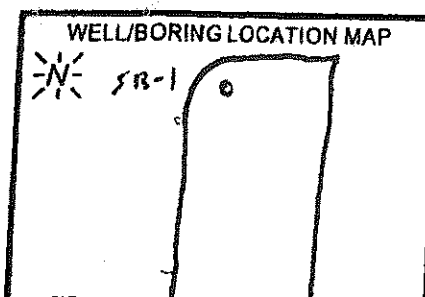
$$\frac{37.7}{150 \text{ mL}} = \frac{760 \text{ mL}}{\text{MIN}}$$

$$8.71 = 46.41 \text{ in}^3 = 760 \text{ mL}$$

$$\Rightarrow \text{MIN} = 5.0 \text{ MIN}$$

COMP # 512
7967

SB-1 10F2



Remediation Risk Management, Inc. WELL/BORING: SB-1
 DATE: 4/10/14 DRILLING METHOD: GEOPROBE
 PROJECT: 1A710 SAMPLING METHOD: CONTINUOUS
 CLIENT: BORING DIAMETER: 2"
 LOCATION: 3800 FORTOLA. BORING DEPTH: 18'
 CITY: SANTA CRUZ WELL CASING: NA
 CO./STATE: SANTA CRUZ CA WELL SCREEN: NA
 DRILLER: EGA SAND PACK: NA

WELL/BORING COMPLETION	FIRST	STABILIZED	MOISTURE	DENSITY BLOWS / FT	FIELD TEST PID (ppm)	SAMPLE NUMBER	DEPTH (FEET)	RECOVERY	GRAPHIC	USCS SYMBOL	WATER LEVEL	TIME	DATE	DESCRIPTION LOGGED BY:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					1	X						0-4" ASPHALT
							2	X						4"-1' BASE ROCK
							3	X						SP 1'-2' SANDY SILTY SAND SP 1'-2' SILTY SAND, VERY DARK GREENISH BROWN (10YR 3/2)
							4	X						CL 1'-2' SANDY CLAY, BROWN (10YR 3/2) 85-95% FINE TO MED SAND 5-15% SILTY FINES; DAMP; MED LOOSE; NPO
					0.0		5	X						CL 2'-3' SANDY CLAY; BROWN (10YR 3/2); 80-90% MED PLASTICITY FINES, 10-20% FINE TO MED SAND; MED DENSE;
							6	X						DAMP; NPO
							7	X						CL 3'-4' TIGHT CLAY; BROWN (10YR 5/2); 90-95% MED PLASTICITY FINES;
					0.0		8	X						5-10% LOW PLASTICITY FINES; DENSE; SLIGHTLY DAMP; NPO
							9	X						CL 4'-5' SANDY CLAY; BROWNISH YELLOW (10YR 5/6); 85-95% MED PLASTICITY FINES, 5-10% LOW PLASTICITY FINES; ORANGE MOTTLED ROOTS; DRY;
					0.0		10	X						MED LOOSE TO MED DENSE; NPO
							11	X						SP 8'-10.5' CLAYEY SAND; DARK YELLOWISH BROWN (10YR 4/4);
							12	X						80-90% FINE TO MED SAND, 10-20% LOW PLAST FINES, ORANGE MOTTLENG, SLIGHTLY DAMP TO DAMP; LOOSE; NPO
					0.0		13	X						CL 10.5'-16' SANDY CLAY; DARK YELLOWISH BROWN (10YR 4/4)
							14	X						85-95% MED PLASTICITY FINES 5-15% LOW PLASTICITY FINES TO MED SAND; MOIST; NPO
							15	X						SP 12'-14' GRAVELY CLAYEY SAND; GRADES FROM D. YELLOWISH BROWN (10YR 4/4) TO D. GREENISH GREY (4/1); 85-95% FINE TO COARSE SAND; 5-15% LOW TO MED PLASTICITY FINES, DAMP TO MOIST, LOOSE, NPO
							16	X						
							17	X						
							18	X						
							19	X						
							20	X						

WELL/BORING LOCATION MAP



Remediation Risk Management, Inc.

WELL/BORING: 56-2

DATE: 4/10/14

DRILLING METHOD: GEOPROBE

PROJECT: 1A710

SAMPLING METHOD: NA

CLIENT:

BORING DIAMETER: 2"

LOCATION: 3120 PORTOLA

BORING DEPTH: 5.5'

CITY: SANTA CRUZ

WELL CASING: 1/4" TUBE

CO./STATE: SC CA

WELL SCREEN: 1" CERAMIC

DRILLER: ECA

SAND PACK: #3

WELL/BORING COMPLETION

FIRST

STABILIZED

MOISTURE

DENSITY

BLOWS / FT

FIELD TEST

PID (ppm)

SAMPLE NUMBER

DEPTH (FEET)

RECOVERY

SAMPLE INTERVAL

GRAPHIC

USCS SYMBOL

WATER LEVEL:

TIME:

DATE:

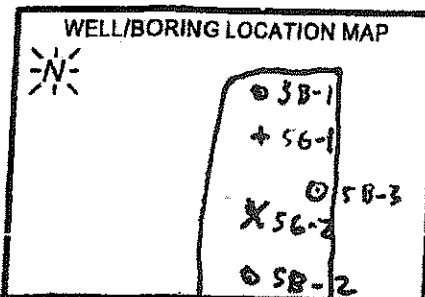
DESCRIPTION LOGGED BY:



1
2
3
4
5
5.5

No Log, FEE 56-1

SB-2 ~~SB-2~~ SB-2



Remediation Risk Management, Inc. WELL/BORING: ~~SB-2~~ SB-2

DATE: 4/10/14 DRILLING METHOD: GEO PROBE

PROJECT: 1A 710 SAMPLING METHOD: CONTINUOUS

CLIENT: BORING DIAMETER: 2"

LOCATION: 7800 PORTOLA BORING DEPTH:

CITY: SANTA CRUZ WELL CASING: NA

CO./STATE: SC CA WELL SCREEN: NA

DRILLER: ECA SAND PACK: NA

WELL/BORING COMPLETION	FIRST	STABILIZED	MOISTURE	DENSITY BLOWS / FT	FIELD TEST PID (ppm)	SAMPLE NUMBER	DEPTH (FEET)	RECOVERY	GRAPHIC	USCS SYMBOL	WATER LEVEL: 14.62'	TIME: 11:50	DATE: 4/10/14
							1	X					
							2	X		SP			
							3	X					
							4	X		CL			
				0.0			5	X					
							6	X					
							7	X					
							8	X		SP			
				0.0			9	X					
							10	X					
							11	X		SP			
							12	X					
				0.0			13	X					
							14	X		SP			
				0.0			15	X					
				0.0			16	X					
							17	X					
							18	X					
				0.0									

DESCRIPTION LOGGED BY: WELLS

0-2' SEE SB-2

2-4' SILTY SAND, BROWN (10YR 4/3); 90-95% FINE TO MED SAND, 5-10% SILTY FINES, MED DENSE, DAMP NPO

4-6' SILTY CLAY, BROWN (10YR 5/3); 80-90% MED PLASTICITY, FINES, 10-20% LOW PLASTICITY FINES, MED DENSE, DAMP, NPO

6-9' SEE SB-1

10-11' CLAYEY SAND, BROWN (10YR 4/3); 85-95% FINE TO MED SAND, 5-15% LOW TO MED PLASTICITY FINES; DAMP; LOOSE, NPO

11-12' GRAVELLY SAND; DARK BROWN (10YR 3/3) 80-90% FINE TO MED SAND 10-20% COARSE SAND TO FINE GRAVEL; LOOSE; DAMP, NPO

12-15' AS ABOVE BUT COLOR CHANGES TO DARK BLUEISH GREY (4/1) @ 14' AND BECOMES VERY MOIST

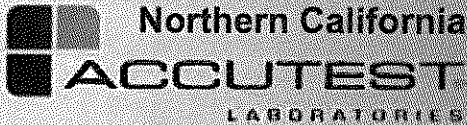
15-18' AS ABOVE BUT COLOR CHANGE BACK TO DARK BROWN (10YR 3/3) AND MOISTURE BECOMES WET @ 17.5'

BOB @ 18'

DTW = 14.62

C

**CERTIFIED ANALYTICAL REPORTS AND
CHAIN-OF-CUSTODY DOCUMENTATION**



04/17/14

Technical Report for

Remediation Risk Management

3800 Partola Dr. Santa Cruz CA

1A710

Accutest Job Number: C33475

Sampling Date: 04/10/14

Report to:

RRM
2560 Soquel Ave.
Santa Cruz, CA 95062
labdata@rrmsc.com; cate@rrmsc.com

ATTN: Cate Townsend

Total number of pages in report: 27



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

James J. Rhudy
Lab Director

Client Service contact: Tony Vega 408-588-0200

Certifications: OR (CA300006) CA (08258CA) AZ (AZ0762) DoD ELAP (L-A-B L2242)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.
Test results relate only to samples analyzed.

Table of Contents

Sections:



-1-

Section 1: Sample Summary	3
Section 2: Summary of Hits	4
Section 3: Sample Results	5
3.1: C33475-1: SB-1	6
3.2: C33475-2: SB-2	9
3.3: C33475-3: SB-3	12
Section 4: Misc. Forms	15
4.1: Chain of Custody	16
Section 5: GC/MS Volatiles - QC Data Summaries	18
5.1: Method Blank Summary	19
5.2: Blank Spike/Blank Spike Duplicate Summary	22
5.3: Matrix Spike/Matrix Spike Duplicate Summary	25



Sample Summary

Remediation Risk Management

Job No: C33475

3800 Partola Dr. Santa Cruz CA
Project No: 1A710

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
C33475-1	04/10/14	09:30 WS	04/11/14	AQ	Ground Water	SB-1
C33475-2	04/10/14	12:00 WS	04/11/14	AQ	Ground Water	SB-2
C33475-3	04/10/14	13:30 WS	04/11/14	AQ	Ground Water	SB-3

Summary of Hits

Job Number: C33475
Account: Remediation Risk Management
Project: 3800 Partola Dr. Santa Cruz CA
Collected: 04/10/14

2

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

C33475-1 SB-1

No hits reported in this sample.

C33475-2 SB-2

Tetrachloroethylene	0.30 J	1.0	0.30	ug/l	SW846 8260B
---------------------	--------	-----	------	------	-------------

C33475-3 SB-3

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: SB-1	Date Sampled: 04/10/14
Lab Sample ID: C33475-1	Date Received: 04/11/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: 3800 Partola Dr. Santa Cruz CA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q20677.D	1	04/15/14	RD	n/a	n/a	VQ854
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	4.0	ug/l	
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.20	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.20	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.22	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	0.20	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	0.28	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	1.0	0.20	ug/l	
67-66-3	Chloroform	ND	1.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	0.20	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	0.26	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.20	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.40	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.20	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	0.22	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.20	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.20	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SB-1	Date Sampled: 04/10/14
Lab Sample ID: C33475-1	Date Received: 04/11/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: 3800 Partola Dr. Santa Cruz CA	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.22	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	10	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.20	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	10	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	0.20	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.40	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	2.4	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.22	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.20	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.20	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.30	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.20	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.20	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		70-130%
2037-26-5	Toluene-D8	93%		70-130%

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

31
3

Client Sample ID: SB-1	Date Sampled: 04/10/14
Lab Sample ID: C33475-1	Date Received: 04/11/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: 3800 Partola Dr. Santa Cruz CA	

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	97%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SB-2	Date Sampled: 04/10/14
Lab Sample ID: C33475-2	Date Received: 04/11/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: 3800 Partola Dr. Santa Cruz CA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q20678.D	1	04/15/14	RD	n/a	n/a	VQ854
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	4.0	ug/l	
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.20	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.20	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.22	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	0.20	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	0.28	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	1.0	0.20	ug/l	
67-66-3	Chloroform	ND	1.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	0.20	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	0.26	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.20	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.40	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.20	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	0.22	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.20	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.20	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SB-2	Date Sampled: 04/10/14
Lab Sample ID: C33475-2	Date Received: 04/11/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: 3800 Partola Dr. Santa Cruz CA	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.22	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	10	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.20	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	10	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	0.20	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.40	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	2.4	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.22	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.20	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.20	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	0.30	1.0	0.30	ug/l	J
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.20	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.20	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		70-130%
2037-26-5	Toluene-D8	97%		70-130%

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.2
3

Client Sample ID: SB-2	Date Sampled: 04/10/14
Lab Sample ID: C33475-2	Date Received: 04/11/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: 3800 Partola Dr. Santa Cruz CA	

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	96%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SB-3	Date Sampled: 04/10/14
Lab Sample ID: C33475-3	Date Received: 04/11/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: 3800 Partola Dr. Santa Cruz CA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q20679.D	1	04/15/14	RD	n/a	n/a	VQ854
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	4.0	ug/l	
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.20	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.20	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.22	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	0.20	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	0.28	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	1.0	0.20	ug/l	
67-66-3	Chloroform	ND	1.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	0.20	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	0.26	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.20	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.40	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.20	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	0.22	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.20	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.20	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SB-3	Date Sampled: 04/10/14
Lab Sample ID: C33475-3	Date Received: 04/11/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: 3800 Partola Dr. Santa Cruz CA	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.22	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	10	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.20	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	10	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	0.20	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.40	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	2.4	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.22	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.20	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.20	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.30	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.20	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.20	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		70-130%
2037-26-5	Toluene-D8	94%		70-130%

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SB-3	Date Sampled: 04/10/14
Lab Sample ID: C33475-3	Date Received: 04/11/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: 3800 Partola Dr. Santa Cruz CA	

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	95%		70-130%

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



Accutest Laboratories Sample Receipt Summary

Accutest Job Number: C33475 Client: RRM Project: 3800 PORTOLA DR
 Date / Time Received: 4/11/2014 Delivery Method: Accutest Courier Airbill #'s: _____

Cooler Temps (Initial/Adjusted): #1: (4.6/4.6)

<u>Cooler Security</u>	<u>Y or N</u>	<u>Y or N</u>
1. Custody Seals Present:	<input type="checkbox"/> <input checked="" type="checkbox"/>	3. COC Present: <input checked="" type="checkbox"/> <input type="checkbox"/>
2. Custody Seals Intact:	<input type="checkbox"/> <input type="checkbox"/>	4. Smpl Dates/Time OK <input checked="" type="checkbox"/> <input type="checkbox"/>

<u>Cooler Temperature</u>	<u>Y or N</u>
1. Temp criteria achieved:	<input checked="" type="checkbox"/> <input type="checkbox"/>
2. Cooler temp verification:	<u>IR1:</u>
3. Cooler media:	<u>ice (Bag)</u>
4. No. Coolers:	<u>1</u>

<u>Quality Control Preservation</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. VOCs headspace free:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<u>Sample Integrity - Documentation</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<u>Sample Integrity - Condition</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample recvd within HT:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Condition of sample:	<u>Intact</u>		

<u>Sample Integrity - Instructions</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Bottles received for unspecified tests:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Compositing instructions clear:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

Accutest Laboratories
V:408.588.0200

2105 Lundy Avenue
F: 408.588.0201

San Jose, CA 95131
www.accutest.com

4.1
4

GC/MS Volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C33475
 Account: RRMASC Remediation Risk Management
 Project: 3800 Partola Dr. Santa Cruz CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VQ854-MB	Q20671.D	1	04/15/14	RD	n/a	n/a	VQ854

The QC reported here applies to the following samples:

Method: SW846 8260B

C33475-1, C33475-2, C33475-3

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	4.0	ug/l	
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.20	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.20	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.22	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	0.20	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	0.28	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	1.0	0.20	ug/l	
67-66-3	Chloroform	ND	1.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	0.20	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	0.26	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.20	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.40	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.20	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	0.22	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.20	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.20	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.22	ug/l	

5.1.1
5

Method Blank Summary

Job Number: C33475
 Account: RRM/CASC Remediation Risk Management
 Project: 3800 Partola Dr. Santa Cruz CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VQ854-MB	Q20671.D	1	04/15/14	RD	n/a	n/a	VQ854

The QC reported here applies to the following samples:

Method: SW846 8260B

C33475-1, C33475-2, C33475-3

CAS No.	Compound	Result	RL	MDL	Units	Q
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.20	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	10	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.20	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	10	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	0.20	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.40	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	2.4	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.22	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.20	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.20	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.20	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.30	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.20	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.20	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	104% 70-130%

5.1.1
5

Method Blank Summary

Page 3 of 3

Job Number: C33475
Account: RRMASC Remediation Risk Management
Project: 3800 Partola Dr. Santa Cruz CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VQ854-MB	Q20671.D	1	04/15/14	RD	n/a	n/a	VQ854

The QC reported here applies to the following samples:

Method: SW846 8260B

C33475-1, C33475-2, C33475-3

CAS No.	Surrogate Recoveries	Limits
2037-26-5	Toluene-D8	105% 70-130%
460-00-4	4-Bromofluorobenzene	98% 70-130%

511
5

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33475
 Account: RRMASC Remediation Risk Management
 Project: 3800 Partola Dr. Santa Cruz CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VQ854-BS	Q20666.D	1	04/15/14	RD	n/a	n/a	VQ854
VQ854-BSD	Q20667.D	1	04/15/14	RD	n/a	n/a	VQ854

The QC reported here applies to the following samples:

Method: SW846 8260B

C33475-1, C33475-2, C33475-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	80	71.7	90	67.8	85	6	38-159/24
71-43-2	Benzene	20	17.1	86	16.8	84	2	77-122/25
108-86-1	Bromobenzene	20	17.9	90	17.6	88	2	76-126/17
74-97-5	Bromochloromethane	20	17.8	89	17.4	87	2	77-130/17
75-27-4	Bromodichloromethane	20	17.2	86	16.7	84	3	75-127/16
75-25-2	Bromoform	20	17.7	89	17.2	86	3	69-141/17
104-51-8	n-Butylbenzene	20	17.5	88	17.2	86	2	72-129/18
135-98-8	sec-Butylbenzene	20	19.0	95	18.6	93	2	74-128/18
98-06-6	tert-Butylbenzene	20	17.4	87	17.1	86	2	73-127/18
108-90-7	Chlorobenzene	20	18.0	90	17.7	89	2	77-122/16
75-00-3	Chloroethane	20	17.5	88	17.7	89	1	69-133/18
67-66-3	Chloroform	20	17.4	87	17.2	86	1	74-126/17
95-49-8	o-Chlorotoluene	20	19.0	95	18.7	94	2	72-127/20
106-43-4	p-Chlorotoluene	20	18.0	90	17.9	90	1	68-127/18
56-23-5	Carbon tetrachloride	20	16.4	82	15.8	79	4	71-133/19
75-34-3	1,1-Dichloroethane	20	16.4	82	16.3	82	1	71-125/17
75-35-4	1,1-Dichloroethylene	20	14.6	73	14.4	72	1	66-125/20
563-58-6	1,1-Dichloropropene	20	17.5	88	17.1	86	2	75-124/18
96-12-8	1,2-Dibromo-3-chloropropane	20	17.6	88	16.8	84	5	65-131/20
106-93-4	1,2-Dibromoethane	20	18.4	92	17.9	90	3	75-135/17
107-06-2	1,2-Dichloroethane	20	17.1	86	16.6	83	3	71-131/17
78-87-5	1,2-Dichloropropane	20	17.6	88	17.4	87	1	78-124/16
142-28-9	1,3-Dichloropropane	20	17.7	89	17.2	86	3	78-123/16
108-20-3	Di-Isopropyl ether	20	17.8	89	17.7	89	1	68-129/17
594-20-7	2,2-Dichloropropane	20	16.6	83	15.9	80	4	70-131/19
124-48-1	Dibromochloromethane	20	18.6	93	18.0	90	3	76-132/16
75-71-8	Dichlorodifluoromethane	20	14.4	72	14.5	73	1	32-168/28
156-59-2	cis-1,2-Dichloroethylene	20	17.5	88	17.5	88	0	73-126/17
10061-01-5	cis-1,3-Dichloropropene	20	19.3	97	19.1	96	1	72-130/16
541-73-1	m-Dichlorobenzene	20	18.2	91	17.7	89	3	75-124/16
95-50-1	o-Dichlorobenzene	20	18.0	90	17.7	89	2	76-124/16
106-46-7	p-Dichlorobenzene	20	17.1	86	16.8	84	2	75-124/16
156-60-5	trans-1,2-Dichloroethylene	20	16.5	83	16.3	82	1	71-126/18
10061-02-6	trans-1,3-Dichloropropene	20	18.3	92	17.9	90	2	71-126/16
100-41-4	Ethylbenzene	20	17.9	90	17.6	88	2	76-126/17
637-92-3	Ethyl Tert Butyl Ether	20	19.7	99	19.4	97	2	75-134/17

* = Outside of Control Limits.

5.2.1
 5

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33475
 Account: RRMASC Remediation Risk Management
 Project: 3800 Partola Dr. Santa Cruz CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VQ854-BS	Q20666.D	1	04/15/14	RD	n/a	n/a	VQ854
VQ854-BSD	Q20667.D	1	04/15/14	RD	n/a	n/a	VQ854

The QC reported here applies to the following samples:

Method: SW846 8260B

C33475-1, C33475-2, C33475-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
591-78-6	2-Hexanone	80	74.4	93	71.2	89	4	67-150/22
87-68-3	Hexachlorobutadiene	20	16.0	80	15.8	79	1	69-135/20
98-82-8	Isopropylbenzene	20	19.1	96	18.8	94	2	61-125/17
99-87-6	p-Isopropyltoluene	20	16.6	83	16.4	82	1	68-127/18
108-10-1	4-Methyl-2-pentanone	80	69.9	87	66.7	83	5	71-142/21
74-83-9	Methyl bromide	20	15.8	79	15.8	79	0	68-132/18
74-87-3	Methyl chloride	20	16.4	82	16.5	83	1	39-150/28
74-95-3	Methylene bromide	20	18.0	90	17.4	87	3	77-127/16
75-09-2	Methylene chloride	20	16.0	80	15.8	79	1	67-128/18
78-93-3	Methyl ethyl ketone	80	75.6	95	73.1	91	3	56-155/23
1634-04-4	Methyl Tert Butyl Ether	20	18.8	94	18.6	93	1	73-132/17
91-20-3	Naphthalene	20	18.0	90	17.5	88	3	70-136/20
103-65-1	n-Propylbenzene	20	18.7	94	18.5	93	1	71-127/17
100-42-5	Styrene	20	17.1	86	16.9	85	1	72-134/16
994-05-8	Tert-Amyl Methyl Ether	20	19.2	96	19.0	95	1	73-133/17
75-65-0	Tert-Butyl Alcohol	100	82.4	82	76.9	77	7	60-149/26
630-20-6	1,1,1,2-Tetrachloroethane	20	18.1	91	17.8	89	2	77-130/16
71-55-6	1,1,1-Trichloroethane	20	16.4	82	16.2	81	1	74-128/19
79-34-5	1,1,2,2-Tetrachloroethane	20	17.6	88	17.1	86	3	77-129/17
79-00-5	1,1,2-Trichloroethane	20	17.8	89	17.5	88	2	77-125/16
87-61-6	1,2,3-Trichlorobenzene	20	17.1	86	16.7	84	2	70-133/18
96-18-4	1,2,3-Trichloropropane	20	18.0	90	17.4	87	3	69-126/18
120-82-1	1,2,4-Trichlorobenzene	20	17.1	86	16.6	83	3	68-129/17
95-63-6	1,2,4-Trimethylbenzene	20	18.5	93	18.2	91	2	74-129/17
108-67-8	1,3,5-Trimethylbenzene	20	17.5	88	17.1	86	2	77-129/17
127-18-4	Tetrachloroethylene	20	16.8	84	16.5	83	2	69-127/20
108-88-3	Toluene	20	17.8	89	17.6	88	1	75-122/17
79-01-6	Trichloroethylene	20	16.6	83	16.3	82	2	78-123/17
75-69-4	Trichlorofluoromethane	20	17.9	90	17.7	89	1	65-136/23
75-01-4	Vinyl chloride	20	17.6	88	17.8	89	1	57-146/22
1330-20-7	Xylene (total)	60	56.0	93	55.1	92	2	77-125/17

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	102%	102%	70-130%

* = Outside of Control Limits.

5.2.1
 5

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33475
Account: RRMASC Remediation Risk Management
Project: 3800 Partola Dr. Santa Cruz CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VQ854-BS	Q20666.D	1	04/15/14	RD	n/a	n/a	VQ854
VQ854-BSD	Q20667.D	1	04/15/14	RD	n/a	n/a	VQ854

The QC reported here applies to the following samples:

Method: SW846 8260B

C33475-1, C33475-2, C33475-3

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
2037-26-5	Toluene-D8	104%	105%	70-130%
460-00-4	4-Bromofluorobenzene	105%	105%	70-130%

* = Outside of Control Limits.

5.2.1
5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33475
 Account: RRMASC Remediation Risk Management
 Project: 3800 Partola Dr. Santa Cruz CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C33286-2MS	Q20684.D	20	04/15/14	RD	n/a	n/a	VQ854
C33286-2MSD	Q20685.D	20	04/15/14	RD	n/a	n/a	VQ854
C33286-2 ^a	Q20683.D	20	04/15/14	RD	n/a	n/a	VQ854

The QC reported here applies to the following samples:

Method: SW846 8260B

C33475-1, C33475-2, C33475-3

CAS No.	Compound	C33286-2 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND	1600	1720	108	1620	101	6	38-159/24
71-43-2	Benzene	ND	400	421	105	415	104	1	77-122/16
108-86-1	Bromobenzene	ND	400	428	107	430	108	0	76-126/17
74-97-5	Bromochloromethane	ND	400	445	111	404	101	10	77-130/17
75-27-4	Bromodichloromethane	ND	400	421	105	399	100	5	75-127/16
75-25-2	Bromoform	ND	400	389	97	379	95	3	69-141/17
104-51-8	n-Butylbenzene	ND	400	417	104	430	108	3	72-129/18
135-98-8	sec-Butylbenzene	ND	400	453	113	474	119	5	74-128/18
98-06-6	tert-Butylbenzene	ND	400	418	105	430	108	3	73-127/18
108-90-7	Chlorobenzene	ND	400	434	109	429	107	1	77-122/16
75-00-3	Chloroethane	ND	400	368	92	357	89	3	69-133/18
67-66-3	Chloroform	ND	400	441	110	408	102	8	74-126/17
95-49-8	o-Chlorotoluene	ND	400	455	114	458	115	1	72-127/20
106-43-4	p-Chlorotoluene	ND	400	434	109	439	110	1	68-127/18
56-23-5	Carbon tetrachloride	ND	400	434	109	437	109	1	71-133/19
75-34-3	1,1-Dichloroethane	ND	400	410	103	390	98	5	71-125/17
75-35-4	1,1-Dichloroethylene	ND	400	390	98	386	97	1	66-125/20
563-58-6	1,1-Dichloropropene	ND	400	448	112	458	115	2	75-124/18
96-12-8	1,2-Dibromo-3-chloropropane	ND	400	431	108	445	111	3	65-131/20
106-93-4	1,2-Dibromoethane	ND	400	438	110	435	109	1	75-135/17
107-06-2	1,2-Dichloroethane	ND	400	437	109	409	102	7	71-131/17
78-87-5	1,2-Dichloropropane	ND	400	428	107	419	105	2	78-124/16
142-28-9	1,3-Dichloropropane	ND	400	419	105	412	103	2	78-123/16
108-20-3	Di-Isopropyl ether	ND	400	426	107	401	100	6	68-129/17
594-20-7	2,2-Dichloropropane	ND	400	383	96	361	90	6	70-131/19
124-48-1	Dibromochloromethane	ND	400	429	107	417	104	3	76-132/16
75-71-8	Dichlorodifluoromethane	ND	400	334	84	313	78	6	32-168/28
156-59-2	cis-1,2-Dichloroethylene	ND	400	435	109	406	102	7	73-126/17
10061-01-5	cis-1,3-Dichloropropene	ND	400	458	115	439	110	4	72-130/16
541-73-1	m-Dichlorobenzene	ND	400	437	109	436	109	0	75-124/16
95-50-1	o-Dichlorobenzene	ND	400	439	110	436	109	1	76-124/16
106-46-7	p-Dichlorobenzene	ND	400	417	104	414	104	1	75-124/16
156-60-5	trans-1,2-Dichloroethylene	ND	400	420	105	402	101	4	71-126/18
10061-02-6	trans-1,3-Dichloropropene	ND	400	430	108	419	105	3	71-126/16
100-41-4	Ethylbenzene	ND	400	434	109	435	109	0	76-126/17
637-92-3	Ethyl Tert Butyl Ether	ND	400	477	119	445	111	7	75-134/17

* = Outside of Control Limits.

5.3.1
 5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33475
 Account: RRMASC Remediation Risk Management
 Project: 3800 Partola Dr. Santa Cruz CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C33286-2MS	Q20684.D	20	04/15/14	RD	n/a	n/a	VQ854
C33286-2MSD	Q20685.D	20	04/15/14	RD	n/a	n/a	VQ854
C33286-2 ^a	Q20683.D	20	04/15/14	RD	n/a	n/a	VQ854

The QC reported here applies to the following samples:

Method: SW846 8260B

C33475-1, C33475-2, C33475-3

CAS No.	Compound	C33286-2 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
591-78-6	2-Hexanone	ND	1600	1650	103	1670	104	1	67-150/22
87-68-3	Hexachlorobutadiene	ND	400	384	96	398	100	4	69-135/20
98-82-8	Isopropylbenzene	ND	400	464	116	469	117	1	61-125/17
99-87-6	p-Isopropyltoluene	ND	400	396	99	407	102	3	68-127/18
108-10-1	4-Methyl-2-pentanone	ND	1600	1550	97	1540	96	1	71-142/21
74-83-9	Methyl bromide	ND	400	336	84	317	79	6	68-132/18
74-87-3	Methyl chloride	ND	400	358	90	335	84	7	39-150/28
74-95-3	Methylene bromide	ND	400	446	112	423	106	5	77-127/16
75-09-2	Methylene chloride	ND	400	403	101	376	94	7	67-128/18
78-93-3	Methyl ethyl ketone	ND	1600	1730	108	1650	103	5	56-155/23
1634-04-4	Methyl Tert Butyl Ether	ND	400	460	115	429	107	7	73-132/17
91-20-3	Naphthalene	ND	400	432	108	438	110	1	70-136/20
103-65-1	n-Propylbenzene	ND	400	446	112	460	115	3	71-127/17
100-42-5	Styrene	ND	400	398	100	387	97	3	72-134/16
994-05-8	Tert-Amyl Methyl Ether	ND	400	466	117	434	109	7	73-133/17
75-65-0	Tert-Butyl Alcohol	ND	2000	2050	103	1940	97	6	60-149/26
630-20-6	1,1,1,2-Tetrachloroethane	ND	400	441	110	432	108	2	77-130/16
71-55-6	1,1,1-Trichloroethane	ND	400	431	108	411	103	5	74-128/19
79-34-5	1,1,2,2-Tetrachloroethane	ND	400	420	105	426	107	1	77-129/17
79-00-5	1,1,2-Trichloroethane	ND	400	424	106	414	104	2	77-125/16
87-61-6	1,2,3-Trichlorobenzene	ND	400	408	102	410	103	0	70-133/18
96-18-4	1,2,3-Trichloropropane	ND	400	414	104	409	102	1	69-126/18
120-82-1	1,2,4-Trichlorobenzene	ND	400	406	102	409	102	1	68-129/17
95-63-6	1,2,4-Trimethylbenzene	ND	400	446	112	451	113	1	74-129/17
108-67-8	1,3,5-Trimethylbenzene	ND	400	415	104	423	106	2	77-129/17
127-18-4	Tetrachloroethylene	1190	400	1620	108	1590	100	2	69-127/20
108-88-3	Toluene	ND	400	430	108	434	109	1	75-122/17
79-01-6	Trichloroethylene	ND	400	419	105	416	104	1	78-123/17
75-69-4	Trichlorofluoromethane	ND	400	406	102	382	96	6	65-136/23
75-01-4	Vinyl chloride	ND	400	379	95	369	92	3	57-146/22
1330-20-7	Xylene (total)	ND	1200	1360	113	1350	113	1	77-125/17

CAS No.	Surrogate Recoveries	MS	MSD	C33286-2	Limits
1868-53-7	Dibromofluoromethane	108%	99%	114%	70-130%

* = Outside of Control Limits.

5.3.1
 5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33475
Account: RRMASC Remediation Risk Management
Project: 3800 Partola Dr. Santa Cruz CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C33286-2MS	Q20684.D	20	04/15/14	RD	n/a	n/a	VQ854
C33286-2MSD	Q20685.D	20	04/15/14	RD	n/a	n/a	VQ854
C33286-2 ^a	Q20683.D	20	04/15/14	RD	n/a	n/a	VQ854

The QC reported here applies to the following samples:

Method: SW846 8260B

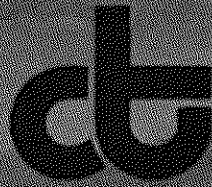
C33475-1, C33475-2, C33475-3

CAS No.	Surrogate Recoveries	MS	MSD	C33286-2	Limits
2037-26-5	Toluene-D8	103%	105%	102%	70-130%
460-00-4	4-Bromofluorobenzene	106%	105%	95%	70-130%

(a) Sample analyzed 1 day out of hold-time due to need for reanalysis; originally analyzed within hold-time.

* = Outside of Control Limits.

5.3.1
5



Curtis & Tompkins, Ltd.
Analytical Laboratories. Since 1878



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

**Laboratory Job Number 255574
ANALYTICAL REPORT**

Remediation Risk Management, Inc.
2560 Soquel Ave
Santa Cruz, CA 95062

Project : STANDARD
Location : IA710
Level : II

Sample ID

SG-1

SG-2

Lab ID

255574-001

255574-002

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Mike J. Dahlquist
Project Manager

mike.dahlquist@ctberk.com

Date: 04/18/2014

CA ELAP# 2896, NELAP# 4044-001

CASE NARRATIVE

Laboratory number: 255574
Client: Remediation Risk Management, Inc.
Location: IA710
Request Date: 04/11/14
Samples Received: 04/11/14

This data package contains sample and QC results for two air samples, requested for the above referenced project on 04/11/14. The samples were received cold and intact.

Volatile Organics in Air by MS (EPA TO-15):

High response was observed for naphthalene in the CCV analyzed 04/17/14 17:27; affected data was qualified with "b". No other analytical problems were encountered.

Volatile Organics in Air GC (ASTM D1946):

No analytical problems were encountered.

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 255574 Date Received 4/11/14 Number of coolers 0
Client RRMI Project IAT10

Date Opened 4/14/14 By (print) AAJ (sign) [Signature]
Date Logged in [Signature] By (print) [Signature] (sign) [Signature]

1. Did cooler come with a shipping slip (airbill, etc) GSO YES NO
Shipping info 524358133

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many Name Date

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)
Bubble Wrap Foam blocks Bags None
Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: Wet Blue/Gel None Temp(°C)

Samples Received on ice & cold without a temperature blank

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO
If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are there any missing / extra samples? YES NO

11. Are samples in the appropriate containers for indicated tests? YES NO

12. Are sample labels present, in good condition and complete? YES NO

13. Do the sample labels agree with custody papers? YES NO

14. Was sufficient amount of sample sent for tests requested? YES NO

15. Are the samples appropriately preserved? YES NO N/A

16. Did you check preservatives for all bottles for each sample? YES NO N/A

17. Did you document your preservative check? YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? YES NO N/A

21. Was the client contacted concerning this sample delivery? YES NO
If YES, Who was called? By Date:

COMMENTS

Detections Summary for 255574

Client : Remediation Risk Management, Inc.
 Project : STANDARD
 Location : IA710

Client Sample ID : SG-1

Laboratory Sample ID :

255574-001

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
1,3-Butadiene	6.3		0.97	0.19	ppbv	As Recd	1.940	EPA TO-15	METHOD
Acetone	21		3.9	0.28	ppbv	As Recd	1.940	EPA TO-15	METHOD
Carbon Disulfide	1.1		0.97	0.19	ppbv	As Recd	1.940	EPA TO-15	METHOD
n-Hexane	11		0.97	0.19	ppbv	As Recd	1.940	EPA TO-15	METHOD
1,1-Dichloroethane	1.1		0.97	0.19	ppbv	As Recd	1.940	EPA TO-15	METHOD
2-Butanone	2.7		0.97	0.19	ppbv	As Recd	1.940	EPA TO-15	METHOD
Ethyl Acetate	4.3		0.97	0.19	ppbv	As Recd	1.940	EPA TO-15	METHOD
Cyclohexane	9.0		0.97	0.19	ppbv	As Recd	1.940	EPA TO-15	METHOD
Benzene	8.1		0.97	0.042	ppbv	As Recd	1.940	EPA TO-15	METHOD
n-Heptane	9.3		0.97	0.19	ppbv	As Recd	1.940	EPA TO-15	METHOD
Toluene	180		0.97	0.19	ppbv	As Recd	1.940	EPA TO-15	METHOD
Ethylbenzene	3.1		0.97	0.19	ppbv	As Recd	1.940	EPA TO-15	METHOD
m,p-Xylenes	19		0.97	0.19	ppbv	As Recd	1.940	EPA TO-15	METHOD
o-Xylene	6.5		0.97	0.19	ppbv	As Recd	1.940	EPA TO-15	METHOD
1,2,4-Trimethylbenzene	1.3		0.97	0.19	ppbv	As Recd	1.940	EPA TO-15	METHOD
Carbon Dioxide	39,000		1,900	29	ppmv	As Recd	1.940	ASTM D1946	METHOD
Oxygen	79,000		1,900	88	ppmv	As Recd	1.940	ASTM D1946	METHOD

Client Sample ID : SG-2

Laboratory Sample ID :

255574-002

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Acetone	24		4.0	0.29	ppbv	As Recd	2.000	EPA TO-15	METHOD
Carbon Disulfide	7.2		1.0	0.20	ppbv	As Recd	2.000	EPA TO-15	METHOD
n-Hexane	6.3		1.0	0.20	ppbv	As Recd	2.000	EPA TO-15	METHOD
2-Butanone	2.7		1.0	0.20	ppbv	As Recd	2.000	EPA TO-15	METHOD
Cyclohexane	5.6		1.0	0.20	ppbv	As Recd	2.000	EPA TO-15	METHOD
Benzene	3.2		1.0	0.043	ppbv	As Recd	2.000	EPA TO-15	METHOD
n-Heptane	2.2		1.0	0.20	ppbv	As Recd	2.000	EPA TO-15	METHOD
Toluene	45		1.0	0.20	ppbv	As Recd	2.000	EPA TO-15	METHOD
Tetrachloroethene	4.1		1.0	0.023	ppbv	As Recd	2.000	EPA TO-15	METHOD
m,p-Xylenes	2.2		1.0	0.20	ppbv	As Recd	2.000	EPA TO-15	METHOD
Carbon Dioxide	41,000		2,000	29	ppmv	As Recd	2.000	ASTM D1946	METHOD
Oxygen	92,000		2,000	91	ppmv	As Recd	2.000	ASTM D1946	METHOD

**Volatile Organics in Air**

Lab #:	255574	Location:	IA710
Client:	Remediation Risk Management, Inc.	Prep:	METHOD
Project#:	STANDARD	Analysis:	EPA TO-15
Field ID:	SG-1	Diln Fac:	1.940
Lab ID:	255574-001	Batch#:	210171
Matrix:	Air	Sampled:	04/10/14
Units (V):	ppbv	Received:	04/11/14
Units (M):	ug/m3	Analyzed:	04/17/14

Analyte	Result (V)	RL	Result (M)	RL
Freon 12	ND	0.97	ND	4.8
Freon 114	ND	0.97	ND	6.8
Chloromethane	ND	0.97	ND	2.0
Vinyl Chloride	ND	0.97	ND	2.5
1,3-Butadiene	6.3	0.97	14	2.1
Bromomethane	ND	0.97	ND	3.8
Chloroethane	ND	0.97	ND	2.6
Trichlorofluoromethane	ND	0.97	ND	5.4
Acrolein	ND	3.9	ND	8.9
1,1-Dichloroethene	ND	0.97	ND	3.8
Freon 113	ND	0.97	ND	7.4
Acetone	21	3.9	49	9.2
Carbon Disulfide	1.1	0.97	3.5	3.0
Isopropanol	ND	9.7	ND	24
Methylene Chloride	ND	0.97	ND	3.4
trans-1,2-Dichloroethene	ND	0.97	ND	3.8
MTBE	ND	0.97	ND	3.5
n-Hexane	11	0.97	38	3.4
1,1-Dichloroethane	1.1	0.97	4.5	3.9
Vinyl Acetate	ND	0.97	ND	3.4
cis-1,2-Dichloroethene	ND	0.97	ND	3.8
2-Butanone	2.7	0.97	8.1	2.9
Ethyl Acetate	4.3	0.97	15	3.5
Tetrahydrofuran	ND	0.97	ND	2.9
Chloroform	ND	0.97	ND	4.7
1,1,1-Trichloroethane	ND	0.97	ND	5.3
Cyclohexane	9.0	0.97	31	3.3
Carbon Tetrachloride	ND	0.97	ND	6.1
Benzene	8.1	0.97	26	3.1
1,2-Dichloroethane	ND	0.97	ND	3.9
n-Heptane	9.3	0.97	38	4.0
Trichloroethene	ND	0.97	ND	5.2
1,2-Dichloropropane	ND	0.97	ND	4.5
Bromodichloromethane	ND	0.97	ND	6.5
cis-1,3-Dichloropropene	ND	0.97	ND	4.4

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air

Lab #: 255574	Location: IA710	Prep: METHOD
Client: Remediation Risk Management, Inc.	Analysis: EPA TO-15	
Project#: STANDARD	Diln Fac: 1.940	
Field ID: SG-1	Batch#: 210171	
Lab ID: 255574-001	Sampled: 04/10/14	
Matrix: Air	Received: 04/11/14	
Units (V): ppbv	Analyzed: 04/17/14	
Units (M): ug/m3		

Analyte	Result (V)	RL	Result (M)	RL
4-Methyl-2-Pentanone	ND	0.97	ND	4.0
Toluene	180	0.97	670	3.7
trans-1,3-Dichloropropene	ND	0.97	ND	4.4
1,1,2-Trichloroethane	ND	0.97	ND	5.3
Tetrachloroethene	ND	0.97	ND	6.6
2-Hexanone	ND	0.97	ND	4.0
Dibromochloromethane	ND	0.97	ND	8.3
1,2-Dibromoethane	ND	0.97	ND	7.5
Chlorobenzene	ND	0.97	ND	4.5
Ethylbenzene	3.1	0.97	14	4.2
m,p-Xylenes	19	0.97	83	4.2
o-Xylene	6.5	0.97	28	4.2
Styrene	ND	0.97	ND	4.1
Bromoform	ND	3.2	ND	33
1,1,2,2-Tetrachloroethane	ND	0.97	ND	6.7
4-Ethyltoluene	ND	0.97	ND	4.8
1,3,5-Trimethylbenzene	ND	0.97	ND	4.8
1,2,4-Trimethylbenzene	1.3	0.97	6.6	4.8
1,3-Dichlorobenzene	ND	0.97	ND	5.8
1,4-Dichlorobenzene	ND	0.97	ND	5.8
Benzyl chloride	ND	0.97	ND	5.0
1,2-Dichlorobenzene	ND	0.97	ND	5.8
1,2,4-Trichlorobenzene	ND	0.97	ND	7.2
Hexachlorobutadiene	ND	0.97	ND	10
Naphthalene	ND	3.9	ND	20

Surrogate	%REC	Limits
Bromofluorobenzene	89	70-130

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air

Lab #: 255574	Location: IA710
Client: Remediation Risk Management, Inc.	Prep: METHOD
Project#: STANDARD	Analysis: EPA TO-15
Field ID: SG-2	Diln Fac: 2.000
Lab ID: 255574-002	Batch#: 210171
Matrix: Air	Sampled: 04/10/14
Units (V): ppbv	Received: 04/11/14
Units (M): ug/m3	Analyzed: 04/18/14

Analyte	Result (V)	RL	Result (M)	RL
Freon 12	ND	1.0	ND	4.9
Freon 114	ND	1.0	ND	7.0
Chloromethane	ND	1.0	ND	2.1
Vinyl Chloride	ND	1.0	ND	2.6
1,3-Butadiene	ND	1.0	ND	2.2
Bromomethane	ND	1.0	ND	3.9
Chloroethane	ND	1.0	ND	2.6
Trichlorofluoromethane	ND	1.0	ND	5.6
Acrolein	ND	4.0	ND	9.2
1,1-Dichloroethene	ND	1.0	ND	4.0
Freon 113	ND	1.0	ND	7.7
Acetone	24	4.0	57	9.5
Carbon Disulfide	7.2	1.0	22	3.1
Isopropanol	ND	10	ND	25
Methylene Chloride	ND	1.0	ND	3.5
trans-1,2-Dichloroethene	ND	1.0	ND	4.0
MTBE	ND	1.0	ND	3.6
n-Hexane	6.3	1.0	22	3.5
1,1-Dichloroethane	ND	1.0	ND	4.0
Vinyl Acetate	ND	1.0	ND	3.5
cis-1,2-Dichloroethene	ND	1.0	ND	4.0
2-Butanone	2.7	1.0	7.8	2.9
Ethyl Acetate	ND	1.0	ND	3.6
Tetrahydrofuran	ND	1.0	ND	2.9
Chloroform	ND	1.0	ND	4.9
1,1,1-Trichloroethane	ND	1.0	ND	5.5
Cyclohexane	5.6	1.0	19	3.4
Carbon Tetrachloride	ND	1.0	ND	6.3
Benzene	3.2	1.0	10	3.2
1,2-Dichloroethane	ND	1.0	ND	4.0
n-Heptane	2.2	1.0	9.1	4.1
Trichloroethene	ND	1.0	ND	5.4
1,2-Dichloropropane	ND	1.0	ND	4.6
Bromodichloromethane	ND	1.0	ND	6.7
cis-1,3-Dichloropropene	ND	1.0	ND	4.5

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air

Lab #: 255574	Location: IA710
Client: Remediation Risk Management, Inc.	Prep: METHOD
Project#: STANDARD	Analysis: EPA TO-15
Field ID: SG-2	Diln Fac: 2.000
Lab ID: 255574-002	Batch#: 210171
Matrix: Air	Sampled: 04/10/14
Units (V): ppbv	Received: 04/11/14
Units (M): ug/m3	Analyzed: 04/18/14

Analyte	Result (V)	RL	Result (M)	RL
4-Methyl-2-Pentanone	ND	1.0	ND	4.1
Toluene	45	1.0	170	3.8
trans-1,3-Dichloropropene	ND	1.0	ND	4.5
1,1,2-Trichloroethane	ND	1.0	ND	5.5
Tetrachloroethene	4.1	1.0	28	6.8
2-Hexanone	ND	1.0	ND	4.1
Dibromochloromethane	ND	1.0	ND	8.5
1,2-Dibromoethane	ND	1.0	ND	7.7
Chlorobenzene	ND	1.0	ND	4.6
Ethylbenzene	ND	1.0	ND	4.3
m,p-Xylenes	2.2	1.0	9.7	4.3
o-Xylene	ND	1.0	ND	4.3
Styrene	ND	1.0	ND	4.3
Bromoform	ND	3.3	ND	34
1,1,2,2-Tetrachloroethane	ND	1.0	ND	6.9
4-Ethyltoluene	ND	1.0	ND	4.9
1,3,5-Trimethylbenzene	ND	1.0	ND	4.9
1,2,4-Trimethylbenzene	ND	1.0	ND	4.9
1,3-Dichlorobenzene	ND	1.0	ND	6.0
1,4-Dichlorobenzene	ND	1.0	ND	6.0
Benzyl chloride	ND	1.0	ND	5.2
1,2-Dichlorobenzene	ND	1.0	ND	6.0
1,2,4-Trichlorobenzene	ND	1.0	ND	7.4
Hexachlorobutadiene	ND	1.0	ND	11
Naphthalene	ND	4.0	ND	21

Surrogate	%REC	Limits
Bromofluorobenzene	92	70-130

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	255574	Location:	IA710
Client:	Remediation Risk Management, Inc.	Prep:	METHOD
Project#:	STANDARD	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	210171
Units (V):	ppbv	Analyzed:	04/17/14
Diln Fac:	1.000		

Type: BS Lab ID: QC736549

Analyte	Spiked	Result (V)	%REC	Limits
Freon 12	10.00	9.736	97	70-130
Freon 114	10.00	9.024	90	70-130
Chloromethane	10.00	9.457	95	70-130
Vinyl Chloride	10.00	9.816	98	70-130
1,3-Butadiene	10.00	9.248	92	70-130
Bromomethane	10.00	9.915	99	70-130
Chloroethane	10.00	8.658	87	70-130
Trichlorofluoromethane	10.00	10.53	105	70-130
Acrolein	10.00	8.036	80	62-130
1,1-Dichloroethene	10.00	10.13	101	70-130
Freon 113	10.00	10.97	110	70-130
Acetone	10.00	7.689	77	67-130
Carbon Disulfide	10.00	8.981	90	70-130
Isopropanol	10.00	8.319	83	60-130
Methylene Chloride	10.00	8.619	86	68-130
trans-1,2-Dichloroethene	10.00	10.39	104	70-130
MTBE	10.00	9.854	99	70-130
n-Hexane	10.00	8.468	85	70-130
1,1-Dichloroethane	10.00	9.962	100	70-130
Vinyl Acetate	10.00	11.59	116	70-130
cis-1,2-Dichloroethene	10.00	9.671	97	70-130
2-Butanone	10.00	10.11	101	70-130
Ethyl Acetate	10.00	7.835	78	70-130
Tetrahydrofuran	10.00	10.92	109	70-130
Chloroform	10.00	9.950	100	70-130
1,1,1-Trichloroethane	10.00	11.50	115	70-130
Cyclohexane	10.00	10.30	103	70-130
Carbon Tetrachloride	10.00	11.80	118	70-130
Benzene	10.00	9.995	100	70-130
1,2-Dichloroethane	10.00	10.32	103	70-130
n-Heptane	10.00	9.331	93	70-130
Trichloroethene	10.00	10.22	102	70-130
1,2-Dichloropropane	10.00	10.49	105	70-130

b= See narrative

RPD= Relative Percent Difference

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	255574	Location:	IA710
Client:	Remediation Risk Management, Inc.	Prep:	METHOD
Project#:	STANDARD	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	210171
Units (V):	ppbv	Analyzed:	04/17/14
Diln Fac:	1.000		

Analyte	Spiked	Result (V)	%REC	Limits
Bromodichloromethane	10.00	11.12	111	70-130
cis-1,3-Dichloropropene	10.00	11.04	110	70-130
4-Methyl-2-Pentanone	10.00	11.42	114	70-130
Toluene	10.00	9.595	96	70-130
trans-1,3-Dichloropropene	10.00	10.78	108	70-130
1,1,2-Trichloroethane	10.00	10.58	106	70-130
Tetrachloroethene	10.00	8.966	90	70-130
2-Hexanone	10.00	10.72	107	70-130
Dibromochloromethane	10.00	11.50	115	70-130
1,2-Dibromoethane	10.00	10.79	108	70-130
Chlorobenzene	10.00	8.686	87	70-130
Ethylbenzene	10.00	8.585	86	70-130
m,p-Xylenes	20.00	18.69	93	70-130
o-Xylene	10.00	9.560	96	70-130
Styrene	10.00	7.851	79	70-130
Bromoform	10.00	8.965	90	70-130
1,1,2,2-Tetrachloroethane	10.00	10.79	108	70-130
4-Ethyltoluene	10.00	9.576	96	70-130
1,3,5-Trimethylbenzene	10.00	10.74	107	70-130
1,2,4-Trimethylbenzene	10.00	11.55	116	70-130
1,3-Dichlorobenzene	10.00	9.857	99	70-130
1,4-Dichlorobenzene	10.00	9.588	96	70-130
Benzyl chloride	10.00	9.056	91	70-130
1,2-Dichlorobenzene	10.00	10.11	101	70-130
1,2,4-Trichlorobenzene	10.00	10.90	109	62-130
Hexachlorobutadiene	10.00	8.998	90	68-130
Naphthalene	10.00	13.09 b	131	54-136

Surrogate	%REC	Limits
Bromofluorobenzene	102	70-130

b= See narrative

RPD= Relative Percent Difference

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	255574	Location:	IA710
Client:	Remediation Risk Management, Inc.	Prep:	METHOD
Project#:	STANDARD	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	210171
Units (V):	ppbv	Analyzed:	04/17/14
Diln Fac:	1.000		

Type: BSD

Lab ID: QC736550

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim
Freon 12	10.00	9.649	96	70-130	1	20
Freon 114	10.00	9.077	91	70-130	1	20
Chloromethane	10.00	8.953	90	70-130	5	27
Vinyl Chloride	10.00	10.10	101	70-130	3	23
1,3-Butadiene	10.00	8.964	90	70-130	3	21
Bromomethane	10.00	10.00	100	70-130	1	20
Chloroethane	10.00	9.280	93	70-130	7	20
Trichlorofluoromethane	10.00	10.63	106	70-130	1	20
Acrolein	10.00	7.765	78	62-130	3	31
1,1-Dichloroethene	10.00	9.777	98	70-130	4	20
Freon 113	10.00	11.09	111	70-130	1	23
Acetone	10.00	7.564	76	67-130	2	20
Carbon Disulfide	10.00	8.972	90	70-130	0	20
Isopropanol	10.00	8.541	85	60-130	3	21
Methylene Chloride	10.00	8.707	87	68-130	1	23
trans-1,2-Dichloroethene	10.00	10.44	104	70-130	0	20
MTBE	10.00	10.13	101	70-130	3	20
n-Hexane	10.00	9.343	93	70-130	10	20
1,1-Dichloroethane	10.00	9.976	100	70-130	0	20
Vinyl Acetate	10.00	12.34	123	70-130	6	21
cis-1,2-Dichloroethene	10.00	9.411	94	70-130	3	20
2-Butanone	10.00	10.53	105	70-130	4	20
Ethyl Acetate	10.00	8.286	83	70-130	6	20
Tetrahydrofuran	10.00	9.978	100	70-130	9	20
Chloroform	10.00	9.740	97	70-130	2	20
1,1,1-Trichloroethane	10.00	10.50	105	70-130	9	20
Cyclohexane	10.00	10.02	100	70-130	3	20
Carbon Tetrachloride	10.00	10.96	110	70-130	7	20
Benzene	10.00	9.617	96	70-130	4	20
1,2-Dichloroethane	10.00	9.481	95	70-130	8	20
n-Heptane	10.00	8.839	88	70-130	5	20
Trichloroethene	10.00	10.11	101	70-130	1	20
1,2-Dichloropropane	10.00	9.898	99	70-130	6	20

b= See narrative

RPD= Relative Percent Difference

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	255574	Location:	IA710
Client:	Remediation Risk Management, Inc.	Prep:	METHOD
Project#:	STANDARD	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	210171
Units (V):	ppbv	Analyzed:	04/17/14
Diln Fac:	1.000		

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim
Bromodichloromethane	10.00	10.25	103	70-130	8	20
cis-1,3-Dichloropropene	10.00	10.69	107	70-130	3	20
4-Methyl-2-Pentanone	10.00	11.18	112	70-130	2	20
Toluene	10.00	10.16	102	70-130	6	23
trans-1,3-Dichloropropene	10.00	10.96	110	70-130	2	20
1,1,2-Trichloroethane	10.00	11.34	113	70-130	7	20
Tetrachloroethene	10.00	9.677	97	70-130	8	20
2-Hexanone	10.00	11.53	115	70-130	7	21
Dibromochloromethane	10.00	11.95	120	70-130	4	20
1,2-Dibromoethane	10.00	11.78	118	70-130	9	20
Chlorobenzene	10.00	8.688	87	70-130	0	21
Ethylbenzene	10.00	8.098	81	70-130	6	20
m,p-Xylenes	20.00	17.60	88	70-130	6	20
o-Xylene	10.00	9.059	91	70-130	5	20
Styrene	10.00	7.472	75	70-130	5	21
Bromoform	10.00	9.999	100	70-130	11	20
1,1,2,2-Tetrachloroethane	10.00	11.68	117	70-130	8	24
4-Ethyltoluene	10.00	9.487	95	70-130	1	22
1,3,5-Trimethylbenzene	10.00	10.28	103	70-130	4	23
1,2,4-Trimethylbenzene	10.00	11.50	115	70-130	0	24
1,3-Dichlorobenzene	10.00	9.309	93	70-130	6	22
1,4-Dichlorobenzene	10.00	9.171	92	70-130	4	22
Benzyl chloride	10.00	8.090	81	70-130	11	21
1,2-Dichlorobenzene	10.00	9.514	95	70-130	6	22
1,2,4-Trichlorobenzene	10.00	10.84	108	62-130	1	28
Hexachlorobutadiene	10.00	8.698	87	68-130	3	27
Naphthalene	10.00	13.32 b	133	54-136	2	29

Surrogate	%REC	Limits
Bromofluorobenzene	97	70-130

b= See narrative

RPD= Relative Percent Difference

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	255574	Location:	IA710
Client:	Remediation Risk Management, Inc.	Prep:	METHOD
Project#:	STANDARD	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC736551	Diln Fac:	1.000
Matrix:	Air	Batch#:	210171
Units (V):	ppbv	Analyzed:	04/17/14

Analyte	Result (V)	RL	Result (M)	RL
Freon 12	ND	0.50	ND	2.5
Freon 114	ND	0.50	ND	3.5
Chloromethane	ND	0.50	ND	1.0
Vinyl Chloride	ND	0.50	ND	1.3
1,3-Butadiene	ND	0.50	ND	1.1
Bromomethane	ND	0.50	ND	1.9
Chloroethane	ND	0.50	ND	1.3
Trichlorofluoromethane	ND	0.50	ND	2.8
Acrolein	ND	2.0	ND	4.6
1,1-Dichloroethene	ND	0.50	ND	2.0
Freon 113	ND	0.50	ND	3.8
Acetone	ND	2.0	ND	4.8
Carbon Disulfide	ND	0.50	ND	1.6
Isopropanol	ND	5.0	ND	12
Methylene Chloride	ND	0.50	ND	1.7
trans-1,2-Dichloroethene	ND	0.50	ND	2.0
MTBE	ND	0.50	ND	1.8
n-Hexane	ND	0.50	ND	1.8
1,1-Dichloroethane	ND	0.50	ND	2.0
Vinyl Acetate	ND	0.50	ND	1.8
cis-1,2-Dichloroethene	ND	0.50	ND	2.0
2-Butanone	ND	0.50	ND	1.5
Ethyl Acetate	ND	0.50	ND	1.8
Tetrahydrofuran	ND	0.50	ND	1.5
Chloroform	ND	0.50	ND	2.4
1,1,1-Trichloroethane	ND	0.50	ND	2.7
Cyclohexane	ND	0.50	ND	1.7
Carbon Tetrachloride	ND	0.50	ND	3.1
Benzene	ND	0.50	ND	1.6
1,2-Dichloroethane	ND	0.50	ND	2.0
n-Heptane	ND	0.50	ND	2.0
Trichloroethene	ND	0.50	ND	2.7
1,2-Dichloropropane	ND	0.50	ND	2.3
Bromodichloromethane	ND	0.50	ND	3.4
cis-1,3-Dichloropropene	ND	0.50	ND	2.3

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	255574	Location:	IA710
Client:	Remediation Risk Management, Inc.	Prep:	METHOD
Project#:	STANDARD	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC736551	Diln Fac:	1.000
Matrix:	Air	Batch#:	210171
Units (V):	ppbv	Analyzed:	04/17/14

Analyte	Result (V)	RL	Result (M)	RL
4-Methyl-2-Pentanone	ND	0.50	ND	2.0
Toluene	ND	0.50	ND	1.9
trans-1,3-Dichloropropene	ND	0.50	ND	2.3
1,1,2-Trichloroethane	ND	0.50	ND	2.7
Tetrachloroethene	ND	0.50	ND	3.4
2-Hexanone	ND	0.50	ND	2.0
Dibromochloromethane	ND	0.50	ND	4.3
1,2-Dibromoethane	ND	0.50	ND	3.8
Chlorobenzene	ND	0.50	ND	2.3
Ethylbenzene	ND	0.50	ND	2.2
m,p-Xylenes	ND	0.50	ND	2.2
o-Xylene	ND	0.50	ND	2.2
Styrene	ND	0.50	ND	2.1
Bromoform	ND	1.7	ND	17
1,1,2,2-Tetrachloroethane	ND	0.50	ND	3.4
4-Ethyltoluene	ND	0.50	ND	2.5
1,3,5-Trimethylbenzene	ND	0.50	ND	2.5
1,2,4-Trimethylbenzene	ND	0.50	ND	2.5
1,3-Dichlorobenzene	ND	0.50	ND	3.0
1,4-Dichlorobenzene	ND	0.50	ND	3.0
Benzyl chloride	ND	0.50	ND	2.6
1,2-Dichlorobenzene	ND	0.50	ND	3.0
1,2,4-Trichlorobenzene	ND	0.50	ND	3.7
Hexachlorobutadiene	ND	0.50	ND	5.3
Naphthalene	ND	2.0	ND	10

Surrogate	*REC	Limits
Bromofluorobenzene	85	70-130

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Fixed Gas Analysis

Lab #: 255574	Location: IA710
Client: Remediation Risk Management, Inc.	Prep: METHOD
Project#: STANDARD	Analysis: ASTM D1946
Matrix: Air	Sampled: 04/10/14
Units: ppmv	Received: 04/11/14
Units (Mol %): MOL %	Analyzed: 04/17/14
Batch#: 210168	

Field ID: SG-1	Lab ID: 255574-001
Type: SAMPLE	Diln Fac: 1.940

Analyte	Result	RL	Result (Mol %)	RL
Carbon Dioxide	39,000	1,900	3.9	0.19
Oxygen	79,000	1,900	7.9	0.19

Field ID: SG-2	Lab ID: 255574-002
Type: SAMPLE	Diln Fac: 2.000

Analyte	Result	RL	Result (Mol %)	RL
Carbon Dioxide	41,000	2,000	4.1	0.20
Oxygen	92,000	2,000	9.2	0.20

Type: BLANK	Diln Fac: 1.000
Lab ID: QC736541	

Analyte	Result	RL	Result (Mol %)	RL
Carbon Dioxide	ND	1,000	ND	0.10
Oxygen	ND	1,000	ND	0.10

ND= Not Detected
 RL= Reporting Limit

Result Mol %= Result in Mole Percent

Curtis & Tompkins Laboratories Analytical Report

Lab #: 255574	Location: IA710
Client: Remediation Risk Management, Inc.	Prep: METHOD
Project#: STANDARD	Analysis: ASTM D1946
Analyte: Helium	Batch#: 210168
Matrix: Air	Sampled: 04/10/14
Units: ppmv	Received: 04/11/14
Units (Mol %): MOL %	Analyzed: 04/17/14

Field ID	Type	Lab ID	Result	RL	Result (Mol %)	RL	Diln Fac
SG-1	SAMPLE	255574-001	ND	1,900	ND	0.19	1.940
SG-2	SAMPLE	255574-002	ND	2,000	ND	0.20	2.000
	BLANK	QC736541	ND	1,000	ND	0.10	1.000

ND= Not Detected

RL= Reporting Limit

Result Mol %= Result in Mole Percent

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #: 255574 Location: IA710
 Client: Remediation Risk Management, Inc. Prep: METHOD
 Project#: STANDARD Analysis: ASTM D1946
 Analyte: Helium Units (Mol %): MOL %
 Field ID: ZZZZZZZZZZ Batch#: 210168
 MSS Lab ID: 255708-001 Sampled: 04/15/14
 Matrix: Air Received: 04/16/14
 Units: ppmv Analyzed: 04/17/14

Type	Lab ID	MSS Result	Spiked	Result	RL	Result (Mol %)	RL	%REC	Limits RPD	Lim Diln	Fac
LCS	QC736539		100,000	98,080				98	70-130		1.000
LCS	QC736540		NA								
SDUP	QC736542	<1,950		ND	1,950	ND	0.1950		NC	30	1.950

NA= Not Analyzed
 NC= Not Calculated
 ND= Not Detected
 RL= Reporting Limit
 RPD= Relative Percent Difference
 Result Mol %= Result in Mole Percent



Batch QC Report

Fixed Gas Analysis			
Lab #:	255574	Location:	IA710
Client:	Remediation Risk Management, Inc.	Prep:	METHOD
Project#:	STANDARD	Analysis:	ASTM D1946
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC736540	Batch#:	210168
Matrix:	Air	Analyzed:	04/17/14
Units:	ppmv		

Analyte	Spiked	Result	%REC	Limits
Carbon Dioxide	2,000	1,791	90	70-130
Oxygen	2,000	1,937	97	70-130

Batch QC Report

Fixed Gas Analysis			
Lab #:	255574	Location:	IA710
Client:	Remediation Risk Management, Inc.	Prep:	METHOD
Project#:	STANDARD	Analysis:	ASTM D1946
Field ID:	ZZZZZZZZZZ	Units (Mol %):	MOL %
Type:	SDUP	Diln Fac:	1.950
MSS Lab ID:	255708-001	Batch#:	210168
Lab ID:	QC736542	Sampled:	04/15/14
Matrix:	Air	Received:	04/16/14
Units:	ppmv	Analyzed:	04/17/14

Analyte	MSS Result	Result	RL	Result (Mol %)	RL	RPD	Lim
Carbon Dioxide	36,410	36,420	1,950	3.642	0.1950	0	30
Oxygen	104,900	104,800	1,950	10.48	0.1950	0	30

RL= Reporting Limit

RPD= Relative Percent Difference

Result Mol %= Result in Mole Percent

Attachment 14



This page intentionally left blank.

The Lumber Yard Mixed Use Development Santa Cruz County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	1.92	1000sqft	0.04	1,920.00	0
Parking Lot	15.65	1000sqft	0.36	15,648.00	0
Condo/Townhouse	8.00	Dwelling Unit	0.23	10,014.00	23
Strip Mall	9.60	1000sqft	0.00	9,600.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	61
Climate Zone	5			Operational Year	2017

Utility Company Pacific Gas & Electric Company

CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006
-------------------------	--------	-------------------------	-------	-------------------------	-------

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Actual size of both parcels combined in acres. 8 units at 9,600 square feet.

Construction Phase - Site grading cannot begin until mid April due to restriction on winter grading. Grading will take longer than 2 days due to the requirement for excavation and recompaction.

Demolition -

Grading - Entire site will require excavation and recompaction as per the requirements of the Geotechnical Report.

Woodstoves - No wood stoves or fireplaces are proposed.

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Construction Off-road Equipment Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	106.00
tblConstructionPhase	NumDays	2.00	10.00
tblConstructionPhase	NumDays	1.00	2.00
tblConstructionPhase	PhaseEndDate	10/26/2016	10/25/2016
tblConstructionPhase	PhaseStartDate	10/20/2016	10/19/2016
tblConstructionPhase	PhaseStartDate	4/30/2016	5/2/2016
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberGas	4.40	0.00
tblFireplaces	NumberNoFireplace	0.80	0.00
tblFireplaces	NumberWood	2.80	0.00
tblGrading	AcresOfGrading	0.00	0.81
tblGrading	AcresOfGrading	1.00	0.81
tblLandUse	LandUseSquareFeet	15,650.00	15,648.00
tblLandUse	LandUseSquareFeet	8,000.00	10,014.00
tblLandUse	LotAcreage	0.50	0.23
tblLandUse	LotAcreage	0.22	0.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblWoodstoves	NumberCatalytic	0.40	0.00
tblWoodstoves	NumberNoncatalytic	0.40	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

2.2 Overall Operational
Unmitigated Operational

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Area	0.1774	9.7000e-004	0.0837	0.0000		4.5000e-004	4.5000e-004		4.5000e-004	4.5000e-004	0.0000	0.1354	0.1354	1.4000e-004	0.0000	0.1383
Energy	1.3000e-003	0.0112	5.7100e-003	7.9000e-005		9.0000e-004	9.0000e-004		9.0000e-004	9.0000e-004	0.0000	62.9432	62.9432	2.5100e-003	7.0000e-004	63.2142
Mobile	0.2961	0.4847	2.6398	4.0100e-003	0.2789	5.6200e-003	0.2845	0.0747	5.1700e-003	0.0799	0.0000	304.1438	304.1438	0.0181	0.0000	304.5242
Waste						0.0000	0.0000		0.0000	0.0000	2.7932	0.0000	2.7932	0.1651	0.0000	6.2586
Water						0.0000	0.0000		0.0000	0.0000	0.3910	2.7182	3.1091	0.0403	9.7000e-004	4.2568
Total	0.4748	0.4969	2.7292	4.0800e-003	0.2789	6.9700e-003	0.2859	0.0747	6.5200e-003	0.0812	3.1841	369.9407	373.1248	0.2261	1.6700e-003	378.3932

**2.2 Overall Operational
Mitigated Operational**

Category	toms/yr											MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e	
Area	0.1774	9.7000e-004	0.0837	0.0000		4.5000e-004	4.5000e-004		4.5000e-004	4.5000e-004	0.0000	0.1354	0.1354	1.4000e-004	0.0000	0.1383	
Energy	1.3000e-003	0.0112	5.7100e-003	7.0000e-005		9.0000e-004	9.0000e-004		9.0000e-004	9.0000e-004	0.0000	58.3047	58.3047	2.3000e-003	6.6000e-004	58.5578	
Mobile	0.2763	0.3906	2.2266	3.0700e-003	0.2103	4.4200e-003	0.2147	0.0563	4.0600e-003	0.0604	0.0000	232.5973	232.5973	0.0145	0.0000	232.9009	
Waste						0.0000	0.0000		0.0000	0.0000	0.5586	0.0000	0.5586	0.0330	0.0000	1.2519	
Water						0.0000	0.0000		0.0000	0.0000	0.3128	2.2827	2.5955	0.0322	7.8000e-004	3.5135	
Total	0.4550	0.4028	2.3160	3.1400e-003	0.2103	5.7700e-003	0.2161	0.0563	5.4100e-003	0.0617	0.8714	293.3202	294.1916	0.0821	1.4400e-003	296.3625	

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e	
Percent Reduction	4.15	18.94	15.14	23.04	24.61	17.22	24.43	24.61	17.02	23.99	72.63	20.71	21.15	63.68	13.77	21.68

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days/Week	Num Days	Phase Description
1	Demolition	Demolition	4/18/2016	4/29/2016	5	10	
2	Site Preparation	Site Preparation	5/2/2016	5/3/2016	5	2	
3	Grading	Grading	5/4/2016	5/17/2016	5	10	
4	Building Construction	Building Construction	5/18/2016	10/12/2016	5	106	
5	Paving	Paving	10/13/2016	10/19/2016	5	5	
6	Architectural Coating	Architectural Coating	10/19/2016	10/25/2016	5	5	

Acres of Grading (Site Preparation Phase): 0.81

Acres of Grading (Grading Phase): 0.81

Acres of Paving: 0

Residential Indoor: 20,278; Residential Outdoor: 6,759; Non-Residential Indoor: 17,984; Non-Residential Outdoor: 5,995 (Architectural Coating - sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	125	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	74.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	16.00	5.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area
Clean Paved Roads

3.2 Demolition - 2016

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Fugitive Dust					8.0400e-003	0.0000	8.0400e-003	1.2200e-003	0.0000	1.2200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.5600e-003	0.0562	0.0435	6.0000e-005	4.0200e-003	4.0200e-003	4.0200e-003	3.8400e-003	3.8400e-003	3.8400e-003	0.0000	5.4141	5.4141	1.0800e-003	0.0000	5.4369
Total	6.5600e-003	0.0562	0.0435	6.0000e-005	8.0400e-003	4.0200e-003	0.0121	1.2200e-003	3.8400e-003	5.0600e-003	0.0000	5.4141	5.4141	1.0800e-003	0.0000	5.4369
MT/yr																

3.2 Demolition - 2016

Unmitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Hauling	8.6000e-004	9.8600e-003	0.0119	3.0000e-005	6.2000e-004	1.5000e-004	7.7000e-004	1.7000e-004	1.3000e-004	3.0000e-004	0.0000	2.4299	2.4299	2.0000e-005	0.0000	2.4302
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	3.3000e-004	3.0300e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3655	0.3655	2.0000e-005	0.0000	0.3660
Total	1.0900e-003	0.0102	0.0150	3.0000e-005	1.0200e-003	1.5000e-004	1.1700e-003	2.8000e-004	1.3000e-004	4.1000e-004	0.0000	2.7954	2.7954	4.0000e-005	0.0000	2.7962

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					3.6200e-003	0.0000	3.6200e-003	5.5000e-004	0.0000	5.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.5600e-003	0.0562	0.0435	6.0000e-005	4.0200e-003	4.0200e-003	4.0200e-003	3.8400e-003	3.8400e-003	3.8400e-003	0.0000	5.4141	5.4141	1.0800e-003	0.0000	5.4369
Total	6.5600e-003	0.0562	0.0435	6.0000e-005	3.6200e-003	4.0200e-003	7.6400e-003	5.5000e-004	3.8400e-003	4.3900e-003	0.0000	5.4141	5.4141	1.0800e-003	0.0000	5.4369

3.2 Demolition - 2016

Mitigated Construction Off-Site

Category	tons/yr											MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e	
Hauling	8.6000e-004	9.8600e-003	0.0119	3.0000e-005	6.2000e-004	1.5000e-004	7.7000e-004	1.7000e-004	1.3000e-004	3.0000e-004	0.0000	2.4299	2.4299	2.0000e-005	0.0000	2.4302	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	2.3000e-004	3.3000e-004	3.0300e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3655	0.3655	2.0000e-005	0.0000	0.3660	
Total	1.0900e-003	0.0102	0.0150	3.0000e-005	1.0200e-003	1.5000e-004	1.1700e-003	2.8000e-004	1.3000e-004	4.1000e-004	0.0000	2.7954	2.7954	4.0000e-005	0.0000	2.7962	

3.3 Site Preparation - 2016

Unmitigated Construction On-Site

Category	tons/yr											MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e	
Fugitive Dust					4.3000e-004	0.0000	4.3000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-Road	1.3600e-003	0.0136	7.3400e-003	1.0000e-005		8.3000e-004	8.3000e-004	7.7000e-004	7.7000e-004	7.7000e-004	0.0000	0.8828	0.8828	2.7000e-004	0.0000	0.8884	
Total	1.3600e-003	0.0136	7.3400e-003	1.0000e-005	4.3000e-004	8.3000e-004	1.2600e-003	5.0000e-005	7.7000e-004	8.2000e-004	0.0000	0.8828	0.8828	2.7000e-004	0.0000	0.8884	

3.3 Site Preparation - 2016

Unmitigated Construction Off-Site

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	3.0000e-005	3.0000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0366	0.0366	0.0000	0.0000	0.0366
Total	2.0000e-005	3.0000e-005	3.0000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0366	0.0366	0.0000	0.0000	0.0366

Mitigated Construction On-Site

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					1.9000e-004	0.0000	1.9000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3600e-003	0.0136	7.3400e-003	1.0000e-005	8.3000e-004	8.3000e-004	8.3000e-004	7.7000e-004	7.7000e-004	7.7000e-004	0.0000	0.8828	0.8828	2.7000e-004	0.0000	0.8884
Total	1.3600e-003	0.0136	7.3400e-003	1.0000e-005	1.9000e-004	8.3000e-004	1.0200e-003	2.0000e-005	7.7000e-004	7.9000e-004	0.0000	0.8828	0.8828	2.7000e-004	0.0000	0.8884

3.3 Site Preparation - 2016

Mitigated Construction Off-Site

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	3.0000e-005	3.0000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0366	0.0366	0.0000	0.0000	0.0366
Total	2.0000e-005	3.0000e-005	3.0000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0366	0.0366	0.0000	0.0000	0.0366

3.4 Grading - 2016

Unmitigated Construction On-Site

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					4.1900e-003	0.0000	4.1900e-003	2.1200e-003	0.0000	2.1200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.5600e-003	0.0562	0.0435	6.0000e-005	4.0200e-003	4.0200e-003	4.0200e-003	3.8400e-003	3.8400e-003	3.8400e-003	0.0000	5.4141	5.4141	5.4141	1.0800e-003	5.4369
Total	6.5600e-003	0.0562	0.0435	6.0000e-005	4.1900e-003	4.0200e-003	8.2100e-003	2.1200e-003	3.8400e-003	5.9600e-003	0.0000	5.4141	5.4141	5.4141	1.0800e-003	5.4369

3.4 Grading - 2016

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	3.3000e-004	3.0300e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3655	0.3655	2.0000e-005	0.0000	0.3660
Total	2.3000e-004	3.3000e-004	3.0300e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3655	0.3655	2.0000e-005	0.0000	0.3660
MT/yr																

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Fugitive Dust					1.8900e-003	0.0000	1.8900e-003	9.5000e-004	0.0000	9.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.5600e-003	0.0562	0.0435	6.0000e-005	4.0200e-003	4.0200e-003	4.0200e-003	3.8400e-003	3.8400e-003	3.8400e-003	0.0000	5.4141	5.4141	1.0800e-003	0.0000	5.4369
Total	6.5600e-003	0.0562	0.0435	6.0000e-005	1.8900e-003	4.0200e-003	5.9100e-003	9.5000e-004	3.8400e-003	4.7900e-003	0.0000	5.4141	5.4141	1.0800e-003	0.0000	5.4369
MT/yr																

3.4 Grading - 2016

Mitigated Construction Off-Site

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	3.3000e-004	3.0300e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3655	0.3655	2.0000e-005	0.0000	0.3660
Total	2.3000e-004	3.3000e-004	3.0300e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3655	0.3655	2.0000e-005	0.0000	0.3660

3.5 Building Construction - 2016

Unmitigated Construction On-Site

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0732	0.7264	0.4353	6.0000e-004		0.0498	0.0498		0.0458	0.0458	0.0000	56.6659	56.6659	0.0171	0.0000	57.0248
Total	0.0732	0.7264	0.4353	6.0000e-004		0.0498	0.0498		0.0458	0.0458	0.0000	56.6659	56.6659	0.0171	0.0000	57.0248

3.5 Building Construction - 2016

Unmitigated Construction Off-Site

Category	tons/yr														MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
Vendor	3.5800e-003	0.0261	0.0452	6.0000e-005	1.6800e-003	4.3000e-004	2.1100e-003	4.8000e-004	3.9000e-004	8.7000e-004	0.0000	5.5040	5.5040	5.0000e-005	0.0000	5.5050				
Worker	3.9500e-003	5.6500e-003	0.0514	8.0000e-005	6.7100e-003	7.0000e-005	6.7800e-003	1.7900e-003	6.0000e-005	1.8500e-003	0.0000	6.1987	6.1987	4.2000e-004	0.0000	6.2076				
Total	7.5300e-003	0.0317	0.0966	1.4000e-004	8.3900e-003	5.0000e-004	8.8900e-003	2.2700e-003	4.5000e-004	2.7200e-003	0.0000	11.7027	11.7027	4.7000e-004	0.0000	11.7126				

Mitigated Construction On-Site

Category	tons/yr														MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e				
Off-Road	0.0732	0.7264	0.4352	6.0000e-004		0.0498	0.0498		0.0458	0.0458	0.0000	56.6658	56.6658	0.0171	0.0000	57.0247				
Total	0.0732	0.7264	0.4352	6.0000e-004		0.0498	0.0498		0.0458	0.0458	0.0000	56.6658	56.6658	0.0171	0.0000	57.0247				

3.5 Building Construction - 2016

Mitigated Construction Off-Site

Category	tons/yr													MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
Vendor	3.5800e-003	0.0261	0.0452	6.0000e-005	1.6800e-003	4.3000e-004	2.1100e-003	4.8000e-004	3.9000e-004	8.7000e-004	0.0000	5.5040	5.5040	5.0000e-005	0.0000	5.5050		
Worker	3.9500e-003	5.6500e-003	0.0514	8.0000e-005	6.7100e-003	7.0000e-005	6.7800e-003	1.7900e-003	6.0000e-005	1.8500e-003	0.0000	6.1987	6.1987	4.2000e-004	0.0000	6.2076		
Total	7.5300e-003	0.0317	0.0966	1.4000e-004	8.3900e-003	5.0000e-004	8.8900e-003	2.2700e-003	4.5000e-004	2.7200e-003	0.0000	11.7027	11.7027	4.7000e-004	0.0000	11.7126		

3.6 Paving - 2016

Unmitigated Construction On-Site

Category	tons/yr													MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e		
Off-Road	2.8000e-003	0.0266	0.0182	3.0000e-005	1.6500e-003	1.6500e-003	1.6500e-003	1.5300e-003	1.5300e-003	1.5300e-003	0.0000	2.4575	2.4575	6.7000e-004	0.0000	2.4717		
Paving	4.7000e-004				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
Total	3.2700e-003	0.0266	0.0182	3.0000e-005	1.6500e-003	1.6500e-003	1.6500e-003	1.5300e-003	1.5300e-003	1.5300e-003	0.0000	2.4575	2.4575	6.7000e-004	0.0000	2.4717		

3.6 Paving - 2016

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	3.0000e-004	2.7300e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3289	0.3289	2.0000e-005	0.0000	0.3294
Total	2.1000e-004	3.0000e-004	2.7300e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3289	0.3289	2.0000e-005	0.0000	0.3294

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
MT/yr																
Off-Road	2.8000e-003	0.0286	0.0182	3.0000e-005	1.6500e-003	1.6500e-003	1.6500e-003	1.5300e-003	1.5300e-003	1.5300e-003	0.0000	2.4575	2.4575	6.7000e-004	0.0000	2.4717
Paving	4.7000e-004				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.2700e-003	0.0286	0.0182	3.0000e-005	1.6500e-003	1.6500e-003	1.6500e-003	1.5300e-003	1.5300e-003	1.5300e-003	0.0000	2.4575	2.4575	6.7000e-004	0.0000	2.4717

3.6 Paving - 2016

Mitigated Construction Off-Site

Category	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBP-CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	3.0000e-004	2.7300e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3289	0.3289	2.0000e-005	0.0000	0.3294
Total	2.1000e-004	3.0000e-004	2.7300e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3289	0.3289	2.0000e-005	0.0000	0.3294
MT/yr																

3.7 Architectural Coating - 2016

Unmitigated Construction On-Site

Category	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBP-CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Archit. Coating	0.2956					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.2000e-004	5.9300e-003	4.7100e-003	1.0000e-005	4.9000e-004	4.9000e-004	4.9000e-004	4.9000e-004	4.9000e-004	4.9000e-004	0.0000	0.6383	0.6383	8.0000e-005	0.0000	0.6399
Total	0.2956	5.9300e-003	4.7100e-003	1.0000e-005	4.9000e-004	4.9000e-004	4.9000e-004	4.9000e-004	4.9000e-004	4.9000e-004	0.0000	0.6383	0.6383	8.0000e-005	0.0000	0.6399
MT/yr																

3.7 Architectural Coating - 2016

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	5.0000e-005	4.5000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0548	0.0548	0.0000	0.0000	0.0549
Total	3.0000e-005	5.0000e-005	4.5000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0548	0.0548	0.0000	0.0000	0.0549

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Archit. Coating	0.2956					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.2000e-004	5.9300e-003	4.7100e-003	1.0000e-005	4.9000e-004	4.9000e-004	4.9000e-004	4.9000e-004	4.9000e-004	4.9000e-004	0.0000	0.6383	0.6383	8.0000e-005	0.0000	0.6399
Total	0.2965	5.9300e-003	4.7100e-003	1.0000e-005	4.9000e-004	4.9000e-004	4.9000e-004	4.9000e-004	4.9000e-004	4.9000e-004	0.0000	0.6383	0.6383	8.0000e-005	0.0000	0.6399

3.7 Architectural Coating - 2016

Mitigated Construction Off-Site

Category	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	5.0000e-005	4.5000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0548	0.0548	0.0000	0.0000	0.0549
Total	3.0000e-005	5.0000e-005	4.5000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0548	0.0548	0.0000	0.0000	0.0549
MTYr																

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Category	ROG	NOX	CO	SO2	tons/yr					MMTyr						
					Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Mitigated	0.2763	0.3906	2.2266	3.0700e-003	0.2103	4.4200e-003	0.2147	0.0563	4.0600e-003	0.0604	0.0000	232.5973	232.5973	0.0145	0.0000	232.9009
Unmitigated	0.2961	0.4847	2.6398	4.0100e-003	0.2789	5.6200e-003	0.2845	0.0747	5.1700e-003	0.0799	0.0000	304.1438	304.1438	0.0181	0.0000	304.5242

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated Annual VMT	Mitigated Annual VMT
	Weekday	Saturday	Sunday		
Condo/Townhouse	52.72	57.28	48.56	152,045	114,633
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Strip Mall	425.47	403.58	196.13	599,969	452,342
Total	478.19	460.86	244.69	752,014	566,976

4.3 Trip Type Information

Land Use	Miles						Trip %						Trip Purpose %					
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diversed	Pass-by	Primary	Diversed	Pass-by	Primary	Diversed	Pass-by			
Condo/Townhouse	10.80	7.30	7.50	44.00	18.80	37.20	86	11	3									
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0									
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0									
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15									

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HH1	HH2	OBUS	UBUS	MCY	SBUS	MH
0.493611	0.037704	0.233719	0.143545	0.049889	0.006902	0.012747	0.004763	0.000945	0.002902	0.009119	0.000709	0.003446	

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	45.4763	45.4763	2.0600e-003	4.3000e-004	45.6514
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	50.1149	50.1149	2.2700e-003	4.7000e-004	50.3078
Natural Gas Mitigated	1.3000e-003	0.0112	5.7100e-003	7.0000e-005		9.0000e-004	9.0000e-004		9.0000e-004	9.0000e-004	0.0000	12.8283	12.8283	2.5000e-004	2.4000e-004	12.9064
Natural Gas Unmitigated	1.3000e-003	0.0112	5.7100e-003	7.0000e-005		9.0000e-004	9.0000e-004		9.0000e-004	9.0000e-004	0.0000	12.8283	12.8283	2.5000e-004	2.4000e-004	12.9064
toneyr																
Mtyr																

**5.2 Energy by Land Use - NaturalGas
Unmitigated**

Land Use	NaturalGas Use	ROG	NOx	CO	SO2	tons/yr						MT/yr											
						Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e						
Parking Lot	0	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Strip Mall	46080	2.5000e-004	2.2600e-003	1.9000e-003	1.0000e-005			1.7000e-004	1.7000e-004	0.0000			1.7000e-004	1.7000e-004	0.0000	2.4590	2.4590	5.0000e-005	5.0000e-005	2.4740			
Condo/Townhouse	194314	1.0500e-003	8.9500e-003	3.8100e-003	6.0000e-005			7.2000e-004	7.2000e-004	0.0000			7.2000e-004	7.2000e-004	0.0000	10.3693	10.3693	2.0000e-004	1.9000e-004	10.4324			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		1.3000e-003	0.0112	5.7100e-003	7.0000e-005			8.9000e-004	8.9000e-004	0.0000			8.9000e-004	8.9000e-004	0.0000	12.8283	12.8283	2.5000e-004	2.4000e-004	12.9064			

5.2 Energy by Land Use - NaturalGas

Mitigated

Land Use	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Biogenic CO2	Non-Biogenic CO2	Total CO2	CH4	N2O	CO2e
	KBTU/yr																
Tons/Yr																	
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	46080	2.5000e-004	2.2600e-003	1.9000e-003	1.0000e-005		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	2.4590	2.4590	5.0000e-005	5.0000e-005	2.4740
Condo/Townhouse	194314	1.0500e-003	8.9500e-003	3.8100e-003	6.0000e-005		7.2000e-004	7.2000e-004		7.2000e-004	7.2000e-004	0.0000	10.3693	10.3693	2.0000e-004	1.9000e-004	10.4324
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		1.3000e-003	0.0112	5.7100e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	12.8283	12.8283	2.5000e-004	2.4000e-004	12.9064

5.3 Energy by Land Use - Electricity
Unmitigated

Land Use	Electricity Use kWh/yr	Total CO2	MT/yr			
			CH4	N2O	CO2e	
Condo/Townhouse ^e	34101.5	9.9205	4.5000e-004	9.0000e-005	9.9587	
Enclosed Parking with Elevator	12940.8	3.7646	1.7000e-004	4.0000e-005	3.7791	
Parking Lot	13770.2	4.0059	1.8000e-004	4.0000e-005	4.0213	
Strip Mail	111456	32.4238	1.4700e-003	3.0000e-004	32.5487	
Total		50.1149	2.2700e-003	4.7000e-004	50.3078	

5.3 Energy by Land Use - Electricity

Mitigated

Land Use	Electricity Use kWh/yr	Total CO2	CH4	N2O	CO2e
MT/yr					
Condo/Townhouse ^e	32499.8	9.4546	4.3000e-004	9.0000e-005	9.4910
Enclosed Parking with Elevator	11930.9	3.4708	1.6000e-004	3.0000e-005	3.4842
Parking Lot	11016.2	3.2047	1.4000e-004	3.0000e-005	3.2171
Strip Mall	100877	29.3462	1.3300e-003	2.7000e-004	29.4592
Total		45.4763	2.0600e-003	4.2000e-004	45.6514

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior
- No Hearths Installed

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Mitigated	0.1774	9.7000e-004	0.0837	0.0000		4.5000e-004	4.5000e-004		4.5000e-004	4.5000e-004	0.0000	0.1354	0.1354	1.4000e-004	0.0000	0.1383
Unmitigated	0.1774	9.7000e-004	0.0837	0.0000		4.5000e-004	4.5000e-004		4.5000e-004	4.5000e-004	0.0000	0.1354	0.1354	1.4000e-004	0.0000	0.1383
MT/yr																

6.2 Area by SubCategory
Unmitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Architectural Coating	0.0296					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1452					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.6300e-003	9.7000e-004	0.0837	0.0000		4.5000e-004	4.5000e-004		4.5000e-004	4.5000e-004	0.0000	0.1354	0.1354	1.4000e-004	0.0000	0.1383
Total	0.1774	9.7000e-004	0.0837	0.0000		4.5000e-004	4.5000e-004		4.5000e-004	4.5000e-004	0.0000	0.1354	0.1354	1.4000e-004	0.0000	0.1383
MT/yr																

6.2 Area by SubCategory
Mitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Architectural Coating	0.0296					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1452					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.6300e-003	9.7000e-004	0.0837	0.0000		4.5000e-004	4.5000e-004		4.5000e-004	4.5000e-004	0.0000	0.1354	0.1354	1.4000e-004	0.0000	0.1383
Total	0.1774	9.7000e-004	0.0837	0.0000		4.5000e-004	4.5000e-004		4.5000e-004	4.5000e-004	0.0000	0.1354	0.1354	1.4000e-004	0.0000	0.1383

7.0 Water Detail

7.1 Mitigation Measures Water

- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower
- Use Water Efficient Irrigation System
- Use Water Efficient Landscaping

Category	Total CO ₂	CH ₄	N ₂ O	CO ₂ e
	MT/yr			
Mitigated	2.5955	0.0322	7.8000e-004	3.5135
Unmitigated	3.1091	0.0403	9.7000e-004	4.2568

7.2 Water by Land Use Unmitigated

Land Use	Mgal	Total CO ₂	CH ₄	N ₂ O	CO ₂ e
		MT/yr			
Condo/Townhous e	0.521232 / 0.328603	1.3204	0.0170	4.1000e-004	1.8059
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.711096 / 0.435833	1.7887	0.0232	5.6000e-004	2.4509
Total		3.1091	0.0403	9.7000e-004	4.2568

7.2 Water by Land Use

Mitigated

Land Use	Indoor/Outdoor Use	Mgal	Total CO2	MT/Yr			
				CH4	N2O	CO2e	
Condo/Townhouse ^e		0.416986 / 0.308558	1.1029	0.0136	3.3000e-004	1.4912	
Enclosed Parking with Elevator		0 / 0	0.0000	0.0000	0.0000	0.0000	
Parking Lot		0 / 0	0.0000	0.0000	0.0000	0.0000	
Strip Mall		0.568877 / 0.409247	1.4927	0.0186	4.5000e-004	2.0224	
Total			2.5955	0.0322	7.8000e-004	3.5136	

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.5586	0.0330	0.0000	1.2519
Unmitigated	2.7932	0.1651	0.0000	6.2596

8.2 Waste by Land Use

Unmitigated

Land Use	Waste Disposed Tons	Total CO2	CH4	N2O	CO2e
		MT/yr			
Condo/Townhous ^e	3.68	0.7470	0.0442	0.0000	1.6741
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	10.08	2.0462	0.1209	0.0000	4.5856
Total		2.7932	0.1651	0.0000	6.2596

8.2 Waste by Land Use

Mitigated

Land Use	Waste Disposed Tons	Total CO2	MT/yr		
			CH4	N2O	CO2e
Condo/Townhouse ^e	0.736	0.1494	8.8300e-003	0.0000	0.3348
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	2.016	0.4092	0.0242	0.0000	0.9171
Total		0.5586	0.0330	0.0000	1.2519

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Attachment 15



This page intentionally left blank.

MBUAPCD CONSISTENCY DETERMINATION PROCEDURE Ver. 4.0

Data entry Data entered by user.

Consistency Finding

6	Jurisdiction:	County of Santa Cruz Unincorp				Lead Agency selects from pull down
7	Project Name:	The Lumber Yard Appl. No. 141157				Lead Agency enters
8	Base Year for this determination:	2010	Project Buildout/ Occupancy Year	2017	Lead Agency enters	
9			Proposed Project Occupied DU	8	Total buildout of Project. Sum of all years, row 26.	

JURISDICTION DATA FROM AQMP & DOF (no data entry)

	Base Year	Period ending January 1st of:					Notes	
		2015	2020	2025	2030	2035		
14	DOF Population	137,873	From Calif. Dept of Finance. Est. for Jan 1 -- released in June of each year.					
15	AMBAG DU Forecast for Jurisdiction	57,498	58,075	59,321	59,808	60,257	60,802	DUs from AMBAG Travel Model, current version.
16	AMBAG Pop Forecast for Jurisdiction	135,173	134,797	137,681	138,822	139,690	141,162	Latest AMBAG Pop. & Employment forecasts.
17	AMBAG Forecast Population/ DU	2.35	2.32	2.32	2.32	2.32	2.32	Row 16/ row 15
18	Estimated Built DUs	57,244	Entry for 2010 is the DOF 1/2010 Housing Unit Estimate. Lead agency may overwrite if they have better data.					

JURISDICTION DUs w/o PROJECT

	2010	2015	2020	2025	2030	2035		
21	Housing Stock (Built DUs, Total)	56,863	56,927	57,247	57,567	57,887	58,207	Lead Agency estimates value at period end.
22	Approved but not Built DUs	64	340	340	340	340	340	Lead Agency estimates value at period end.
23	Total Built & Approved DUs	56,927	57,267	57,587	57,907	58,227	58,547	Sum of Row 21 + 22

PROPOSED NEW PROJECT DUs

	2015	2020	2025	2030	2035		
26	Proposed New Project DUs	8					Data entry by Lead Agency.
27	TOTAL, New Project + Built & Approved DUs	57,275	57,587	57,907	58,227	58,547	Sum of Row 23 + 26

NEW PROJECT CONSISTENCY DETERMINATION

29	Over (Under) AQMP DUs	(800)	(1,734)	(1,901)	(2,030)	(2,255)	Row 27 - Row 15
30	Is the project consistent in this Period?	YES	YES	YES	YES	YES	If Row 30 is (negative) = YES, if positive = NO.

OPTIONS IF INCONSISTENT (Choose one):

Year:	2015	2020	2025	2030	2035	
38	A. Mitigate the impact by reducing project DUs by this amount:					Preferred option. Reduce project DUs by this amount for the inconsistent period, or redistribute project DUs between periods until all are consistent.
	B. Obtain commitment from AMBAG to add this number of dwelling units to it's next forecast for this Jurisdiction.					Commitmet from AMBAG would enable consistency with the next AQMP.
40	C. OR For EIRs, declare overriding benefit, AND request AMBAG to add the above number of persons and dwelling units to it's next forecast for this Jurisdiction.					