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
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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 Shawver at (831) 454-3137 (TDD number (831) 454-2123 or (831) 763-8123) to make arrangements.

PROJECT: COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

APP #: 151210

APN(S): 052-531-03

PROJECT DESCRIPTION: Proposal to demolish approximately 5,692 square feet of an existing County jail building, to construct additions totaling approximately 14,629 square feet to include a new 7,647 square foot inmate residential wing, new 2,891 square foot visitation building, 2,700 administration addition, 1,391 square foot storage addition, and to remodel approximately 14,256 square feet of existing inmate residential area for a new program training area and 200 square feet of the medium security facility. The project includes grading of approximately 3,800 cubic yards of cut and 4,800 cubic yards of fill, installation of new perimeter security fence, loop road, storm water improvements, outdoor recreation, expanded service yard and inmate intact sally ports, removal of 28 existing trees, planting of 28 replacement trees, and site landscaping. Requires an Amendment to Commercial Development Permit/Coastal Development Permit 90-0603, Soils Report and Arborist Report Review.

The proposed project is located west of the City of Watsonville at 100 Rountree Lane near Harkins Slough Road within the San Andreas Planning Area in the unincorporated County of Santa Cruz

PROJECT LOCATION: The project is located west of the City of Watsonville at 100 Rountree Lane near Harkins Slough Road within the San Andreas Planning Area in the unincorporated County of Santa Cruz.

EXISTING ZONE DISTRICT: PF (Public Facility)
APPLICANT: COUNTY OF SANTA CRUZ, SHERIFF'S OFFICE, C/O BETSEY LYNBERG
OWNER: COUNTY OF SANTA CRUZ SHERIFF'S OFFICE
PROJECT PLANNER: Sheila McDaniel, (831) 454-2255
EMAIL: Sheila.McDaniel@santacruzcounty.us
ACTION: Mitigated Negative Declaration
REVIEW PERIOD: November 10, 2015 through December 10, 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.

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MITIGATED NEGATIVE DECLARATION

Project: County Rountree Rehabilitation and Re-Entry Facility **APN(S):** 052-531-03

Application #: 151210

Project Description: Proposal to demolish approximately 5,692 square feet of an existing County jail building, to construct additions totaling approximately 14,629 square feet to include a new 7,647 square foot inmate residential wing, new 2,891 square foot visitation building, 2,700 administration addition, 1,391 square foot storage addition, and to remodel approximately 14,256 square feet of existing inmate residential area to a new program training area and 200 square feet to the medium security facility. The project includes grading of approximately 3,800 cubic yards of cut and 4,800 cubic yards of fill, installation of new perimeter security fence, storm water improvements, outdoor recreation, expanded service yard and inmate intact sally ports, removal of 28 existing trees, planting of 28 replacement trees, and site landscaping. Requires an Amendment to Commercial Development Permit/Coastal Development Permit 90-0603, Soils Report and Arborist Report Review.

Project Location: The proposed project is located west of the City of Watsonville at 100 Rountree Lane near Harkins Slough Road within the San Andreas Planning Area in the unincorporated County of Santa Cruz.

Owner: County of Santa Cruz Sheriff's Office

Applicant: County of Santa Cruz Sheriff's Office, C/O Betsey Lynberg

Staff Planner: Sheila McDaniel

Email: Sheila.McDaniel@Santacruzcounty.us

This project will be considered by the Planning Commission at a public hearing. 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 Mitigated Negative Declaration Findings:

Find, that this Mitigated 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 Mitigated Negative Declaration and the comments received during the public review period; and, that revisions in the project plans or proposals made by or agreed to by the project applicant would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur; and, on the basis of the whole record before the decision-making body (including this Mitigated Negative Declaration) that there is no substantial evidence that the project as revised 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 Planning Department located at 701 Ocean Street, 4th Floor, Santa Cruz, California.

Review Period Ends: 12/10/15

Note: This Document is considered Draft until it is Adopted by the Appropriate County of Santa Cruz Decision-Making Body

Date: 11/9/15

MATT JOHNSTON, Environmental Coordinator
(831) 454-3201

County of Santa Cruz

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

Date: November 2, 2015 **Application Number:** 151210

Project Name: County Rountree Rehabilitation and Re-Entry Facility **Staff Planner:** Sheila McDaniel

I. OVERVIEW AND ENVIRONMENTAL DETERMINATION

APPLICANT: County of Santa Cruz Sheriff's Office, C/O Betsey Lynberg **APN(s):** 052-531-03

OWNER: County of Santa Cruz Sheriff's Office **SUPERVISORAL DISTRICT:** 2

PROJECT LOCATION: The proposed project is located west of the City of Watsonville at 100 Rountree Lane near Harkins Slough Road within the San Andreas Planning Area in the unincorporated County of Santa Cruz (Figure 1). 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.

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 County Rountree Correctional facility contains an existing 19,948 square foot minimum security facility for 162 inmates constructed in the 1970's and a 22,765 square foot medium security facility for 96 inmates constructed in the early 1990's. The medium security facility permit included a certified environmental impact report addressing the septic, water, traffic, drainage and water quality, and geology and soils impacts, etc., for the entire correctional facility and occupancy for 258 inmates and staff associated with the facility.

The County of Santa Cruz Sheriff's Office has received SB 1022 Adult Local Criminal Justice Facilities Program funding for the proposed Rountree renovation. The funding from the state will provide for the renovation and construction of additional space primarily at the minimum security facility to provide adequate space for housing, treatment, and rehabilitation programs and services, as well as construction of administration and visitation buildings, and minor renovations and additions to the medium security facility. Previously the County of Santa Cruz found this project to be exempt from CEQA under a Class 2 Categorical exemption; however, the County of Santa Cruz has a specific ordinance that requires an initial study for projects that include more than 1,000 cubic yards of grading. As plans were developed it was determined that the grading amounts would exceed 1,000 cubic yards and that the exemption could not be applied to this proposed project.

The County of Santa Cruz Sheriff's Office is also pursuing funding for a women's facility at the Rountree site. As a separate, stand alone project the County determined that project would also be exempt under a Class 2 Categorical Exemption, filed with the Clerk of the Board on May 27, 2015.

SUMMARY PROJECT DESCRIPTION: Proposal to demolish approximately 5,692 square feet of an existing County jail building, to construct additions totaling approximately 14,629 square feet to include a new 7,647 square foot inmate residential wing, new 2,891 square foot visitation building, 2,700 administration addition, 1,391 square foot storage addition, and to remodel approximately 14,256 square feet of existing inmate residential area to a new program training area and 200 square feet to the medium security facility. The project includes grading of approximately 3,800 cubic yards of cut and 4,800 cubic yards of fill, installation of new perimeter security fence, storm water improvements, outdoor recreation, expanded service yard and inmate intact sally ports, removal of 28 existing trees, planting of 28 replacement trees, and site landscaping. Requires an Amendment to Commercial

Development Permit/Coastal Development Permit 90-0603, Soils Report and Arborist Report Review.

Detailed Project Description:

The County Sheriff proposes to design and construct renovations to and expansions of the existing County Jail at Rountree Lane. Overall, construction would result in approximately 28,885 square feet minimum security housing, visiting, administrative, intake/release, and facility support space, and the renovations would repurpose approximately 14,256 square feet of the minimum security facility into program and support space.

The facility contains a 22,765 square foot medium security building for 96 inmates and a former 19,948 minimum security facility (also known as the x-wing building) for 162 inmates. The existing occupancy of the minimum security facility is proposed to be reduced from 162 to 64 inmates resulting in a reduction in currently permitted occupancy. However, the originally permitted occupancy, though not utilized by this project, would be retained as a previous permit entitlement.

No change in occupancy is proposed at the medium security facility.

The jail renovation and expansion would be constructed primarily of steel, masonry, and concrete for long-term durability.

Minimum Security Housing Addition

Selective demolition of approximately 5,692 square feet of the south wing of the existing 19,948 square foot minimum security building would be completed to allow construction of the new approximately 7,647 square foot housing addition. Total building area following the project work would be approximately 21,903 square feet. Overall, the minimum security facility building would be expanded by approximately 1,955 square feet.

The new housing addition would be constructed as an open span building addition and provide approximately 64 minimum security beds in a two story mezzanine style structure. Each individual inmate sleeping area would be provided with a bed, a desk, and storage area as well as low privacy walls. An officer workstation, video visitation stations, and dayroom are proposed in the central portion of the housing area.

Remaining Minimum Security Renovation

The proposed renovations would repurpose approximately 14,256 square feet of the remaining and existing minimum security building into program and support space for inmates. This renovated area would include vocational/educational program rooms, computer lab, interview and counseling room, group rooms, indoor and outdoor recreational space, administrative support space, restrooms, expanded laundry facilities as well as storage and mechanical rooms. Programs may include vocational and training classes such as academic education, substance abuse help, job training, family reunification, and other types of program functions.

Outdoor recreation would include a basketball court, walking path with exercise station, garden area and site landscaping.

Visitation Building

Facility expansion would include the proposed 2,891 square foot visitation building located in the existing minimum security building patio area now. This building would provide an improved environment for family contact visitation, non-contact visitation rooms, screening room, and support space, such as an interview room, restrooms, mechanical and electrical rooms, etc.

Proposed Administration Building Expansion

An approximately 2,700 addition is proposed on the west side of the existing administration building at the front of the medium security facility. This building addition includes minimum security visitor waiting room, medium security visitor waiting room, conference/training room, safety cell and offices. The new addition also includes a visitor sally port for secure entry, screening and visiting rooms, video visitation stations, waiting, a secure cell, and administrative support space.

Medium Security Facility Improvements/other

The project includes an approximately 1,391 square foot addition for storage space and a 200 square foot renovation for freezer at the medium security facility. Total medium security building area following the project work would be approximately 26,856 square feet. Overall, the medium security facility building would be expanded by approximately 8,182 square feet, including the administration expansion and storage addition.

The project includes installation of secure perimeter fencing, approximately 14 feet in height, and a loop road for site and fire access, and improvements to the existing sally ports for ease of transfer of inmates.

The project would also install upgraded on-site utility systems including but not limited to water, septic sewer, electrical, plumbing, mechanical, heating ventilation and air conditioning, telecommunications, security, fire protection and storm water systems; and all necessary appurtenances. A delivery vehicle sally port would be constructed and an existing parking lot would be refurbished. The project would include seismic upgrades to existing facilities and install perimeter fencing.

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.*

- ☒ Aesthetics and Visual Resources
- ☐ Agriculture and Forestry Resources
- ☐ Air Quality
- ☐ Land Use and Planning
- ☐ Mineral Resources
- ☒ 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.*

- ☒ Biological Resources
- ☒ Cultural Resources
- ☐ Geology and Soils
- ☐ Greenhouse Gas Emissions
- ☐ Hazards and Hazardous Materials
- ☒ Hydrology/Water Supply/Water Quality
- ☐ Population and Housing
- ☐ Public Services
- ☐ Recreation
- ☐ Transportation/Traffic
- ☐ Utilities and Service Systems
- ☐ Mandatory Findings of Significance

DISCRETIONARY APPROVAL(S) BEING CONSIDERED:

- ☐ General Plan Amendment
- ☐ Land Division
- ☐ Rezoning
- ☒ Development Permit
- ☐ Sewer Connection Permit
- ☒ Coastal Development Permit
- ☒ Grading Permit
- ☐ Riparian Exception
- ☐ LAFCO Annexation
- ☐ Other:

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

Permit Type/Action	Agency
Construction Permit	Regional Water Quality Control Board

DETERMINATION:

On the basis of this initial evaluation:

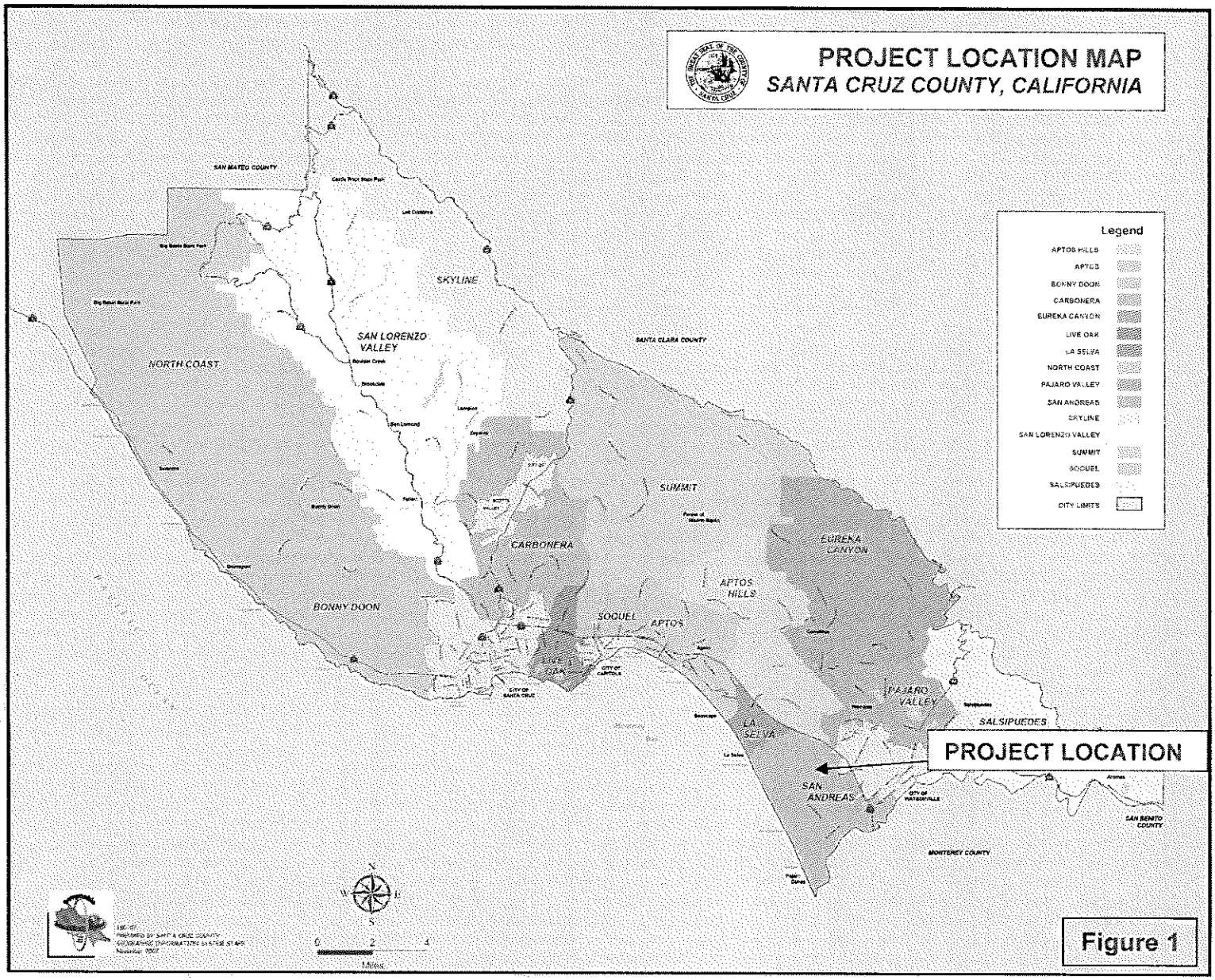
- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions 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.

Matt Johnston, Environmental Coordinator

11/9/15
Date


PROJECT LOCATION MAP
SANTA CRUZ COUNTY, CALIFORNIA
Legend
APTOS HILLS
APTOS
BONNY DOON
CARBONERA
EUREKA CANYON
LIVE OAK
LA SELVA
NORTH COAST
PAJARO VALLEY
SAN ANDREAS
SKYLINE
SAN LORENZO VALLEY
SUMMIT
SOQUEL
SALSIPUEDES
CITY LIMITS
SAN MATEO COUNTY
SANTA CLARA COUNTY
MONTEREY COUNTY
SAN BENITO COUNTY
SKYLINE
SAN LORENZO VALLEY
NORTH COAST
SUMMIT
CARBONERA
EUREKA CANYON
APTOS HILLS
BONNY DOON
SOQUEL
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LIVE OAK
LA SELVA
PAJARO VALLEY
SALSIPUEDES
SAN ANDREAS
PROJECT LOCATION
Figure 1

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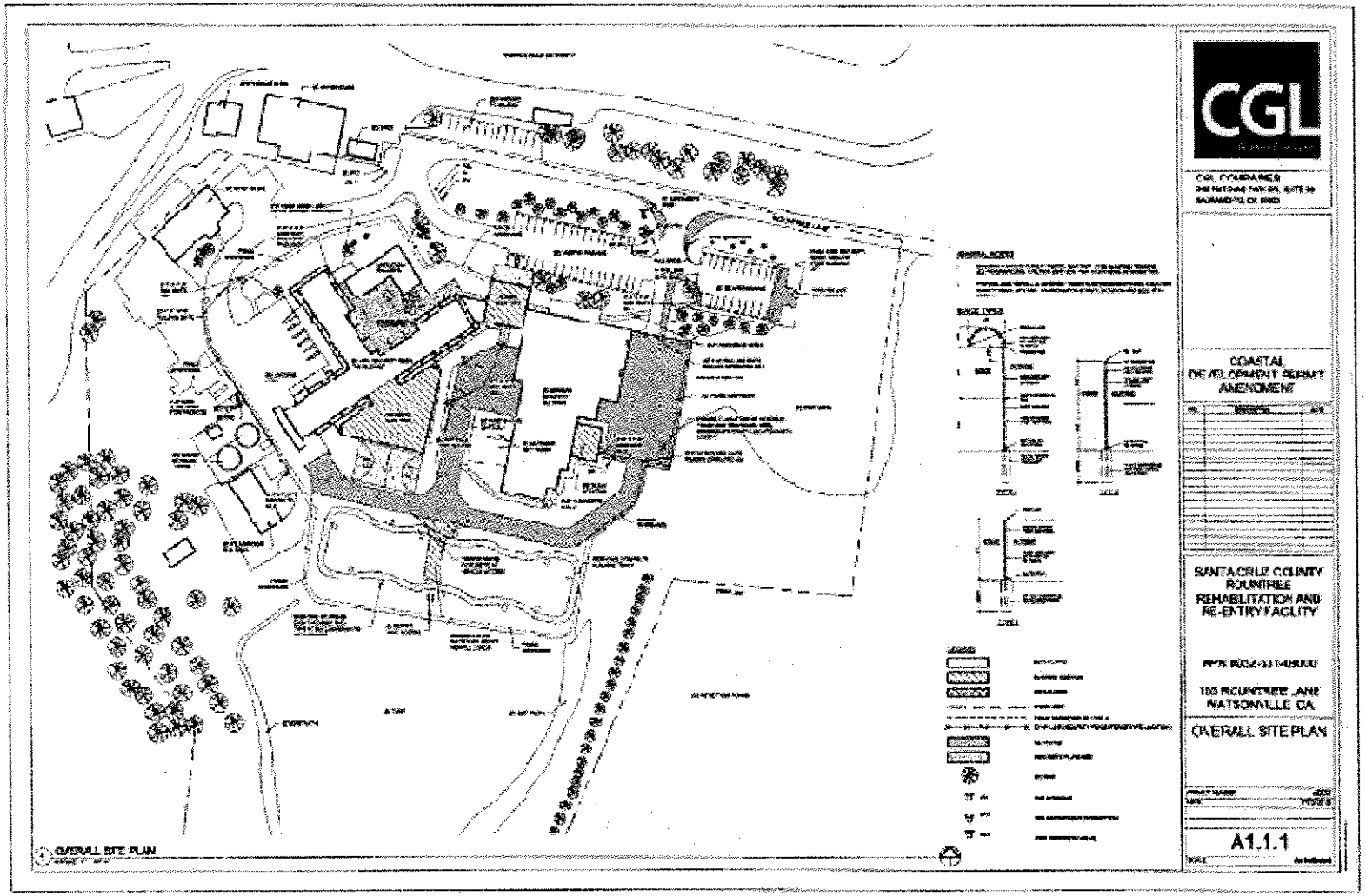

Project Site Plan **Figure 2**

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II. BACKGROUND INFORMATION

EXISTING SITE CONDITIONS:

Parcel Size (acres): 93.6 acres
Existing Land Use: Public Facility/Institutional Designation
Vegetation: Developed/Landscaped
Slope in area affected by project: ☒ 0 - 30% ☐ 31 – 100% ☐ N/A
Nearby Watercourse: Harkins Slough, Gallighan Slough, Perennial Streams
Distance To: Approximately 500 feet from nearest proposed improvements

ENVIRONMENTAL RESOURCES AND CONSTRAINTS:

Water Supply Watershed:	No	Fault Zone:	N/A
Groundwater Recharge:	Yes, Portion	Scenic Corridor:	Yes
Timber or Mineral:	No	Historic:	N/A
Agricultural Resource:	No	Archaeology:	Yes, portion
Biologically Sensitive Habitat:	Yes, nearby stream area	Noise Constraint:	No
Fire Hazard:	No	Electric Power Lines:	South edge of facility
Floodplain:	No	Solar Access:	Yes
Erosion:	No	Solar Orientation:	Yes
Landslide:	No	Hazardous Materials:	No
Liquefaction:	Yes	Other:	

SERVICES:

Fire Protection:	County Fire	Drainage District:	Zone 4
School District:	Pajaro Valley Unified	Project Access:	Rountree Lane
Sewage Disposal:	Septic	Water Supply:	Well

PLANNING POLICIES:

Zone District: PF (Public Facility)

Special Designation: O (Other Public Facility),] L (Landfill)

General Plan: P (Public Facility)

Urban Services Line: ☐ Inside ☒ Outside
Coastal Zone: ☒ Inside ☐ Outside

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

III. ENVIRONMENTAL REVIEW CHECKLIST

A. AESTHETICS AND VISUAL RESOURCES

Would the project:

1.	*Have a substantial adverse effect on a scenic vista?*	☐	☐	☐	☒

Discussion:

A portion of the perimeter of the subject property, at southern boundary and northern tip, is designated scenic resource, including the Highway One, San Andreas Road, and Beach Drive. The subject property is not visible from the Highway One Scenic Corridor given that higher topographic contours, located between Highway One and the subject property, preclude any views of the subject property from Highway One. The same is true of higher topographic contours between the subject property and San Andreas Scenic Road and Beach Drive Scenic Road precluding views from San Andreas Road and Beach Drive.

The portion of the site proposed for development is not mapped scenic resource and only views of the project affected by the project are those from private property. County visual resource protection regulations only apply to public view sheds. No visual impacts would occur as a result of the proposed improvements.

2.	*Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*	☐	☐	☐	☒

Discussion: Although a portion of the subject property, located at the southern boundary and at the northern tip, is designated scenic resource, the portion of the site proposed for development is not visible from State Highway One given that higher topographic contours, located between Highway One and the subject property, preclude any views of the subject property from Highway One.

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

Discussion: The existing visual setting is comprised of the County Correctional Facility, residential development to the south of the correctional facility, the Buena Vista Landfill to the northeast and northwest and agricultural land to the north. Proposed improvements are proposed within the correctional facility site. The proposed project will not change visual character of the site or surroundings as a result of facility addition and renovations.

4.	*Create a new source of substantial light or glare which would adversely affect day*	☐	☒	☐	☐

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

or nighttime views in the area?

Discussion:

The project currently includes existing exterior site and building lighting. The project project would contribute an incremental amount of night lighting to the visual environmental as a result of the proposed lighting on the exterior of the building and along site fencing. However, preliminary lighting plans include lighting directed toward the site with downcast and shielded lights intended to reduce this potential impact to a less than significant level.

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?*	☐	☐	☐	☒

Discussion: 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?*	☐	☐	☐	☒

Discussion: The project site is zoned PF (Public Facility), 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,

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

or a Williamson Act Contract. No impact is anticipated.

The subject property is located adjacent to parcels containing mapped type 3 agricultural resource designation. However, the proposed improvements are located beyond 200 feet of agricultural resources. No impact to adjoining agricultural resources 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))?*	☐	☐	☐	☒

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?*	☐	☐	☐	☒

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?*	☐	☐	☐	☒

Discussion: The project site and surrounding area within a radius of 200 feet 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 200 feet of the proposed project site. Therefore, no impacts are anticipated.

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

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?*	☐	☐	☒	☐

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). 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 less than significant. See C-2 below.

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, as described below. No stationary sources would be constructed that would be long-term permanent sources of emissions.

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 (PM_{10}) (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 NOx are on- and off-road motor vehicles, stationary source fuel combustion, and industrial processes. In 2010, daily emissions of ROGs 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 NOx 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 "NOx sensitive," meaning that ozone formation due to local emissions is more limited by the availability of NOx as opposed to the

availability of ROGs (MBUAPCD, 2013b).

PM_{10} 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 PM_{10} were estimated at 102 tons per day. Of this, entrained road dust represented 35 percent of all PM_{10} 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).

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.

Table 1: Construction Activity with Potentially Significant Impacts from Pollutant PM_{10}

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.

Impacts

As required by the MBUAPCD, construction activities (e.g., excavation, grading, on-site vehicles) which directly generate 82 pounds per day or more of PM_{10} would have a significant impact on local air quality when they are located nearby and upwind of sensitive receptors such as the community of Watsonville. 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 PM_{10}, it would be far below the 82 pounds per day threshold. This would result in less than significant impacts on air quality from the generation of PM_{10}.

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 (NOx)], 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 will be used in all diesel-powered equipment, which minimizes sulfur dioxide and particulate matter.

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

Best Management Practices

The project impacts would be reduced to a less than significant level with implementation of the required MBUAPCD emission control measures, i.e., diesel engine and fugitive dust controls.

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 submitted to the County of Santa Cruz Department of Public Works (DPW) Planning Director for review every 2,000 service hours.
- 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 DPW 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.

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.

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.

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

- 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.

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

- 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. Impacts would be less than significant.

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)?* ☐ ☐ ☒ ☐

Discussion: Project construction would have a limited and temporary potential to contribute to existing violations of California air quality standards for ozone and PM_{10} 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?* ☐ ☐ ☒ ☐

Discussion:

Diesel exhaust contains substances (DPM, toxic air contaminants [TACs], mobile source air toxics [MSATs]) that are suspected carcinogens, along with pulmonary irritants and hazardous compounds, which may affect sensitive receptors such as young children, senior citizens, or those susceptible to respiratory disease. Where construction activity occurs in proximity to long-term sensitive receptors, a potential could exist for unhealthful exposure of those receptors to diesel exhaust, including residential receptors.

Impacts

The proposed project is located in the community of Watsonville and sensitive receptors would be as close as 500 feet from the project area. Due to the intermittent and short-term temporary nature of construction activities (i.e., occurring over a one week period), emissions of DPM, TACs, or MSATs would not be sufficient to pose a significant risk to sensitive receptors from construction equipment operations during the course of the project

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

with implementation of the following BMPs and BACT.

Best Management Practices

MBUAPCD control measures for diesel exhaust would be implemented as described in Measures AQ-1 and AQ-2. The project would not be expected to expose sensitive receptors to substantial pollutant concentrations. Impacts would be less than significant with the incorporation of mitigation.

5.	*Create objectionable odors affecting a substantial number of people?*	☐	☐	☒	☐

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, 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: The property is mapped for Riparian Woodlands and Biotic Resources associated with the Galligan Slough and Harkins Slough, approximately 300 to 700 feet from the proposed project construction area. The property is not mapped for sensitive habitat in areas proposed for development. According to the California Natural Diversity Data Base (CNDDB), maintained by the California Department of Fish and Wildlife, there are no known special status plant or animal species within the construction site vicinity, and there were no special status species or ruderal grassland species observed in the project area by the Environmental Coordinator.

The lack of suitable habitat and the disturbed nature of the site make it unlikely that any special status plant or animal species occur in the area.

2.	*Have a substantial adverse effect on any riparian habitat or sensitive natural*	☐	☐	☒	☐

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

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?

Discussion:

Riparian woodland occurs along the banks of the Galligan Slough and Harkins Slough, approximately 300 to 700 feet from the proposed project construction area. The sloughs are dominated by Coastal and Valley Freshwater Marsh species and Riparian woodland along the higher edge of the banks. Riparian woodland is considered a sensitive natural community by the California Department of Fish and Wildlife (CDFW), and is regulated under the California Fish and Game Code Section 1600 regarding lake and streambed alteration agreements. The riparian woodland in the site area falls within the CDFW stream zone, which extends laterally to the outer edge of riparian vegetation.

The proposed project would not directly impact the riparian woodland as a result of the significant distance between the project improvements and the edge of the riparian woodland. Potential indirect impacts to riparian woodland include site runoff and are addressed by standard best management practices included on the project plans to ensure water quality is maintained and the quality of the riparian woodland is not impacted. As a result, the proposed project will not result in significant impacts to the riparian woodland.

3. *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?*	☐	☐	☒	☐

Discussion: Galligan Slough and Harkin Slough are mapped or designated federally protected wetlands on or adjacent to the project site. The proposed project would not directly impact the wetland as a result of the significant distance, approximately 300 to 700 feet, between the project improvements and the edge of the wetlands. Potential indirect impacts to wetlands include potential site runoff and are addressed by standard best management practices on the project plans to ensure water quality is maintained and the quality of the wetlands are not impacted. As a result, the proposed project will not result in significant impacts to the wetlands.

4 *Interfere substantially with the movement of any native resident or migratory fish or*	☐	☐	☐	☒

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

wildlife species or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

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. *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)?*	☐	☐	☐	☒

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

6. *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*	☐	☐	☐	☒

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?*	☐	☐	☒	☐

Discussion: All construction would be completed during daylight hours. No nighttime lighting impacts from project implementation would occur.

The development area is adjacent to a riparian corridor; however this corridor is approximately 300 to 700 feet away from the project area. Nonetheless, wildlife associated with this habitat could be adversely affected by a new or additional source of light that is not adequately deflected or minimized. The project currently includes existing exterior site and building lighting. The project would contribute an incremental amount of night lighting to the visual environmental as a result of the proposed lighting on the exterior of the building and along site fencing. However, preliminary lighting plans include lighting directed toward the site with downcast and shielded lights intended to reduce any potential impact to a less than significant level.

E. CULTURAL RESOURCES

Would the project:

1. *Cause a substantial adverse change in*	☐	☐	☐	☒

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

the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?

Discussion: The existing structure(s) on the property is/are not designated as a historic resource on any federal, state or local inventory. As a result, no impacts to historical resources would occur from project implementation.

2. *Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?*	☐	☐	☒	☐

Discussion: Although archaeological resources are mapped on the southern tip of the subject property, no archeological resources have been identified in the project construction 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.

Impacts are expected to be less than significant.

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

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. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074?*	☐	☐	☒	☒

Discussion: See discussion under E-2. Impacts would be less than significant.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
5. *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*	☐	☐	☐	☒

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. *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*				
A. *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*	☐	☐	☒	☐
B. *Strong seismic ground shaking?*	☐	☐	☒	☐
C. *Seismic-related ground failure, including liquefaction?*	☐	☐	☒	☐
D. *Landslides?*	☐	☐	☒	☐

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). However, the project site is located approximately 3 miles northeast of the Zayante fault zone and 7 miles northeast of the San Andreas fault zone. 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. Consequently, large earthquakes can be expected in the future. 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 is required to be reviewed and accepted prior to

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

project approval. Recommendations of the geotechnical report are required to become conditions of project approval. Therefore, the project will not result in significant impacts.

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?*	☐	☐	☒	☐

Discussion:

A geotechnical investigation for the proposed project is required to be reviewed and accepted prior to project approval. Recommendations of the geotechnical report are required to become conditions of project approval. Therefore, the project will not result in significant impacts.

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

Discussion: There are slopes between 15% to 30% slope in the project construction area. However, no improvements are proposed on slopes in excess of 30%.

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

Discussion: Some potential for erosion exists during the construction phase of the project, however, this potential is minimal because the area proposed for development is generally flat and standard erosion controls are a required condition of the project. Prior to approval of a grading or building permit, the project must have an approved Erosion Control Plan (*Section 16.22.060 of the County Code*), which would specify detailed erosion and sedimentation control measures. The plan would include provisions for disturbed areas to be planted with ground cover and to be maintained to minimize surface erosion. Impacts from soil erosion or loss of topsoil would be considered less than significant.

5.	*Be located on expansive soil, as defined in Section 1802.3.2 of the California Building Code (2007), creating substantial risks to life or property?*	☐	☐	☐	☒

Discussion: The project site is mapped for Elkhorn sandy loam, a deep, well-drained soil type that is not typically expansive.

6.	*Have soils incapable of adequately supporting the use of septic tanks, leach*	☐	☐	☒	☐

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

fields, or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

Discussion: The existing project provides two on-site sewage disposal systems, one for the medium security facility located adjacent to the outdoor area of the minimum security facility and one septic system for the minimum security facility located adjacent to the medium security facility. The proposed project is not proposing to expand the permitted occupancy of the minimum security facility; rather, the proposed use for the rehabilitation project reduces the number of beds from 162 to 64 beds. Thus, expansion of the minimum security septic system is not proposed.

County Environmental Health Services has determined that site conditions are appropriate to support the project provided that applicant complete a routine inspection of the sand filter-septic system by a third-party service provider with a standard monitoring report submitted to Environmental Health to verify the existing system is functioning adequately prior to building permit issuance.

Whitson Engineers provided a memo addressing inspection of the septic system lines and leach fields by Mr Rooter indicating that the septic system is adequate, provided that one of the leach fields be cleaned by "hydroscrubing in conjunction with treatment with natural enzymes. Additional maintenance recommended by the General Services Agency, who is responsible for maintenance of the system, recommends replacement of the diversion valve and replacement of the effluent pump and pump controller.

Environmental Health staff has also required pumping of the system as it has not been routinely pumped within the last 3 years, with sewage pumping reports forwarded to Environmental Health staff for review. Project conditions will ensure that the current system will continue to function properly.

7.	*Result in coastal cliff erosion?*	☐	☐	☐	☒

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.	*Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*	☐	☐	☒	☐

Discussion: The proposed project, like all development, would be responsible for an incremental increase in green house gas emissions by usage of fossil fuels during the site grading and construction. Santa Cruz County has recently adopted a Climate Action

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

Strategy (CAS) intended to establish specific emission reduction goals and necessary actions to reduce greenhouse gas levels to pre-1990 levels as required under AB 32 legislation. The strategy intends to reduce greenhouse gas emissions and energy consumption by implementing measures such as reducing vehicle miles traveled through the County and regional long range planning efforts and increasing energy efficiency in new and existing buildings and facilities. All project construction equipment would be required to comply with the Regional Air Quality Control Board emissions requirements for construction equipment. As a result, impacts associated with the temporary increase in green house gas emissions are expected to be less than significant.

2. *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*	☐	☐	☒	☐

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

H. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

1. *Create a significant hazard to the public or the environment as a result of the routine transport, use or disposal of hazardous materials?*	☐	☒	☐	☐

Discussion: The facility has a current Hazard Materials Permit from the Environmental Health Services agency; no change in use of hazardous materials is proposed. An asbestos and lead report was produced evaluating the potential for asbestos and lead to be disturbed as a result of the renovation. The report determined that both lead and asbestos are present in low amounts and may be disturbed during the renovation process. In order to reduce impacts from lead and asbestos exposure to less than significant, the following mitigation shall be implemented:

Mitigation Hz 1 - The Project applicant shall be required to retain an EPA-Certified Asbestos Professional and EPA Lead-Safe Certified contractor to prepare an Asbestos/Lead Paint Management Plan that includes lead and asbestos inspection notes and sampling results, as well as a Respiratory Protection Program, Medical Surveillance Requirements, an Injury and Illness Program, asbestos-containing building materials disposal requirements, and a Periodic [Asbestos] Surveillance Schedule. All asbestos-containing building materials and lead identified in the Asbestos/Lead Paint Management Plan shall be removed and disposed of by an EPA-Certified Asbestos Professional and EPA Lead-Safe Certified contractor, as appropriate, in accordance with all state and federal regulations.

2. *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions*	☐	☐	☒	☐

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

involving the release of hazardous materials into the environment?

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

3.	*Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*	☐	☐	☐	☒

Discussion: The project is not located within proximity of a school. 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 is not included on the 8/3/2015 list of hazardous sites in Santa Cruz County compiled pursuant to Government Code Section 65962.5. No impacts are anticipated from project implementation.

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?*	☐	☐	☒	☐

Discussion: The project site is located within approximately 1.2 miles of the Watsonville airport and located along the edge of the outer extent of the airport approach zone, but not located within the restricted approach zones (Clear or A or B zone) that preclude or limit residential development density. Furthermore, the occupancy of the facility (number of inmates and staff) currently permitted at the correctional facility is not intended to be increased as a result of the proposed facility remodel. Therefore, it is not expected that the proposed project would result in a significant safety hazard for inmates or staff in the project area.

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?*	☐	☐	☐	☒

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

Discussion: The proposed project is not located in the vicinity of a private airstrip.

7. *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*	☐	☐	☐	☒

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 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 and State Fire Marshall. 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:

A portion of the project site drainage system outlets on a slope above a series of water treatment ponds that function as a part of the wastewater treatment for the adjacent farm worker housing facility. The ponds drain directly into Gallighan Slough and a concrete ditch is located above the ponds to divert storm water around them. Preliminary analysis has shown that the existing drainage from the Rountree facility may exceed the capacity of the diversion ditch in less than a 25 year storm event.

Mitigation Dr 1: In order to ensure that storm water from the Rountree facility does not exceed the capacity of the ditch and flood the ponds into Gallighan Slough, the applicant will develop a storm water management plan to be incorporated into the final drainage design. The storm water management plan will determine the ditch capacity and limit the amount of runoff at the existing outlet above the ponds such that the 25 year event will not exceed the diversion ditch capacity. The remaining drainage will be detained on site, percolated where feasible, and disbursed onto the slope west of the pond. The storm water

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

management plan components (detention, retention and metered dispersion) will be reviewed and approved by the drainage staff of the Department of Public Works prior to consideration by the decision-making body.

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 rely on an existing private well for water supply. Prior environmental review has determined the well has adequate supply for the capacity of the facility; therefore no impacts will occur as a result of this project.

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 located adjacent to Gallighan Slough, and has the potential to generate water quality impacts during and post construction. However, the proposed project would be consistent with County Code Section 7.79.070, which states, "No person shall make any unpermitted alterations to drainage patterns or modifications to the storm drain system or any channel that is part of receiving waters of the county. No person shall deposit fill, debris, or other material in the storm drain system, a drainage channel, or on the banks of a drainage channel where it might enter the storm drain system or receiving waters and divert or impede flow." It is required that prior to public hearing an erosion control plan would be required per Section 16.22.060 of the County Code. The attached plan would undergo revisions to meet Public Works Design Criteria. The Department of Public Works Drainage Section staff would approve the proposed drainage plan revisions. Impacts would be less than significant.

The following water quality protection and erosion and sediment control best management practices (BMPs) would be implemented, based on standard County requirements, to minimize construction-related contaminants and mobilization of sediment to Gallighan

Slough.

The BMPs will be selected to achieve maximum sediment removal and represent the best available technology that is economically achievable and are subject to review and approval by the County. The County will perform routine inspections of the construction area to verify the BMPs are properly implemented and maintained. The County will notify contractors immediately if there is a noncompliance issue and will require compliance.

The BMPs will include, but are not limited to, the following.

- All earthwork or foundation activities will occur in the dry season (generally between June 1 and October 15).
- Equipment used in and around drainages and wetlands will be in good working order and free of dripping or leaking engine fluids. All vehicle maintenance will be performed at least 300 feet from all drainages and wetlands. Any necessary equipment washing will be carried out where the water cannot flow into drainages or wetlands.
- Any surplus concrete rubble, asphalt, or other rubble from construction will be taken to a local landfill.
- An erosion and sediment control plan will be prepared and implemented for the proposed project. It will include the following provisions and protocols. The Storm Water Pollution Prevention Plan (SWPPP) for the project will detail the applications and type of measures and the allowable exposure of unprotected soils.
    - Discharge from dewatering operations, if needed, and runoff from disturbed areas will be made to conform to the water quality requirements of the waste discharge permit issued by the RWQCB.
    - Temporary erosion control measures, such as sandbagged silt fences, will be applied throughout construction of the proposed project and will be removed after the working area is stabilized or as directed by the engineer. Soil exposure will be minimized through use of temporary BMPs, groundcover, and stabilization measures. Exposed dust-producing surfaces will be sprinkled daily, if necessary, until wet; this measure will be controlled to avoid producing runoff. Paved streets will be swept daily following construction activities.
    - The contractor will conduct periodic maintenance of erosion and sediment control measures.
    - An appropriate seed mix of native species will be planted on disturbed areas upon completion of construction.
    - Cover or apply nontoxic soil stabilizers to inactive construction areas (previously

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

graded areas inactive for 10 days or more) that could contribute sediment to waterways.

- Enclose and cover exposed stockpiles of dirt or other loose, granular construction materials that could contribute sediment to waterways. Material stockpiles will be located in non-traffic areas only. Side slopes will not be steeper than 2:1. All stockpile areas will be surrounded by a filter fabric fence and interceptor dike.
- Contain soil and filter runoff from disturbed areas by berms, vegetated filters, silt fencing, straw wattle, plastic sheeting, catch basins, or other means necessary to prevent the escape of sediment from the disturbed area.
- Use other temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary re-vegetation or other ground cover) to control erosion from disturbed areas as necessary.
- Avoid earth or organic material from being deposited or placed where it may be directly carried into the channel.

Implementation of the above BMPs would ensure that water quality impacts to the Gallighan Slough are less than significant.

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?*	☐	☒	☐	☐

Discussion: A See I1.

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?*	☐	☒	☐	☐

Discussion: Please see discussion under I-4 above.

6. *Otherwise substantially degrade water quality?*	☐	☐	☒	☐

Discussion: Please see discussion under I-1 above. Impacts would be considered less than significant with the implementation of BMPs.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 housing or any other development lies within a 100-year flood hazard area. Impacts from project implementation are expected to be less than significant.

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: The project location is on a knoll above the junction of two slough systems that ultimately feed into the Pajaro River near the mouth of the river. In the case of a tsunami or seiche, tidal waters would inundate the flat farmland of the Pajaro Valley before rising 100 feet to the level of the existing facility. No source exists in the vicinity of the project to create a damaging mudflow; therefore there would be no impact.

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

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

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?*	☐	☐	☐	☒

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?*	☐	☐	☐	☒

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?*	☐	☐	☐	☒

Discussion: The project site is zoned Public Facility, 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.

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

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?*	☐	☐	☒	☐

The Rountree Facility is in a rural location, adjacent to a landfill, with farm worker housing located on the same parcel, 500 feet from the limits of disturbance. Noise-related impacts that result from this project will be limited to normal workday hours and will be similar in nature to the operational noises of the adjacent landfill and delivery trucks to the Rountree facility. The construction-related noise will be temporary in nature and is considered a less than significant impact.

2. *Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?*	☐	☐	☒	☐

Discussion: See L.1. above

3. *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?*	☐	☐	☒	☐

Discussion: See L.1. above

4. *A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?*	☐	☐	☒	☐

Discussion: See L.1. above

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 expose people residing or working in the project area to excessive noise levels?*	☐	☐	☒	☐

Discussion: The proposed project is within two miles of a public airport. The Watsonville Airport Noise Contour figure from the City of Watsonville shows the Rountree facility well outside of the 55 decibel area. The impact of noise from the airport on the people working in and around the Rountree facility is less than significant.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?*	☐	☐	☐	☒

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)?*	☐	☐	☐	☒

Discussion: The proposed project is designed at the density and intensity of development allowed by the existing use permit 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?*	☐	☐	☐	☒

Discussion: The proposed project would not displace any existing housing. No impact would occur.

3. *Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?*	☐	☐	☐	☒

Discussion: The proposed project would not displace a substantial number of people since the project is intended to remodel and existing detention facility. 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*

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
a. Fire protection?	☐	☐	☐	☒
b. Police protection?	☐	☐	☐	☒
c. Schools?	☐	☐	☐	☒
d. Parks?	☐	☐	☐	☒
e. Other public facilities; including the maintenance of roads?	☐	☐	☐	☒

Discussion (a through e): The Rountree Facility is permitted for up to 258 inmates; the proposed project will not increase the capacity of the facility and will have no effects on the demand for public services.

O. RECREATION

Would the project:

1. 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?	☐	☐	☐	☒

Discussion: The proposed 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. Does the project include recreational facilities or require the construction or expansion of recreational facilities which 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:

1. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all	☐	☐	☐	☒

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

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?

Discussion: The facility and infrastructure were designed and permitted for a capacity and level of service greater than the proposed project would result in, therefore no transportation-related impacts are expected.

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. *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?* ☐ ☐ ☐ ☒

Discussion: No change in air traffic patterns would result from project implementation.

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

Therefore, no impact is anticipated.

4.	*Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*	☐	☐	☐	☒

Discussion: The proposed project consists of a remodel of an existing facility. No increase in hazards would occur from project design or from incompatible uses. No impact would occur from project implementation.

5.	*Result in inadequate emergency access?*	☐	☐	☐	☒

Discussion: The project's road access meets County standards and has been approved by the local fire agency or California Department of Forestry, as appropriate.

6.	*Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?*	☐	☐	☐	☒

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.	*Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?*	☐	☐	☒	☐

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

2.	*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?*	☐	☐	☒	☐

Discussion: The project would rely on an individual well for water supply. Public water delivery facilities would not have to be expanded. Impacts from project construction would be less than significant.

The project would be served by an existing on-site sewage disposal system, which would be

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

adequate to accommodate the demands of the project. Impacts would be considered less than significant. Conditions of approval by the Health Services Department require maintenance of the septic system to ensure that environmental health effects do not occur.

3. *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?*	☐	☒	☐	☐

Discussion: A portion of the project site drainage system outlets on a slope above a series of water treatment ponds that function as a part of the wastewater treatment for the adjacent farm worker housing facility. The ponds drain directly into Gallighan Slough and a concrete ditch is located above the ponds to divert storm water around them. Analysis has shown that the existing drainage from the Rountree facility exceeds the capacity of the diversion ditch in storms between a 25 design year event. See I.4. for mitigation.

4. *Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?*	☐	☐	☐	☒

Discussion: The Rountree facility currently draws water from a private well that has the ability to serve the facility at full capacity. No new water entitlements are required.

5. *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?*	☐	☐	☒	☐

Discussion: Please see discussion under Q-2 above. No impact would occur from project implementation.

6. *Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?*	☐	☐	☒	☐

Discussion: The proposed would not generate solid waste during the operational phase of the project. However, construction debris would be generated during demolition and construction, much of which would be recycled. No impact is anticipated.

7. *Comply with federal, state, and local statutes and regulations related to solid*	☐	☐	☐	☒

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

waste?

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.	*Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, 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. Resources that have been evaluated as significant would be potentially impacted by the project, particularly riparian habitat. However, mitigation has been included that clearly reduces these effects to a level below significance. This mitigation includes lighting constraints and storm water management. As a result of this evaluation, there is no substantial evidence that, after mitigation, significant effects associated with this project would result. Therefore, this project has been determined not to 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

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

potential for incremental effects that are cumulatively considerable. As a result of this evaluation, there is no substantial evidence that there are cumulative effects associated with this project. 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: Hazardous materials. However, mitigation has been included that clearly reduces these effects to a level below significance. 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.

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.

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

MBUAPCD, 2013b

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

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Attachment 1

Negative Declaration Mitigations

NAME: County Rountree Rehabilitation and Re-Entry Facility
APPLICATION: 151210
A.P.N: 052-531-03

NEGATIVE DECLARATION MITIGATIONS

A. The potential for hazardous materials (asbestos and lead) to impact workers during the demolition phase will be mitigated through the implementation of an Asbestos/Lead Paint Management Plan that includes lead and asbestos inspection notes and sampling results, as well as a Respiratory Protection Program, Medical Surveillance Requirements, an Injury and Illness Program, asbestos-containing building materials disposal requirements, and a Periodic [Asbestos] Surveillance Schedule. All asbestos-containing building materials and lead identified in the Asbestos/Lead Paint Management Plan shall be removed and disposed of by an EPA-Certified Asbestos Professional and EPA Lead-Safe Certified contractor, as appropriate, in accordance with all state and federal regulations.

B. In order to ensure that storm water from the Rountree facility does not exceed the capacity of the ditch and flood the ponds into Gallighan Slough, the applicant will develop a storm water management plan to be incorporated into the final drainage design. The storm water management plan will determine the ditch capacity and limit the amount of runoff at the existing outlet above the ponds such that the 25 year event will not exceed the diversion ditch capacity. The remaining drainage will be detained on site, percolated where feasible, and disbursed onto the slope west of the pond The storm water management plan components (detention, retention and metered dispersion) will be reviewed and approved by the drainage staff of the Department of Public Works prior to consideration by the decision-making body.

C. In order to mitigate impacts of nighttime lighting on the riparian habitat, prior to issuance of a building permit, a lighting plan must be approved by the Planning Department that includes the following measures:
   1. All exterior lighting shall be directed away from the riparian corridor and adjacent properties.
   2. Light sources must be shielded by landscaping, fixture design or other physical means.

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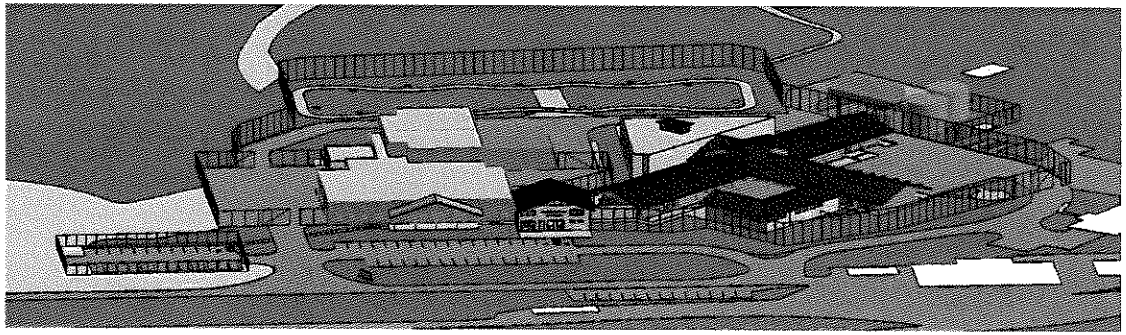
Attachment 2

Supporting Documents

SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

100 ROUNTREE LANE
WATSONVILLE, CALIFORNIA



SCOPE OF PROJECT

THE SCOPE OF THIS PROJECT CONSISTS OF THE FOLLOWING:

PROJECT PROPOSES TO DEMOLISH AN EXISTING 5,658 SQ. FT. HOUSING WING FROM AN EXISTING 19,902 S.F. COUNTY JAIL BUILDING. THE PROJECT WILL THEN CONSTRUCT A NEW 7,659 S.F. HOUSING WING AND PROVIDE A NEW 2,959 S.F. VISITATION BUILDING AND ADDITIONS TO THE EXISTING MEDIUM SECURITY BUILDING CONSISTING OF A 2,755 S.F. ADMINISTRATION ADDITION AND A 1,404 S.F. STORAGE ADDITION. THE PROJECT ALSO INCLUDES A COMPLETE INTERIOR REMODEL OF THE EXISTING 19,902 S.F. BUILDING AND MINOR INTERIOR IMPROVEMENTS TO THE MEDIUM SECURITY BUILDING. WORK ALSO INCLUDES A COMPLETELY RENOVATED SITE WITH NEW FENCES, STAFF AND VISITOR PARKING, ALL NEW FENCES, VEHICLE SALLYPORT AND LOOP ROAD. AN ACCESSIBLE PATH OF TRAVEL IS FOR THE AREAS OF IMPROVEMENT IS PART OF THE SCOPE.

THIS IS A CRITERIA DOCUMENT SET OF DRAWINGS AND IS NOT INTENDED TO HAVE ALL ITEMS DESIGNED AND RESOLVED AND/OR DETAILED. FINAL DESIGN-BUILD TEAM WILL COMPLETE THE DESIGN AND DETAIL THE REMAINING WORK AND STAMP, SIGN AND SUBMIT FOR FULL REVIEW AND APPROVAL BY THE AHJ.

MEDIUM SECURITY BUILDING PERMIT NUMBER: 90-0603.

DIRECTIONS

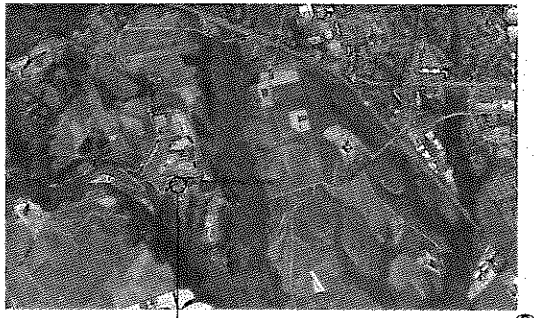
FROM THE NORTH:

1. MERGE ONTO CA-1 S/STATE HIGHWAY 1
2. TAKE THE BUENA VISTA DRIVE EXIT, EXIT 428
3. KEEP RIGHT TO TAKE THE RAMP TOWARD COUNTY REFUSE DISPOSAL SITE
4. MERGE ONTO BUENA VISTA DR.
5. TURN LEFT ONTO HARKINS SLOUGH RD.
6. TAKE THE 1ST RIGHT ONTO ROUNTREE LN.
7. TURN RIGHT AT THE "T"
8. 100 ROUNTREE LN. IS ON THE LEFT

FROM THE SOUTH:

1. MERGE ONTO CA-1 N/STATE HIGHWAY 1
2. TAKE THE BUENA VISTA DRIVE EXIT, EXIT 428
3. KEEP LEFT TO TAKE THE RAMP TOWARD COUNTY REFUSE DISPOSAL SITE
4. MERGE ONTO BUENA VISTA DR.
5. TURN LEFT ONTO HARKINS SLOUGH RD.
6. TAKE THE 1ST RIGHT ONTO ROUNTREE LN.
7. TURN RIGHT AT THE "T"
8. 100 ROUNTREE LN. IS ON THE LEFT

LOCATION MAP



VICINITY MAP

SHEET INDEX

CGL COMPANIES
2485 NATOMAS PARK DR., SUITE 300
SACRAMENTO, CA 95833

COASTAL DEVELOPMENT PERMIT AMENDMENT

NO.	DESCRIPTION	DATE

SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

APN #052-531-03000

100 ROUNTREE LANE
WATSONVILLE, CA

COVER SHEET

PROJECT NUMBER	40222
DATE	7/15/2015

G0.0

SCALE:

7/20/2015 12:48:07 PM

GENERAL

1. CONSTRUCTION CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL(S) HARMLESS FROM ANY AND ALL LIABILITY, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL(S).
2. ALL WORK SHALL BE PERFORMED IN CONFORMANCE WITH:
   A. ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, REGULATIONS, ORDINANCES, AND RULES, INCLUDING WITHOUT LIMITATION:
      CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATIVE CODE (CAL-OSHA)
      CALIFORNIA CODE 4216 – PROTECTION OF UNDERGROUND INFRASTRUCTURE
   B. THE 2010 CALIFORNIA BUILDING STANDARDS CODE (CCR TITLE 24), WITH AMENDMENTS ADOPTED BY THE COUNTY OF SANTA CRUZ.
   C. ALL WORK SHALL CONFORM WITH THE COUNTY OF SANTA CRUZ DESIGN CRITERIA, LATEST EDITION.
   D. ALL WORK SHALL BE PERFORMED IN CONFORMANCE WITH THE U.S. AMERICANS WITH DISABILITIES ACT.
   E. CALIFORNIA EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
   F. THE PROJECT PLANS AND SPECIFICATIONS
   G. THE PROJECT SOILS REPORT AND THE GEOTECHNICAL FEASIBILITY INVESTIGATION FOR SANTA CRUZ COUNTY MEDIUM-SECURITY DETENTION FACILITY, SANTA CRUZ COUNTY, CALIFORNIA BY HARRO, KASUNICH & ASSOCIATES, INC., DATED MAY 1989.
   H. THE MAY, 2006 EDITION OF "STANDARD SPECIFICATIONS," STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION (CALTRANS)
   I. THE MAY, 2006 EDITION OF "STANDARD PLANS," STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION (CALTRANS)
3. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH ALL CURRENTLY APPLICABLE SAFETY LAWS OF ALL APPLICABLE JURISDICTIONAL BODIES. FOR INFORMATION REGARDING THIS PROVISION, THE CONTRACTOR IS DIRECTED TO CONTACT STATE OF CALIFORNIA, DIVISION OF OCCUPATIONAL SAFETY AND HEALTH, AT PHONE (831) 443-3050.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BARRICADES, SAFETY DEVICES AND CONTROL OF TRAFFIC WITHIN THE CONSTRUCTION AREA.
5. INTENTION OF GRADING: CONSTRUCTION OF BUILDING ADDITIONS, PARKING AND ROAD EXPANSIONS, AND ASSOCIATED SITE WORK.
6. PROPERTY IS NOT SUBJECT TO INUNDATION OR 100 YEAR FLOOD LEVELS.
7. ESTIMATED START: TBD , ESTIMATED COMPLETION: TBD.
8. SEE THE PROJECT ARBORIST'S REPORT FOR TREE PROTECTION AND REMOVAL REQUIREMENTS.
9. IF, DURING THE COURSE OF CONSTRUCTION, CULTURAL, ARCHAEOLOGICAL, HISTORICAL OR PALEONTOLOGICAL RESOURCES ARE UNCOVERED AT THE SITE (SURFACE OR SUBSURFACE RESOURCES) WORK SHALL BE HALTED IMMEDIATELY WITHIN 150 FEET OF THE FIND UNTIL IT CAN BE EVALUATED BY A QUALIFIED PROFESSIONAL ARCHEOLOGIST. THE SANTA CRUZ COUNTY PLANNING AND BUILDING INSPECTION DEPARTMENT AND A QUALIFIED ARCHAEOLOGIST (I.E. AN ARCHAEOLOGIST REGISTERED WITH THE SOCIETY OF PROFESSIONAL ARCHAEOLOGISTS) SHALL BE IMMEDIATELY CONTACTED BY THE RESPONSIBLE INDIVIDUAL PRESENT ON SITE. WHEN CONTACTED, THE PROJECT PLANNER AND THE ARCHAEOLOGIST SHALL IMMEDIATELY VISIT THE SITE TO DETERMINE THE EXTENT OF THE RESOURCES AND TO DEVELOP PROPER MITIGATION MEASURES REQUIRED FOR THE DISCOVERY.
10. ALL SURFACES EXPOSED OR EXPECTED TO BE EXPOSED DURING GRADING ACTIVITIES SHALL BE PREPARED AND MAINTAINED THROUGH THE LENGTH OF THE ENTIRE PROJECT TO PROTECT AGAINST EROSION.
11. AT ALL TIMES DURING CONSTRUCTION AND UNTIL FINAL COMPLETION, THE CONTRACTOR, WHEN HE OR HIS SUBCONTRACTORS ARE OPERATING EQUIPMENT ON THE SITE, SHALL PREVENT THE FORMATION OF AN AIRBORNE DUST NUISANCE BY WATERING AND/OR TREATING THE SITE OF THE WORK IN SUCH A MANNER THAT WILL CONFINE DUST PARTICLES TO THE IMMEDIATE SURFACE OF THE WORK. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE DONE BY DUST FROM HIS OR HER SUBCONTRACTOR.
12. ALL ELEVATIONS ARE IN FEET AND DECIMALS THEREOF.
13. A CONSTRUCTION PERMIT FROM THE REGIONAL WATER QUALITY CONTROL BOARD WILL BE REQUIRED.

EARTHWORK AND AREA OF DISTURBANCE SUMMARY

C = 3800 CY
F = 4800 CY
IMPORT = 1000 CY
ESTIMATED AREA OF DISTURBANCE = 5.6 AC

1. THE QUANTITIES PRESENTED ABOVE ARE PRELIMINARY ESTIMATES ONLY, BASED ON THE DIFFERENCE BETWEEN EXISTING GRADE AND SUBGRADE ELEVATIONS AND FINISHED GRADE AND SUBGRADE ELEVATIONS, AS SHOWN ON THE PLANS, AND ARE NOT ADJUSTED FOR CHANGES IN VOLUME DUE TO CHANGES IN SOIL DENSITY.
2. OVER-EXCAVATION IS NOT INCLUDED IN THE ABOVE ESTIMATE. CLEARING AND STRIPPING AND REMOVAL OF AC AND PCC PAVEMENTS ARE NOT INCLUDED IN THE ABOVE ESTIMATES. SITE SPOILS SUCH AS FROM UTILITY TRENCHING, FOUNDATIONS, ETC. ARE NOT INCLUDED IN ABOVE ESTIMATES.
3. THESE QUANTITIES SHALL BE USED FOR PLANNING PURPOSES ONLY. CONTRACTOR SHALL MAKE HIS/HER OWN SITE VISIT AND QUANTITY TAKE-OFFS AND SHALL BID ACCORDINGLY.
4. EARTHWORK VALUES SHOULD BE REEVALUATED DURING THE EARLY STAGES OF SITE GRADING. CONTRACTOR SHALL BE RESPONSIBLE FOR CALCULATING FINAL EARTHWORK QUANTITIES TO HIS/HER SATISFACTION PRIOR TO START OF GRADING OPERATIONS.
5. A COUNTY GRADING PERMIT WILL BE REQUIRED.

SURVEY AND EXISTING CONDITIONS

1. TOPOGRAPHY WAS PREPARED BY WHITSON ENGINEERS IN DECEMBER OF 2014.
2. PROJECT BENCHMARK; A SPIKE IN ASPHALT IN AN AERIAL PHOTO CROSS LOCATED IN TIERRA ALTA DR., 85 FEET SOUTHEASTERLY OF THE INTERSECTION OF TIERRA ALTA DR. AND ROUNTREE LANE IN WATSONVILLE, CA. ELEVATION = 36.04 FEET (PER COUNTY OF SANTA CRUZ DEPT. OF PUBLIC WORKS). LOCAL BENCHMARK: MAGNETIC NAIL AND WASHER IN ASPHALT LOCATED ON THE NORTHERLY EDGE OF A NO PARKING STALL NEAR THE MAIN ENTRANCE TO THE JAIL FACILITY, 15 FEET SOUTHERLY OF A FIRE HYDRANT. ELEVATION = 33.34 FEET. THE PROJECT DATUM IS ON THE SAME DATUM AS THE ADJACENT LANDFILL PER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS.
3. ALL "MATCH" OR "JOIN" CALLOUTS ON THE PLANS SHALL BE FIELD VERIFIED FOR EXACT LOCATION AND ELEVATION PRIOR TO CONSTRUCTION. NOTIFY THE ENGINEER IN THE CASE OF ANY FIELD DISCREPANCY.
4. THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A CURRENT, COMPLETE, AND ACCURATE RECORD OF ALL DEVIATIONS FROM THE WORK PROPOSED IN THESE PLANS AND SPECIFICATIONS, AND A RECORD DRAWING SET SHALL BE PREPARED AND PROVIDED TO THE ENGINEER AT THE COMPLETION OF WORK. CHANGES SHALL NOT BE MADE WITHOUT THE PRIOR WRITTEN APPROVAL OF THE DESIGN ENGINEER.
5. THE EXISTENCE, LOCATION AND ELEVATION OF ANY UNDERGROUND FACILITIES ARE SHOWN ON THESE PLANS IN A GENERAL WAY ONLY. NOT ALL UTILITIES MAY BE SHOWN. IT IS MANDATORY THAT THE CONTRACTOR EXPOSE AND VERIFY THE TOP AND BOTTOM OF ALL UTILITIES PRIOR TO ANY WORK ON SYSTEMS WHICH MAY BE AFFECTED BY THE EXISTING UTILITY'S LOCATION. IT IS THE RESPONSIBILITY AND DUTY OF THE CONTRACTOR TO MAKE THE FINAL DETERMINATION AS TO THE EXISTENCE, LOCATION AND ELEVATION OF ALL UTILITIES AND TO BRING ANY DISCREPANCY TO THE ATTENTION OF THE ARCHITECT.
6. BOUNDARY AND EASEMENT LOCATIONS SHOWN HEREON WERE FURNISHED BY THE COUNTY OF SANTA CRUZ PUBLIC WORKS DEPARTMENT. THIS TOPOGRAPHY MAP DOES NOT CONSTITUTE A BOUNDARY SURVEY. THERE MAY BE EASEMENTS OR OTHER RIGHTS, RECORDED OR UNRECORDED, AFFECTING THE SUBJECT PROPERTY WHICH ARE NOT SHOWN HEREON.

GRADING AND DRAINAGE

1. SITE SPECIFIC GEOTECHNICAL RECOMENDATIONS SHALL BE PREPARED. THE SITE GRADING AND EARTHWORK SHALL BE PERFORMED IN CONFORMANCE WITH THE PROJECT GEOTECHNICAL REPORT.
2. ONSITE GRADING AND EARTHWORK, SITE PREPARATION, EXCAVATION, TRENCHING AND COMPACTION SHALL BE OBSERVED AND TESTED BY THE GEOTECHNICAL ENGINEER DESIGNATED BY THE OWNER. ALL GRADING AND EARTHWORK SHALL BE DONE TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.
3. SHOULD THE RESULTS OF ANY COMPACTION TEST FAIL TO MEET THE MINIMUM REQUIRED DENSITY AS SPECIFIED ON THESE PLANS OR IN THE GEOTECHNICAL REPORT, THE DEFICIENCY SHALL BE CORRECTED TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER AT THE CONTRACTOR'S EXPENSE. THE EXPENSE OF RETESTING SUCH AREAS SHALL ALSO BE BORNE BY THE CONTRACTOR, AT NO COST TO THE OWNER.
4. NOTIFY THE GEOTECHNICAL ENGINEER AT LEAST FOUR (4) WORKING DAYS PRIOR TO ANY GRADING OR FOUNDATION EXCAVATION.
5. ALL SOILS UTILIZED FOR FILL PURPOSES SHALL BE APPROVED BY THE SOILS ENGINEER BEFORE COMMENCEMENT OF GRADING OPERATIONS. IMPORTED SOILS SHALL BE APPROVED BY THE SOILS ENGINEER BEFORE BEING BROUGHT TO THE SITE.
6. EXCAVATION FOR ANY PURPOSE SHALL NOT REMOVE LATERAL SUPPORT FROM ANY FOUNDATION WITHOUT FIRST UNDERPINNING OR PROTECTING THE FOUNDATION AGAINST SETTLEMENT OR LATERAL TRANSLATION. THE EXCAVATION OUTSIDE THE FOUNDATION SHALL BE BACKFILLED WITH SOIL THAT IS FREE OF ORGANIC MATERIAL, CONSTRUCTION DEBRIS, COBBLES AND BOULDERS OR WITH A CONTROLLED LOW-STRENGTH MATERIAL (CLSM). THE BACKFILL SHALL BE PLACED IN LIFTS AND COMPACTED IN A MANNER THAT DOES NOT DAMAGE THE FOUNDATION OR THE WATERPROOFING OR DAMPPROOFING MATERIAL. EXCEPTION: CLSM NEED NOT BE COMPACTED (REF. 2010 CBC 1804.1-1804.2)
7. IMPERVIOUS SURFACES ADJACENT TO STRUCTURES SHALL SLOPE A MINIMUM OF 2% AWAY FROM THE STRUCTURE FOR A MINIMUM DISTANCE OF 10 FEET, UNLESS OTHERWISE SHOWN. LANDSCAPE AREAS ADJACENT TO STRUCTURES SHALL SLOPE A MINIMUM OF 5% AWAY FROM THE STRUCTURE FOR A MINIMUM DISTANCE OF 10 FEET, UNLESS OTHERWISE SHOWN. (REF. 2010 CBC 1804.3)
8. RELATIVE COMPACTION SHALL BE EXPRESSED AS A PERCENTAGE OF THE MAXIMUM DRY DENSITY OF THE MATERIAL AS DETERMINED BY ASTM TEST D-1557. IN-PLACE DENSITY TESTS SHALL BE CONDUCTED IN ACCORDANCE WITH ASTM TESTS D-1556 AND D-6938.
9. GROUND SURFACE SHALL BE PREPARED TO RECEIVE FILL BY REMOVING STRUCTURES, OBSTRUCTIONS, TREES SHOWN TO BE REMOVED, VEGETATION, ORGANIC-LADEN TOPSOIL, LARGE ROOTS, DEBRIS, AND OTHER DELETERIOUS MATERIALS. BURIED SUBSURFACE OBJECTS ENCOUNTERED, OR VOIDS CREATED DURING SITE PREPARATION SHALL BE CALLED TO THE ATTENTION OF THE GEOTECHNICAL ENGINEER.
10. SURPLUS EXCAVATED MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFF THE SITE IN A LEGAL MANNER.
11. FOOTINGS LOCATED ADJACENT TO OTHER FOOTINGS OR RETAINING WALLS SHALL HAVE THEIR BEARING SURFACES FOUNDED BELOW A 2:1 (H:V) LINE PROJECTED UPWARD FROM THE BOTTOM EDGE OF THE ADJACENT FOOTING, WALL, OR UTILITY TRENCH (UNLESS OTHERWISE RECOMMENDED BY THE GEOTECHNICAL ENGINEER).
12. THE GEOTECHNICAL ENGINEER SHALL INSPECT ALL SURFACES TO RECEIVE FILL PRIOR TO THE PLACEMENT OF ANY FILL.
13. ENGINEERED FILL SHALL BE PLACED IN LIFTS NOT EXCEEDING 8 INCHES IN LOOSE THICKNESS, MOISTURE CONDITIONED, AND COMPACTED TO A MINIMUM OF 90% RELATIVE COMPACTION.
14. CUT/FILL SLOPES SHALL BE NO STEEPER THAN TWO HORIZONTAL TO ONE VERTICAL (2H:1V) UNLESS OTHERWISE APPROVED AT THE TIME OF GRADING BY THE GEOTECHNICAL ENGINEER.
15. WHERE EXISTING GRADE IS AT A SLOPE OF 5H:1V (20%) OR STEEPER AND THE DEPTH OF THE FILL EXCEEDS 5 FEET, BENCHING SHALL BE PROVIDED. A TOE KEY SHALL BE CUT A MINIMUM DEPTH OF 2 FEET INTO UNDISTURBED SOILS TO THE INSIDE OF THE FILL'S TOE. THIS KEY SHALL BE A MINIMUM OF 10 FEET WIDE AND SLOPE AT NO LESS THAN 5% INTO THE SLOPE. AS THE FILL ADVANCES UP-SLOPE, BENCHES AT LEAST 3 FEET WIDE, OR TWICE THE WIDTH OF THE COMPACTION EQUIPMENT, WHICHEVER IS WIDER, SHALL BE SCARIFIED INTO THE FILL/UNDISTURBED SOIL INTERFACE.
16. ON-SITE NON-ORGANIC SOIL PROPOSED FOR USE AS ENGINEERED FILL SHALL BE APPROVED BY GEOTECHNICAL ENGINEER AND BE FREE OF ORGANICS, DEBRIS, AND OTHER DELETRIOUS MATERIALS. IMPORTED SOIL USED AS GENERAL ENGINEERED FILL SHALL BE APPROVED BY THE PROJECT GEOTECHNICAL ENGINEER PRIOR TO DELIVERY.
22. IN THE EVENT THAT ANY UNUSUAL CONDITIONS ARE ENCOUNTERED DURING GRADING OPERATIONS WHICH ARE NOT COVERED BY THE SOIL INVESTIGATION OR SPECIFICATIONS, THE SOILS ENGINEER SHALL BE IMMEDIATELY NOTIFIED SUCH THAT ADDITIONAL RECOMMENDATIONS MAY BE MADE.
23. A LETTER SHALL BE SUBMITTED FROM A LICENSED SURVEYOR CERTIFYING THAT PAD ELEVATIONS ARE WITHIN 0.1 FEET OF ELEVATIONS STATED ON APPROVED PLANS, PRIOR TO DIGGING ANY FOOTINGS OR SCHEDULING ANY INSPECTIONS.
24. A "FINAL SOILS LETTER" FROM THE GEOTECHNICAL ENGINEER STATING THAT ALL EARTHWORK COMPLETED WAS IN ACCORDANCE WITH THE RECOMMENDATIONS STATED IN THE GEOTECHNICAL REPORT SHALL BE SUBMITTED PRIOR TO FINAL INSPECTION.
25. EXPORT SOIL SHALL BE TRANSPORTED TO A LEGAL DUMP OR TO A PERMITTED SITE APPROVED BY THE COUNTY. CONTRACTOR SHALL NOTIFY GRADING OFFICIAL OF PROPOSED HAUL ROUTE.

FIRE SYSTEM INFORMATION

HYDRANT FLOW TEST DATA
DATE OF TEST: 5/15/2015
LOCATION: 100 ROUNDTREE LANE

REMARKS: FLOW WAS TESTED AT THE HYDRANT NEAR THE TANKS WHILE RESIDUAL WAS MEASURED AT THE HYDRANT NEAR THE ENTRY GATE

BY: J.R. WAGNER FIRE PROTECTION INC. (888) 325-8544

DIAMETER: 2.5 INCH
STATIC: 88 PSI
RESIDUAL: 50 PSI
OBSERVED FLOW: 1,186 GPM
CALCULATED FLOW AVAILABLE AT 20 PSI: 2,015 GPM*

EXISTING FIRE SYSTEM PUMP
SINGLE PUMP
FLOW: 1,500 GPM
PRESSURE: 100 PSI

WATER TANKS
- TOTAL STORAGE: TWO – 125,000 GALLON TANKS = 250,000 GALLONS
- STORAGE DEDICATED TO FIRE PROTECTION (BOTTOM 3/4 OF TANK) = 187,500 GAL**
- DOMESTIC AND IRRIGATION DRAW IS LIMITED TO THE TOP 1/4 OF THE TANKS.

FIREFIGHTING DEMAND ESTIMATE: (DESIGN BUILD TEAM SHALL VERIFY DEMAND DURING DESIGN)
HYDRANT DEMAND: 1,500 GPM FOR 2-HOURS (PER FIRE MARSHALL)
SPRINKLER DEMAND: 250 GPM FOR 1.5-HOURS (PER GLUMAC)
HYDRANT + SPRINKLER DEMAND IS REQUIRED SIMULTANEOUSLY: 1,750 GPM

DEDICATED STORAGE PROVIDES APPROXIMATELY 107 MINUTES (1.8 HOURS) OF STORAGE AT 1,750 GPM***
TOTAL STORAGE PROVIDES APPROXIMATELY 142 MINUTES (2.4 HOURS) OF STORAGE AT 1,750 GPM

* WHILE THE FLOW AVAILABLE AT 20 PSI RESIDUAL IS CALCULATED AT 2,015 GPM BASED ON THE HYDRANT FLOW TESTING DATA, THE ACTUAL FLOW IS EXPECTED TO BE LIMITED BY THE EXISTING 1,500 GPM FIRE SYSTEM PUMP. THIS POTENTIAL DEFICIENCY SHALL BE REVIEWED BY THE STATE FIRE MARSHAL AND MITIGATED BY THE DESIGN BUILD TEAM (IF REQUIRED)
** PERCENTAGE OF TANK DEDICATED TO FIRE PROTECTION IS ESTIMATED BASED ON WATER SYSTEM IMPROVEMENT PLANS PREPARED BY AXIOM ENGINEERS, DATED 09/11/03
*** 2-HOURS OF DEDICATED STORAGE IS NOT PROVIDED. HOWEVER, THE WELL HAS BEEN TESTED TO DRAW AND FILL THE TANKS AT 130 GPM. IF WE ACCOUNT FOR THE TANKS FILLING AT THIS RATE, 2-HOURS OF DEDICATED STORAGE IS ACHIEVED. ADDITIONALLY, OVER 2-HOURS OF STORAGE IS PROVIDED IN THE TANKS IF THE IRRIGATION AND DOMESTIC STORAGE IS INCLUDED IN THE CALCULATION.

LEGEND

Symbol	Description
40	EXISTING GROUND CONTOUR
40	FINISH GROUND CONTOUR
	DETENTION FACILITY BOUNDARY
	PROJECT SITE BOUNDARY (GROUND LEASE AREA)
	ADJACENT PROPERTY LINE
	EASEMENT LINE
	CENTER LINE
BM	BENCHMARK
32.50± FG	FINISH GRADE ELEVATION
1.0%	FINISH GRADE SLOPE
	TREE
	TREE DRIP LINE
	DRAINAGE PATH
	FLOWLINE
	SIGN
	OVERHEAD UTILITY LINE(S)
	UNDERGROUND ELECTRIC LINE
	UTILITY POLE SHOWING ARMS AND GUY WIRE
	LIGHT, ELECTROLIER
	GAS LINE
GV IcV	GAS VALVE, IRRIGATION CONTROL VALVE
SD	EXISTING STORM DRAIN LINE
	PROPOSED STORM DRAIN LINE
SDMH RIM: 00.00 INV: 00.00	STORM DRAIN MANHOLE
	STORM DRAIN INLET
DS	DOWSPOUT
	SANITARY SEWER LINE (GRAVITY)
	SANITARY SEWER FORCE MAIN
SSMH RIM: 00.00 INV: 00.00	SANITARY SEWER MANHOLE
SSCO	CLEANOUT
	UNDERGROUND TELEPHONE LINE
W	WATER LINE
F	FIRE WATER LINE
	WELL
	WATER VALVE
	POST INDICATOR VALVE
FDC	FIRE DEPARTMENT CONNECTION
FH	FIRE HYDRANT
	HOSE BIB
	BACKFLOW PREVENTION DEVICE
	UTILITY VAULT

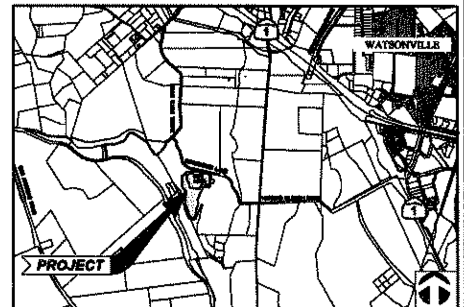
0 1 2 INCHES 3

SITE ADDRESS
100 ROUNTREE LANE
WATSONVILLE, CA 95076

ARCHITECT
CLG COMPANIES
2485 NATOMAS PARK DR. SUITE 300
SACRAMENTO, CA 95833

CIVIL ENGINEER/SURVEYOR
WHITSON ENGINEERS
2425 PORTER STREET, SUITE 2
TEL. (831) 484-9363

MECHANICAL / PLUMBING
GLUMAC
910 GLENN DRIVE
FOLSOM, CA 95630



VICINITY MAP
SCALE: 1" = 2000'

NOT FOR CONSTRUCTION

CIVIL SHEET INDEX

C0.1	CIVIL SITE COVER SHEET
C0.2	CIVIL SITE DETAILS
C1.0	OVERALL CIVIL SITE PLAN
C1.1	SCHEMATIC CIVIL SITE GRADING, DRAINAGE AND UTILITY PLAN
C2.1	TEMPORARY WATER POLLUTION CONTROL (EROSION AND SEDIMENT CONTROL PLAN)
C2.2	TEMPORARY WATER POLLUTION CONTROL PLAN NOTES

ABBREVIATIONS

±	PLUS OR MINUS; APPROX	FDC	FIRE DEPARTMENT CONNECTION	RCP	REINFORCED CONCRETE PIPE
@	AT	FF	FINISHED FLOOR	RT	RIGHT
AB	AGGREGATE BASE	FG	FINISHED GRADE	RW	RECYCLED WATER
AC	ASPHALT CONCRETE	FL	FLOWLINE	RWL	RAIN WATER LEADER
AD	AREA DRAIN	FR	FIRE RISER	SD	STORM DRAIN
APPROX	APPROXIMATE	FS	FINISHED SURFACE	SL	STREET LIGHT
ASB	AGGREGATE SUBBASE	GB	GRADE BREAK	SS	SANITARY SEWER
BC	BEGIN CURVE	GBE	GB ELEVATION	STA	STATION
BVC	BEGIN VERTICAL CURVE	GBS	GB STATION	SW	SIDEWALK
BVCE	BVC ELEVATION	GM	GAS METER	TBM	TEMPORARY BENCH MARK
BVCS	BVC STATION	GRT	GRATE	TC	TOP OF CURB
BS	BOTTOM OF STAIR	GV	GAS VALVE/VAULT	TFC	TOP OF FLUSH CURB
BW	BACK OF WALK	HP	HIGH POINT	TG	TOP OF GRATE
C&G	CURB AND GUTTER	HORIZ.	HORIZONTAL	TOP	TOP OF PIPE
CATV	CABLE TV	INV	INVERT	TS	TOP OF STAIR / TRAFFIC SIGNAL
CGSW	CURB, GUTTER AND SIDEWALK	JP	JOINT UTILITY POLE	TW	TOP OF WALL
℄	CENTERLINE	LDG	LANDING	TYP	TYPICAL
CL	CLASS	LF	LINEAR FEET	UFF	UPPER FINISH FLOOR
CLR	CLEAR	LFF	LOWER FINISH FLOOR	UG	UNDERGROUND
CMP	CORRUGATED METAL PIPE	LP	LOW POINT	U.O.N.	UNLESS OTHERWISE NOTED
CO	CLEANOUT	LT	LEFT	UP	UTILITY POLE
CONC	CONCRETE	MATCH	MATCH EXISTING GRADE	UNKN	UNKNOWN
CONST	CONSTRUCT	MAX	MAXIMUM	VAR	VARIES
CONT	CONTINUOUS	MH	MANHOLE	VERT.	VERTICAL
DEMO	DEMOLISH AND DISPOSE OF	MIN	MINIMUM	W	WATER
D.G.	DECOMPOSED GRANITE	N.I.C.	NOT IN CONTRACT (BY OTHERS)	WM	WATER METER
DI	DRAIN INLET			WV	WATER VALVE
DIA	DIAMETER	O.C.	ON CENTER	XFMR	TRANSFORMER
DS	DOWNSPOUT	OG	ORIGINAL GROUND		
(E)	EXISTING	(P)	PROPOSED		
EC	END CURVE	P.A.	PLANTER AREA		
EG	EXISTING GRADE	PB	PULL BOX		
EJ	EXPANSION JOINT	P.O.C.	POINT OF CONNECTION		
ELEC	ELECTRIC	PP	POWER POLE		
ELEV	ELEVATION	PRC	POINT OF REVERSE CURVATURE		
EQ.	EQUAL				
ETW	EDGE OF TRAVELED WAY	PVC	POLYVINYL CHLORIDE		
EVC	END VERTICAL CURVE	PVI	POINT OF VERTICAL INTERSECTION		
EVCE	EVC ELEVATION				
EVCS	EVC STATION	PTDF	PRESSURE TREATED DOUG-FIR		
E.W.	EACH WAY	R	RADIUS		
EX	EXISTING	R.C.	RELATIVE COMPACTION		
FC	FACE OF CURB				

DIGALERT 811

CGL
A Hunt Company

CGL COMPANIES
2485 NATOMAS PARK DR., SUITE 300
SACRAMENTO, CA 95833

WHITSON ENGINEERS

REGISTERED PROFESSIONAL ENGINEER
RICHARD P. WEBER
No. 55219
CIVIL
STATE OF CALIFORNIA

WE PROJECT NO. 3193.03

COASTAL DEVELOPMENT PERMIT AMENDMENT

NO.	DESCRIPTION	DATE

SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

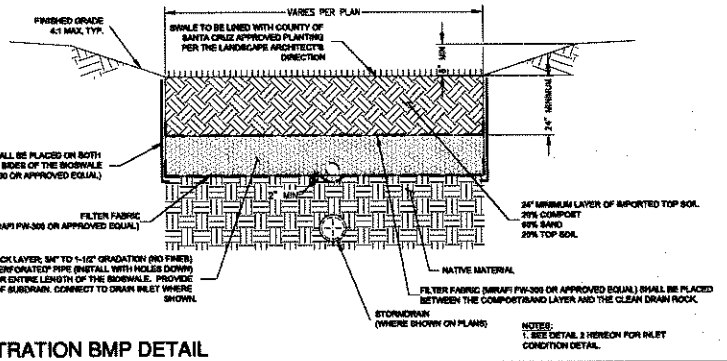
100 ROUNTREE LANE WASTONVILLE, CA

CIVIL SITE COVER SHEET

PROJECT NUMBER	40222
DATE	7/15/2015
APN: 050-531-03	

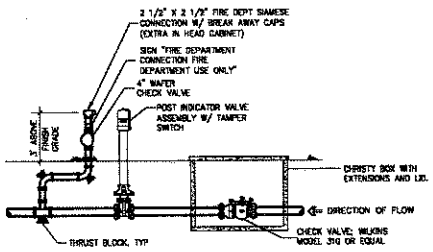
C0.1

SCALE: NTS



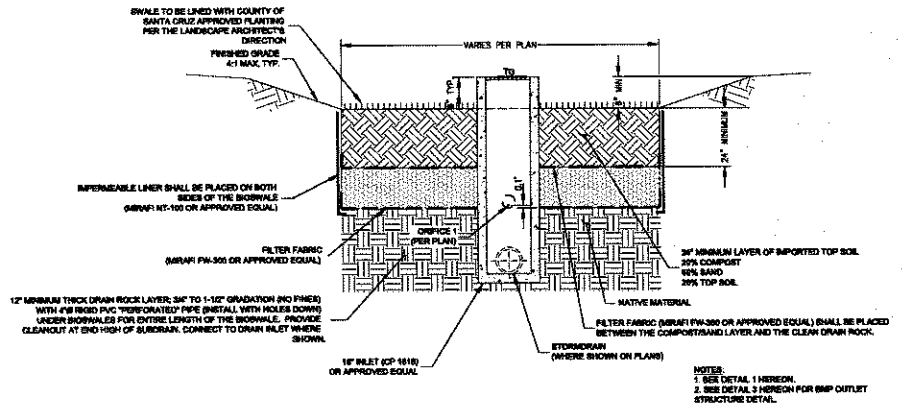
1 BIOFILTRATION BMP DETAIL

NO SCALE



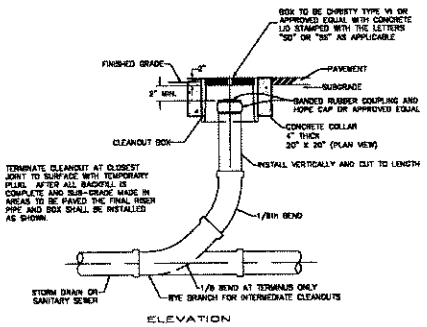
5 FIRE DEPARTMENT CONNECTION

NO SCALE



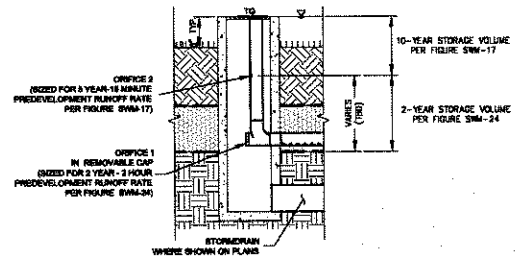
2 BIOFILTRATION BMP: INLET CONDITION DETAIL

NO SCALE



4 SEWER/STORM DRAIN CLEAN OUT

NTS



3 BMP OUTLET STRUCTURE DETAIL

NO SCALE

0 1 2 INCHES 3

DIGALERT 811

NOT FOR CONSTRUCTION

CGL
A Haht Company
CGL COMPANIES
2485 NATOMAS PARK DR., SUITE 300
SACRAMENTO, CA 95833

WHITSON ENGINEERS
REGISTERED PROFESSIONAL ENGINEER RICHARD P. WEBER No. 15219 CIVIL STATE OF CALIFORNIA

WE PROJECT NO. 3193.03

COASTAL DEVELOPMENT PERMIT AMENDMENT

NO.	BY/REVISION	DATE

SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

100 ROUNTREE LANE
WASTONVILLE, CA

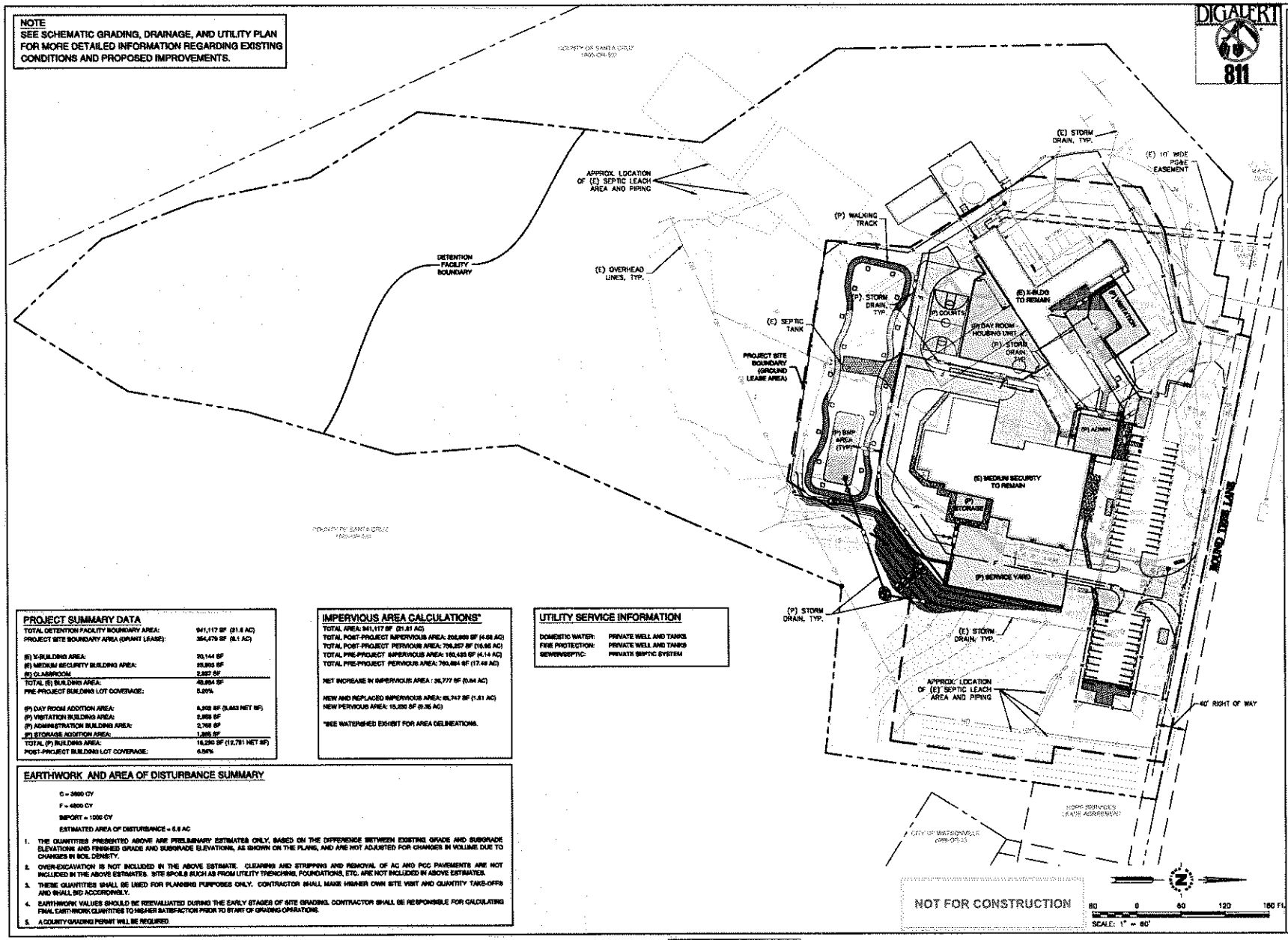
CIVIL SITE DETAILS

PROJECT NUMBER	40222
DATE	7/15/2015
APN: 058-031-03	

C0.2

SCALE: NTS

NOTE
SEE SCHEMATIC GRADING, DRAINAGE, AND UTILITY PLAN FOR MORE DETAILED INFORMATION REGARDING EXISTING CONDITIONS AND PROPOSED IMPROVEMENTS.



PROJECT SUMMARY DATA

TOTAL DETENTION FACILITY BOUNDARY AREA:	941,117 SF (21.6 AC)
PROJECT SITE BOUNDARY AREA (GRANT LEASE):	354,479 SF (8.1 AC)
(E) X-BUILDING AREA:	30,144 SF
(E) MEDIUM SECURITY BUILDING AREA:	16,968 SF
(E) CLASSROOM	2,887 SF
TOTAL (E) BUILDING AREA:	49,994 SF
PRE-PROJECT BUILDING LOT COVERAGE:	5.26%
(P) DAY ROOM ADDITION AREA:	6,208 SF (5,883 NET SF)
(P) VISITATION BUILDING AREA:	2,858 SF
(P) ADMINISTRATION BUILDING AREA:	2,768 SF
(P) STORAGE ADDITION AREA:	1,885 SF
TOTAL (P) BUILDING AREA:	16,290 SF (12,781 NET SF)
POST-PROJECT BUILDING LOT COVERAGE:	4.84%

IMPERVIOUS AREA CALCULATIONS*

TOTAL AREA: 941,117 SF (21.61 AC)
TOTAL POST-PROJECT IMPERVIOUS AREA: 202,889 SF (4.66 AC)
TOTAL POST-PROJECT PERVIOUS AREA: 704,207 SF (16.66 AC)
TOTAL PRE-PROJECT IMPERVIOUS AREA: 160,693 SF (4.14 AC)
TOTAL PRE-PROJECT PERVIOUS AREA: 760,884 SF (17.48 AC)

NET INCREASE IN IMPERVIOUS AREA : 36,777 SF (0.84 AC)

NEW AND REPLACED IMPERVIOUS AREA: 85,747 SF (1.81 AC)
NEW PERVIOUS AREA: 15,200 SF (0.35 AC)

*SEE WATERSHED EXHIBIT FOR AREA DELINEATIONS.

UTILITY SERVICE INFORMATION

DOMESTIC WATER:	PRIVATE WELL AND TANKS
FIRE PROTECTION:	PRIVATE WELL AND TANKS
SEWER/SEPTIC:	PRIVATE SEPTIC SYSTEM

EARTHWORK AND AREA OF DISTURBANCE SUMMARY

C = 5600 CY
F = 4600 CY
IMPORT = 1000 CY
ESTIMATED AREA OF DISTURBANCE = 6.8 AC

1. THE QUANTITIES PRESENTED ABOVE ARE PRELIMINARY ESTIMATES ONLY, BASED ON THE DIFFERENCE BETWEEN EXISTING GRADE AND SUBGRADE ELEVATIONS AND FINISHED GRADE AND SUBGRADE ELEVATIONS, AS SHOWN ON THE PLANS, AND ARE NOT ADJUSTED FOR CHANGES IN VOLUME DUE TO CHANGES IN SOIL DENSITY.
2. OVER-EXCAVATION IS NOT INCLUDED IN THE ABOVE ESTIMATE. CLEARING AND STRIPPING AND REMOVAL OF AC AND PCC PAVEMENTS ARE NOT INCLUDED IN THE ABOVE ESTIMATES. SITE SPOILS SUCH AS FROM UTILITY TRENCHING, FOUNDATIONS, ETC. ARE NOT INCLUDED IN ABOVE ESTIMATES.
3. THESE QUANTITIES SHALL BE USED FOR PLANNING PURPOSES ONLY. CONTRACTOR SHALL MAKE HIS/HER OWN SITE VISIT AND QUANTITY TAKE-OFFS AND SHALL BID ACCORDINGLY.
4. EARTHWORK VALUES SHOULD BE REEVALUATED DURING THE EARLY STAGES OF SITE GRADING. CONTRACTOR SHALL BE RESPONSIBLE FOR CALCULATING FINAL EARTHWORK QUANTITIES TO HIS/HER SATISFACTION PRIOR TO START OF GRADING OPERATIONS.
5. A COUNTY GRADING PERMIT WILL BE REQUIRED.

0 1 2 INCHES 3

CGL
A Hunt Company
CGL COMPANIES
2485 NATOMAS PARK DR., SUITE 300
SACRAMENTO, CA 95833

WHITSON ENGINEERS
REGISTERED PROFESSIONAL ENGINEER
RICHARD P. WEBER
No. 39278
CIVIL
STATE OF CALIFORNIA

WE PROJECT NO: 3193.03

COASTAL DEVELOPMENT PERMIT AMENDMENT

NO	DESCRIPTION	DATE

SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

100 ROUNTREE LANE
WASTONVILLE, CA

OVERALL CIVIL SITE PLAN

PROJECT NUMBER: 40222
DATE: 7/15/2015
APN: 052-031-05

C1.0

SCALE: 1" = 30'

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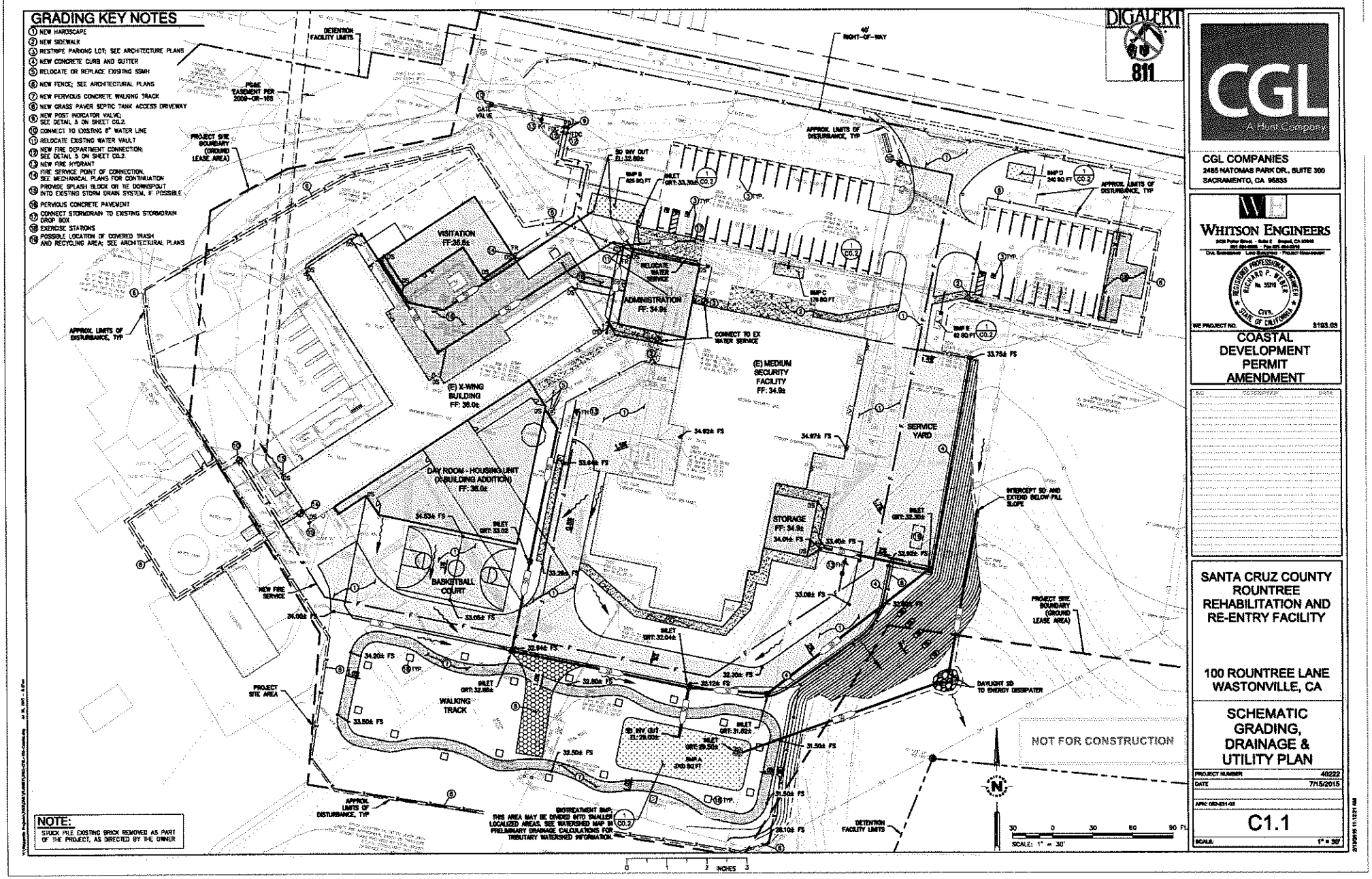


DIGALERT 811

CGL
A Hunt Company

CGL COMPANIES
2485 NATOMAS PARK DR., SUITE 300
SACRAMENTO, CA 95833

WHITSON ENGINEERS
REGISTERED PROFESSIONAL ENGINEER RICHARD F. WEBER No. 33210 CIVIL STATE OF CALIFORNIA

WE PROJECT NO. 2193.03

COASTAL DEVELOPMENT PERMIT AMENDMENT

NO.	DESCRIPTION	DATE

SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

100 ROUNTREE LANE
WASTONVILLE, CA

SCHEMATIC GRADING, DRAINAGE & UTILITY PLAN

PROJECT NUMBER	40222
DATE	7/15/2015
APN: 052-031-02	

C1.1

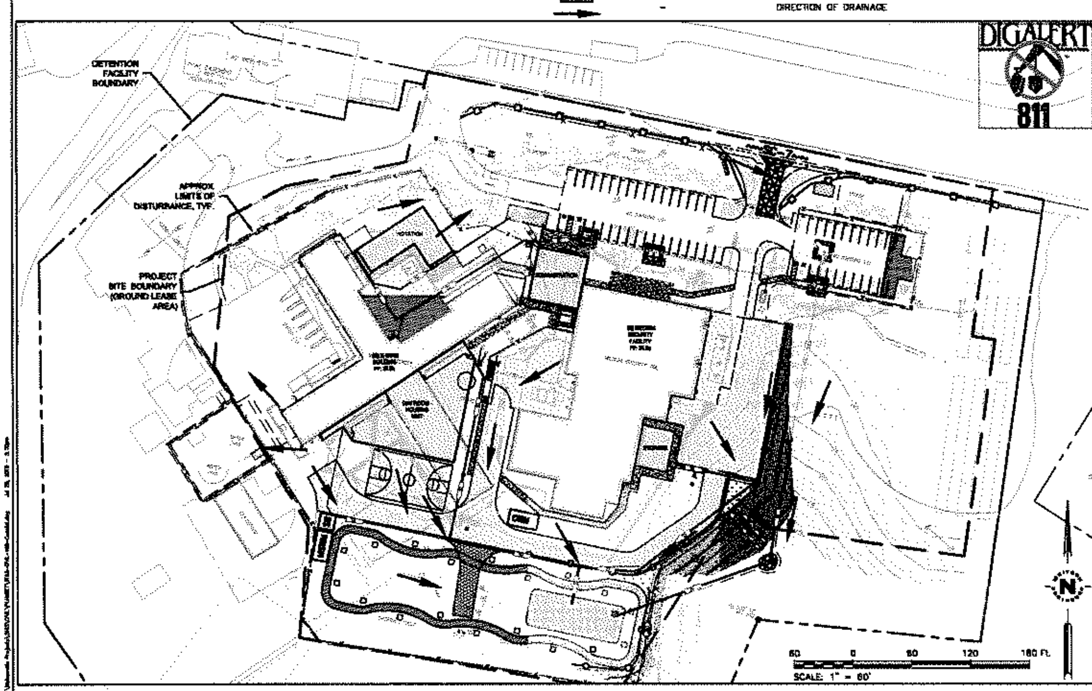
SCALE: 1" = 30'

EROSION CONTROL MEASURES

1. THIS PLAN SHALL BE USED IN CONJUNCTION WITH THE PROJECT STORM WATER POLLUTION PREVENTION PLAN (SWPPP), WDID NUMBER: ______________. THE CONTRACTOR SHALL BE RESPONSIBLE FOR UPDATING AND IMPLEMENTING ALL ASPECTS OF THE PROJECT SWPPP. IF REQUIREMENTS STATED HEREON CONFLICT WITH THE PROJECT SWPPP, THE STRICTER REQUIREMENT SHALL GOVERN.
2. TOTAL DISTURBANCE AREA: 5.8 ACRES.
3. THIS PROJECT WILL REQUIRE A PERMIT FROM THE REGIONAL WATER QUALITY CONTROL BOARD.
4. THE CONTRACTOR'S QSP SHALL DETERMINE STOCK PILE AREAS AND LOCATIONS FOR EQUIPMENT STORAGE AND STAGING FOR EACH PHASE OF THE PROJECT. STAGING AREAS MUST BE APPROVED BY THE COUNTY. THE CONTRACTOR SHALL SUBMIT AN EQUIPMENT STORAGE STOCKPILING, STAGING AREA AND PHASING PLAN SHALL BE SUBMITTED TO AND APPROVED BY THE COUNTY PRIOR TO BEGINNING WORK.
5. PRIOR TO PROJECT APPROVAL, ALL DISTURBED AREAS ARE REQUIRED TO BE RESEEDED WITH NON-INVASIVE GRASS APPROVED BY THE COUNTY OR OTHER GROUNDCOVER SPECIES AND COVERED WITH TWO TO THREE INCHES OF STERILE STRAW. THIS MUST BE COMPLETED PRIOR TO THE OCTOBER 15TH WINTER GRADING SEASON.
6. EROSION IS TO BE CONTROLLED AT ALL TIMES ALTHOUGH SPECIFIC MEASURES SHOWN ARE TO BE IMPLEMENTED AT A MINIMUM BETWEEN OCTOBER 15TH AND APRIL 15TH. THE INTENT OF SITE EROSION CONTROL MEASURES IS TO PREVENT ON-SITE EROSION, AND TO PREVENT SEDIMENT FROM LEAVING THE SITE OR ENTERING ANY WATERCOURSE OR RECEIVING INLET. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ANY ADDITIONAL MEASURES NECESSARY TO CONTROL SITE EROSION AND PREVENT SEDIMENT TRANSPORT OFF-SITE ARE IMPLEMENTED.
7. UNNECESSARY GRADING AND DISTURBING OF SOIL SHALL BE AVOIDED (SEE SS-2).
8. RUNOFF FROM THE CONSTRUCTION SITE MUST NOT BE ALLOWED TO FLOW OVER ANY FILL SLOPES.
9. ALL EXCAVATED MATERIAL NOT SUITABLE FOR FILL OR OTHER USE ON-SITE SHALL BE REMOVED TO AN APPROVED DISPOSAL SITE.
10. FOR ON-SITE CONSTRUCTION & STAGING AREAS: SITE HOUSEKEEPING, MATERIALS MANAGEMENT, & EQUIPMENT MANAGEMENT SHALL BE CONSISTENT WITH THE REQUIREMENTS OF THE APPROPRIATE CALTRANS OR COUNTY BMP. THE CONTRACTOR SHALL PROVIDE A SPILL PREVENTION AND RESPONSE PLAN INCLUDING ALL APPROPRIATE PRODUCTS THAT WILL BE AVAILABLE AT THE PROJECT SITE DURING THE COURSE OF CONSTRUCTION ACTIVITIES.
11. ROADWAYS ADJACENT TO THE PROJECT SHALL BE KEPT CLEAN AND FREE OF DUST. ANY SOIL OR OTHER ERODIBLE MATERIAL STOCKPILED ON-SITE SHALL BE COVERED WITH PLASTIC (AND ALSO SURROUNDED WITH A SEDIMENT BARRIER IF NEEDED) TO PREVENT SEDIMENT TRANSPORT OFF-SITE.
12. SEDIMENT BARRIERS SHALL BE CONSTRUCTED ALONG THE BOTTOM OF ALL GRADED SLOPES OR WHERE OTHERWISE SHOWN ON THE EROSIONS CONTROL PLAN. SEDIMENT BARRIERS SHALL CONSIST OF SILT FENCE (SC-1) OR FIBER ROLLS (SC-5).
13. STORM DRAIN INLETS SHALL BE PROTECTED FROM SEDIMENT DURING CONSTRUCTION PER CALTRANS BMP SC-10. IF THE CATCH BASIN IS ABOVE GRADE, COVER OR PLACE SILT FABRIC UNDER GRATE. IF CATCH BASIN IS AT GRADE AND RECEIVING STORMWATER, SURROUND WITH SEDIMENT BARRIER. SEDIMENT BARRIER SHALL CONSIST OF GRAVEL BAGS IF INLET IS LOCATED IN A PAVED AREA. SEDIMENT BARRIER SHALL CONSIST OF SILT FENCE (SC-1) OR FIBER ROLL (SC-5) IF IN AN UNPAVED AREA.
14. ON ALL FINISH GRADED SLOPES, ON- AND OFF-SITE, EXPOSED DURING CONSTRUCTION ACTIVITIES (IF NOT PERMANENTLY LANDSCAPED PER PLAN) SHALL BE PROTECTED PROTECTED FROM EROSION AND SEEDED. SEEDING MAY BE OMITTED FOR AREAS THAT ARE TO RECEIVE PERMANENT LANDSCAPING (IF APPROVED BY THE COUNTY), SO LONG AS SEDIMENT IN THESE AREAS MAY BE PROTECTED FROM EROSION & SEDIMENT TRANSPORT WITHOUT THE USE OF SEEDING AS A TEMPORARY MEASURE. THE SEED MIX SHALL BE APPROVED BY THE COUNTY REPRESENTATIVE OR PROJECT BIOLOGIST (IF APPLICABLE) AND APPLIED AT A RATE OF 45 LBS/ACRE.
15. BIODEGRADABLE EROSION CONTROL BLANKETS SHALL BE INSTALLED WHERE SLOPES EXCEED 3:1 AND WHERE SHOWN ON PLANS. BLANKET TYPE SHALL BE A STRAW/COCONUT FIBER MATERIAL SUCH AS NORTH AMERICAN GREEN SC-150BN OR APPROVED EQUAL, AS APPROVED BY THE PROJECT BIOLOGIST. SITE PREPARATION AND BLANKET INSTALLATION SHALL BE PER CALTRANS BMP SS-7, COUNTY OF SANTA CRUZ EC-1, OR MANUFACTURER'S RECOMMENDATIONS, WHICHEVER IS MORE STRINGENT. BLANKET COVERAGE SHALL INCLUDE ALL DISTURBED SOIL REMAINING AFTER CONSTRUCTION. REPLANTING AND SEEDING SHALL BE DONE PER LANDSCAPE PLANS AND AS RECOMMENDED BY THE PROJECT BIOLOGIST).
16. CONCRETE WASTE SHALL BE MANAGED PER CALTRANS BMP WM-8. REGULATIONS GOVERNING CONCRETE WASHOUT STIPULATE A MINIMUM SETBACK OF 150' FROM WATER BODIES AND 50' FROM STORM DRAIN INLETS.
17. A SITE ENTRANCE AND STABILIZED ROADWAY SHALL BE CONSTRUCTED PER CALTRANS BMP TC-1.
18. NO MAINTENANCE OF EQUIPMENT OR MACHINERY SHALL TAKE PLACE ON-SITE.
19. 48 HOUR NOTICE SHALL BE GIVEN TO ENVIRONMENTAL PLANNING AT (831) 454-3168 PRIOR TO COMMENCING WORK, AND UPON COMPLETION OF GRADING AND EROSION CONTROL. FAILURE TO COMPLY MAY RESULT IN ISSUANCE OF A STOP WORK ORDER.

LEGEND

SYMBOL	CALTRANS BMP #	CALTRANS STD. PLAN	DESCRIPTION
(line symbol)	SS-9	-	EARTH DIKES, DRAINAGE SWALES AND LINED DITCHES
(line symbol)	SC-1, SC-5, SC-6	T51, T56, T60, T66	LINEAR SEDIMENT BARRIER: FIBER ROLLS, SILT FENCE, OR COMPOST SOCK (CONTRACTOR'S OPTION)
(line symbol)	SC-1	T51, T60	SILT FENCE
SC-7	SC-7	-	STREET SWEEPING
(square symbol)	SC-10	-	INLET PROTECTION
CWM	WM-8	T61, T62, T63, T64	CONCRETE WASTE MANAGEMENT (WASHOUT) AREA
(stippled area)	SS-3, SS-4, SS-5, SS-6, SS-7, SS-8	T59 / -	SOIL STABILIZATION (PROVIDE ON ALL DISTURBED SOILS) TEMPORARY STABILIZATION PER CIVIL PLANS PERMANENT STABILIZATION PER LANDSCAPE DWGS
(hatched area)	TC-1, TC-3	T58	STABILIZED CONSTRUCTION ENTRANCE/EXIT OR TIRE WASH
MSWM	WM-1	-	MATERIAL STORAGE AND WASTE MANAGEMENT AREA
WM-3	WM-3	T53	TEMPORARY STOCKPILES
SS	WM-9	-	SANITARY FACILITIES
(arrow)	-	-	DIRECTION OF DRAINAGE



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BMP NOTES:

THE FOLLOWING CALTRANS BMPS SHALL BE IN PLACE ON SITE AS DESCRIBED IN THE BMP FACT SHEET UNLESS OTHERWISE DIRECTED BY THE PROJECT PLANS. CALTRANS BMP FACT SHEETS CAN BE FOUND AT THE FOLLOWING WEBSITE:
(NOTE THAT THE URL BELOW IS CASE SENSITIVE AND MUST BE TYPED EXACTLY)
HTTPS://www.dot.ca.gov/hq/construc/stormwater/factsheets.htm

SS-1	SCHEDULING
SS-2	PRESERVATION OF EXISTING VEGETATION
SS-7	GEOTEXTILES, PLASTIC COVERS, & EROSION CONTROL BLANKETS
SS-8	WOOD MULCHING
SS-9	EARTH DIKES/ DRAINAGE SWALES & LINED DITCHES
SS-10	OUTLET PROTECTION/ VELOCITY DISSIPATION DEVICES
SC-1	SILT FENCE
SC-2	SEDIMENT/ DESILTING BASIN (BAKER TANKS)
SC-5	FIBER ROLLS
SC-7	STREET SWEEPING & VACUUMING
SC-10	STORM DRAIN INLET PROTECTION
WE-1	WIND EROSION CONTROL
TC-1	STABILIZED CONSTRUCTION ENTRANCE/ EXIT (IF NEEDED)
NS-1	WATER CONSERVATION PRACTICES
NS-2	DEWATERING OPERATIONS
NS-3	PAVING & GRINDING OPERATIONS
NS-6	ILLICIT CONNECTION/ ILLEGAL DISCHARGE DETECTION AND REPORTING
NS-7	POTABLE WATER/ IRRIGATION
NS-8	VEHICLE AND EQUIPMENT CLEANING
NS-9	VEHICLE AND EQUIPMENT FUELING
NS-10	VEHICLE AND EQUIPMENT MAINTENANCE
NS-11	PILE DRIVING OPERATIONS (SHEET PILE)
NS-12	CONCRETE CURING
NS-14	CONCRETE FINISHING
WM-1	MATERIAL DELIVERY AND STORAGE
WM-2	MATERIAL USE
WM-3	STOCKPILE MANAGEMENT
WM-4	SPILL PREVENTION AND CONTROL
WM-5	SOLID WASTE MANAGEMENT
WM-6	HAZARDOUS WASTE MANAGEMENT
WM-8	CONCRETE WASTE MANAGEMENT
WM-9	SEPTIC/ SANITARY WASTE MANAGEMENT
WM-10	LIQUID WASTE MANAGEMENT

NOTE:
PER THE COUNTY OF SANTA CRUZ CONSTRUCTION SITE STORMWATER POLLUTION CONTROL BMP MANUAL, THE PROJECT QSP, MAY USE THE COUNTY OF SANTA CRUZ STANDARD BMP DETAILS SHOWN ON SHEET C2.2 IN LIEU OF THE CALTRANS STANDARD BMP DETAILS AT HIS/HER DISCRETION.

POST-CONSTRUCTION INSPECTION AND MAINTENANCE REQUIREMENTS

GENERAL:
THE OWNER OF THE REAL PROPERTY AND IMPROVEMENTS SHOWN WITHIN THIS PLAN SET SHALL BE RESPONSIBLE FOR INSPECTING AND MAINTAINING ALL STORM WATER RELATED IMPROVEMENTS ANNUALLY, PRIOR TO THE RAINY SEASON, AND MAINTAINING ALL STORMWATER RELATED IMPROVEMENTS AS NECESSARY FOR ENSURING PROPER PERFORMANCE. THE FOLLOWING RECOMMENDATIONS ARE MINIMUM GUIDANCE FOR INSPECTION AND MAINTENANCE. DISPOSAL OF ALL COLLECTED WASTE SHALL BE IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.

STORM DRAIN INLETS, STORM DRAIN MANHOLES, AND JUNCTION BOXES
INSPECTION AND MAINTENANCE
- STORM DRAIN INLETS AND JUNCTION BOXES SHALL BE INSPECTED ANNUALLY PRIOR TO OCTOBER 1ST. THEY SHALL ALSO BE INSPECTED WHEN IT IS KNOWN THAT AN EVENT HAS WASHED SEDIMENT OR DEBRIS INTO THE SYSTEM, AND/OR WHEN POOR PERFORMANCE IS NOTED.
- IMMEDIATELY REPAIR ANY DETERIORATION THREATENING THE STRUCTURAL INTEGRITY OF THE SYSTEM.
- DEBRIS AND SEDIMENT SHALL BE REMOVED WHEN THE DEPTH OF THE DEBRIS AND SEDIMENT REACHES THREE OR MORE INCHES.
- COLLECTED DEBRIS AND SEDIMENT SHALL BE STORED IN APPROPRIATE CONTAINERS IN A MANNER THAT PREVENTS DISCHARGE INTO THE STORM DRAIN SYSTEM.

BIOTREATMENT AREAS AND VEGETATED SWALES:
INSPECTION AND MAINTENANCE
- PROPER MAINTENANCE INCLUDES MOWING, WEED CONTROL, REMOVAL OF TRASH AND DEBRIS, WATERING DURING THE DRY SEASON, AND RESEEDING OF NON-VEGETATED AREAS.
- REMOVE GRASS CUTTINGS AFTER MOWING GRASS
- VEGETATION, LARGE SHRUBS OR TREES THAT INTERFERE WITH LANDSCAPE SWALE OPERATION SHALL BE PRUNED.
- INVASIVE VEGETATION CONTRIBUTING UP TO 25% OF VEGETATION OF ALL SPECIES SHALL BE REMOVED AND REPLACED.
- FALLEN LEAVES AND DEBRIS FROM DECIDUOUS PLANT FOLIAGE SHALL BE REMOVED.
- INSPECT SWALES AT LEAST TWICE ANNUALLY FOR DAMAGE TO VEGETATION, EROSION, SEDIMENT ACCUMULATION AND PONDING WATER STANDING LONGER THAN 48 HOURS.
- DEBRIS IN QUANTITIES THAT INHIBIT OPERATION SHALL BE REMOVED ROUTINELY (NO LESS THAN QUARTERLY), OR UPON DISCOVERY.
- PERIODIC LITTER COLLECTION AND REMOVAL WILL BE NECESSARY IF THE SWALE IS LOCATED ADJACENT TO A MAIN ROAD.
- SEDIMENTS SHALL BE REMOVED WHEN DEPTHS EXCEED 3 INCHES.
- SIDE SLOPES SHALL BE MAINTAINED TO PREVENT EROSION THAT INTRODUCES SEDIMENT INTO THE SWALE.
- SWALE OUTLET SHALL MAINTAIN SHEET FLOW OF WATER EXITING THE SWALE UNLESS A COLLECTION DRAIN IS USED.
- IF A SPILL OCCURS AND HAZARDOUS MATERIALS CONTAMINATE SOILS IN VEGETATED SWALES, THE AFFECTED AREAS SHALL BE REMOVED IMMEDIATELY AND THE APPROPRIATE SOILS AND MATERIALS REPLACED AS SOON AS POSSIBLE.
- INSECTS AND RODENTS SHALL NOT BE HARBORED IN THE VEGETATED SWALES. PEST CONTROL MEASURES SHALL BE TAKEN WHEN INSECTS/RODENTS ARE FOUND TO BE PRESENT.
- IF SPRAYS ARE CONSIDERED, THEN A MOSQUITO LARVICIDE, SUCH AS BACILLUS THURENGENSIS OR ALTOSIDE FORMULATIONS MAY BE APPLIED ONLY IF ABSOLUTELY NECESSARY, APPROVED BY THE COUNTY, AND, APPLIED BY AN APPROPRIATELY LICENSED INDIVIDUAL OR CONTRACTOR.

NOT FOR CONSTRUCTION

CGL
A Hunt Company
CGL COMPANIES
2485 NATOMAS PARK DR., SUITE 300
SACRAMENTO, CA 95833

WHITSON ENGINEERS

WE PROJECT NO. 3193.03

COASTAL DEVELOPMENT PERMIT AMENDMENT

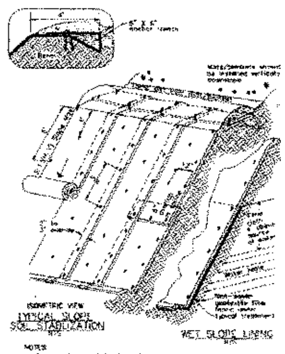
SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

100 ROUNTREE LANE WASTONVILLE, CA

TEMPORARY WATER POLLUTION CONTROL PLAN

PROJECT NUMBER	40222
DATE	7/15/2015
APN: 052-031-09	
C2.1	
SCALE	1" = 60'

Figure EC-1 Erosion Control Blankets



TYPICAL INSTALLATION DETAIL

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Figure SC-1 Fiber Rolls

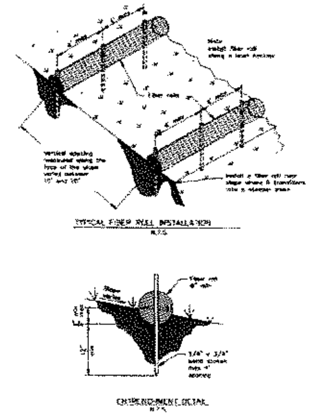

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Figure SC-2 Silt Fence

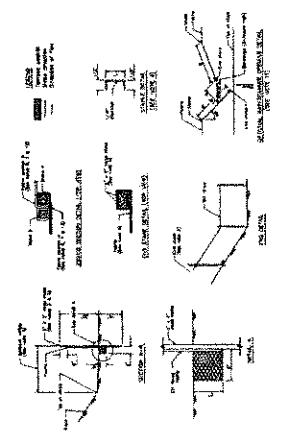

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Figure SC-3 Storm Drain Inlet Protection

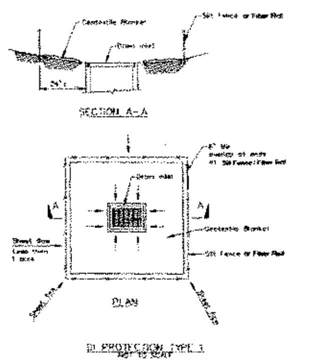

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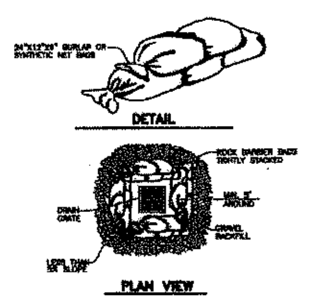
Figure SC-4 Storm Drain Inlet Protection



NOTES:

1. FILL ROCK BARRIER BAGS ¾ FULL OF ¾" ROCK.
2. PLACE BAGS SUCH THAT NO GAPS ARE EVIDENT IN A SINGLE OR DOUBLE LAYER. STAMP ENTIRE LAYER INTO PLACE PRIOR TO STARTING THE NEXT LAYER.
3. ROCK BARRIER BAGS FOR CATCH BASIN SEDIMENT BARRIERS ARE TO BE USED FOR SMALL, NEARLY LEVEL DRAINAGE AREAS. (LESS THAN 5%).

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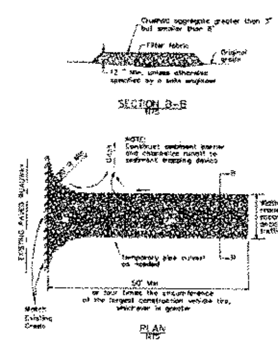
Figure SC-5 Stabilized Construction Exit



19 NOT FOR CONSTRUCTION

HOUSEKEEPING NOTES:

A. CONSTRUCTION MATERIALS
1. ALL LOOSE STOCKPILED CONSTRUCTION MATERIALS THAT ARE NOT ACTIVELY BEING USED (I.E. SOIL, SPOILS, AGGREGATE, FLY-ASH, STUCCO, HYDRATED LIME, ETC.) SHALL BE COVERED AND BERMED.
2. ALL CHEMICALS SHALL BE STORED IN WATERTIGHT CONTAINERS (WITH APPROPRIATE SECONDARY CONTAINMENT TO PREVENT ANY SPILLAGE OR LEAKAGE) OR IN A STORAGE SHED (COMPLETELY ENCLOSED).
3. EXPOSURE OF CONSTRUCTION MATERIALS TO PRECIPITATION SHALL BE MINIMIZED. THIS DOES NOT INCLUDE MATERIALS AND EQUIPMENT THAT ARE DESIGNED TO BE OUTDOORS AND EXPOSED TO ENVIRONMENTAL CONDITIONS (I.E. POLES, EQUIPMENT PADS, CABINETS, CONDUCTORS, INSULATORS, BRICKS, ETC.).
4. BEST MANAGEMENT PRACTICES TO PREVENT THE OFF-SITE TRACKING OF LOOSE CONSTRUCTION AND LANDSCAPE MATERIALS SHALL BE IMPLEMENTED.

B. WASTE MANAGEMENT
1. DISPOSAL OF ANY RINSE OR WASH WATERS OR MATERIALS ON IMPERVIOUS OR PERVIOUS SITE SURFACES OR INTO THE STORM DRAIN SYSTEM SHALL BE PREVENTED.
2. SANITATION FACILITIES SHALL BE CONTAINED (E.G., PORTABLE TOILETS) TO PREVENT DISCHARGES OF POLLUTANTS TO THE STORM WATER DRAINAGE SYSTEM OR RECEIVING WATER, AND SHALL BE LOCATED A MINIMUM OF 20 FEET AWAY FROM AN INLET, STREET OR DRIVEWAY, STREAM, RIPARIAN AREA OR OTHER DRAINAGE FACILITY.
3. SANITATION FACILITIES SHALL BE INSPECTED REGULARLY FOR LEAKS AND SPILLS AND CLEANED OR REPLACED AS NECESSARY.
4. COVER WASTE DISPOSAL CONTAINERS AT THE END OF EVERY BUSINESS DAY AND DURING A RAIN EVENT.
5. DISCHARGES FROM WASTE DISPOSAL CONTAINERS TO THE STORM WATER DRAINAGE SYSTEM OR RECEIVING WATER SHALL BE PREVENTED.
6. STOCKPILED WASTE MATERIAL SHALL BE CONTAINED AND SECURELY PROTECTED FROM WIND AND RAIN AT ALL TIMES UNLESS ACTIVELY BEING USED.
7. PROCEDURES THAT EFFECTIVELY ADDRESS HAZARDOUS AND NON-HAZARDOUS SPILLS SHALL BE IMPLEMENTED.
8. EQUIPMENT AND MATERIALS FOR CLEANUP OF SPILLS SHALL BE AVAILABLE ON SITE AND THAT SPILLS AND LEAKS SHALL BE CLEANED UP IMMEDIATELY AND DISPOSED OF PROPERLY; AND
9. CONCRETE WASHOUT AREAS AND OTHER WASHOUT AREAS THAT MAY CONTAIN ADDITIONAL POLLUTANTS SHALL BE CONTAINED SO THERE IS NO DISCHARGE INTO THE UNDERLYING SOIL AND ONTO THE SURROUNDING AREAS.

C. VEHICLE STORAGE AND MAINTENANCE
1. MEASURES SHALL BE TAKEN TO PREVENT OIL, GREASE, OR FUEL TO LEAK IN TO THE GROUND, STORM DRAINS OR SURFACE WATERS.
2. ALL EQUIPMENT OR VEHICLES, WHICH ARE TO BE FUELED, MAINTAINED AND STORED ONSITE SHALL BE IN A DESIGNATED AREA FITTED WITH APPROPRIATE BMPS.
3. LEAKS SHALL BE IMMEDIATELY CLEANED AND LEAKED MATERIALS SHALL BE DISPOSED OF PROPERLY.

D. LANDSCAPE MATERIALS
1. CONTAIN STOCKPILED MATERIALS SUCH AS MULCHES AND TOPSOIL WHEN THEY ARE NOT ACTIVELY BEING USED.
2. CONTAIN FERTILIZERS AND OTHER LANDSCAPE MATERIALS WHEN THEY ARE NOT ACTIVELY BEING USED.
3. DISCONTINUE THE APPLICATION OF ANY ERODIBLE LANDSCAPE MATERIAL WITHIN 2 DAYS BEFORE A FORECASTED RAIN EVENT OR DURING PERIODS OF PRECIPITATION.
4. APPLY ERODIBLE LANDSCAPE MATERIAL AT QUANTITIES AND APPLICATION RATES ACCORDING TO MANUFACTURE RECOMMENDATIONS OR BASED ON WRITTEN SPECIFICATIONS BY KNOWLEDGEABLE AND EXPERIENCED FIELD PERSONNEL.
5. STACK ERODIBLE LANDSCAPE MATERIAL ON PALLETS AND COVERING OR STORING SUCH MATERIALS WHEN NOT BEING USED OR APPLIED.

EROSION CONTROL NOTES:

1. THE CONTRACTOR SHALL PREPARE A PHASED PLAN FOR CONTROLLING EROSION, SEDIMENT, DRAINAGE, AND WASTE DURING THE VARIOUS PHASES OF CONSTRUCTION. THE PLAN SHALL INCLUDE TEMPORARY PHASED GRADING, IF APPLICABLE. THE PLAN SHALL INCLUDE AN INSPECTION SCHEDULE BY THE PROJECT QSP THAT INCLUDES INSPECTION OF THE EROSION, SEDIMENT, AND DRAINAGE CONTROLS BEFORE PREDICTED RAINFALL EVENTS IN EXCESSES OF 0.5 INCHES, AS WELL AS DURING THE RAINFALL EVENTS. THE INSPECTIONS SHALL BE PHOTO DOCUMENTED AND PROVIDED TO THE COUNTY PLANNING DEPARTMENT WITHIN 1 WEEK OF THE INSPECTIONS. THE INSPECTION DOCUMENTATION SHALL INCLUDE THE REVIEW OF THE ADEQUACY OF THE EROSION, SEDIMENT AND DRAINAGE CONTROL ONSITE AS WELL AS THE SITE HOUSEKEEPING FOR COMPLIANCE WITH THE PROJECT SWPPP. ALL STORMWATER INSPECTIONS PERFORMED FOR COMPLIANCE WITH THE SWPPP SHALL BE FORWARDED TO THE PLANNING DEPARTMENT WITHIN 1 WEEK OF THE INSPECTION.
2. A STREET SWEEPING SCHEDULE IN CONFORMANCE WITH CALTRANS BMP SC-7 SHALL BE PROVIDED TO THE COUNTY FOR APPROVAL.

QSD /QSP SCOPE OF WORK

A SWPPP IS REQUIRED TO BE PREPARED BY THE DESIGN BUILD CONTRACTOR.

THE CONTRACTOR SHALL:

1. SERVE AS THE QUALIFIED SWPPP PRACTITIONER (QSP), AND ALSO THE QUALIFIED SWPPP DEVELOPER (QSD) IF QSD SERVICES ARE REQUIRED DURING CONSTRUCTION
2. TRAIN ITS EMPLOYEES AND SUBCONTRACTORS AS REQUIRED BY THE CONSTRUCTION GENERAL PERMIT
3. MAINTAIN THE FIELD COPY SWPPP BINDER
4. PERFORM ALL STORM WATER INSPECTIONS, SAMPLING AND ANALYSIS
5. IMPLEMENT THE RAIN EVENT ACTION PLANS (REAPS)
6. PROVIDE A SPILL RESPONSE PLAN (TYPICALLY PART OF THE CONTRACTOR'S IIPP)
7. PROVIDE A STORMWATER ANNUAL REPORT TO THE OWNER EACH YEAR, AND PRIOR TO PROJECT COMPLETION
8. PROVIDE NOTICE OF TERMINATION DOCUMENTATION TO THE OWNER AT PROJECT COMPLETION
9. SERVE AS DATA SUBMITTER FOR THE OWNER FOR ON-LINE SUBMITTALS THROUGH THE STATE'S WEBSITE (SMARTS)
10. ASSIST THE OWNER IN COORDINATING WITH THE REGIONAL WATER QUALITY CONTROL BOARD AND STATE WATER RESOURCES CONTROL BOARD, AS NEEDED
11. IMPLEMENT ALL BEST MANAGEMENT PRACTICES (BMPS) AS NECESSARY TO PROTECT WATER QUALITY, AS REQUIRED BY THE CONSTRUCTION GENERAL PERMIT, AND AS OUTLINED IN THE PROJECT SWPPP.
12. PAY FOR NON-STORMWATER TESTING, IF REQUIRED DUE TO LEAKS OR SPILLS.
13. BE RESPONSIBLE FOR ANY FINES IMPOSED FOR FAILURE TO COMPLY WITH THE CONSTRUCTION GENERAL PERMIT OR OTHER LAWS, REGULATIONS, OR REQUIREMENTS OF THE VARIOUS JURISDICTIONS HAVING AUTHORITY.

NOTE:
PER THE COUNTY OF SANTA CRUZ CONSTRUCTION SITE STORMWATER POLLUTION CONTROL BMP MANUAL, THE PROJECT QSP, MAY USE THE BMP DETAILS HEREON IN LIEU OF THE CALTRANS STANDARD BMP DETAILS AT HIS/HER DISCRETION.

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SACRAMENTO, CA 95833

WHITSON ENGINEERS

WE PROJECT NO. 3193.03

COASTAL DEVELOPMENT PERMIT AMENDMENT

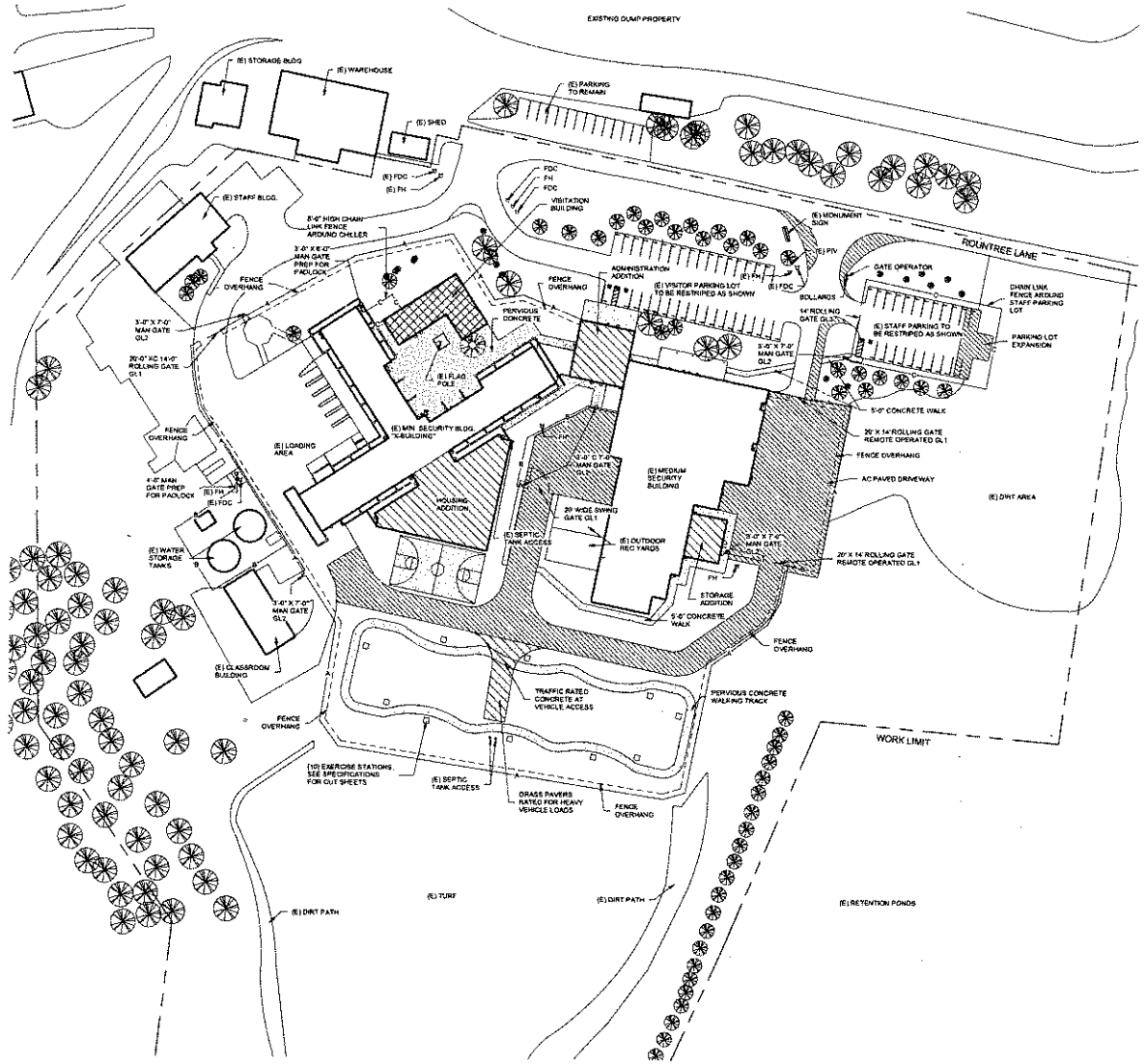
SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

100 ROUNTREE LANE
WASTONVILLE, CA

TEMPORARY WATER POLLUTION CONTROL PLAN NOTES

PROJECT NUMBER	40222
DATE	7/15/2015
APN 052-511-03	
	C2.2
SCALE	NTS

0 1 2 INCHES 3



1 OVERALL SITE PLAN
SCALE: 1" = 50'-0"

BUILDING SQUARE FEET

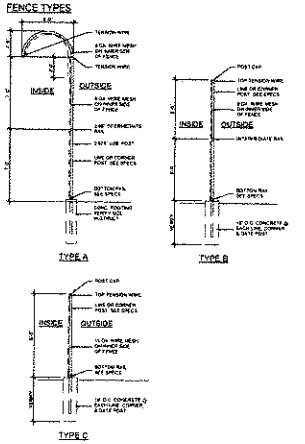
BUILDING	EXISTING SQ. FT.	SQ. FT. TO BE DEMOLISHED	SQ. FT. TO BE RENOVATED	NEW SQ. FT. TO BE CONSTRUCTED	TOTAL BUILDING SQ. FT. WITH PROJECT
X-BUILDING	19,940	5,692	14,256	7,647	21,903
MEDIUM SECURITY	22,765	0	FREEZER 200	STORAGE 1,391 ADMIN. 3,700	28,856
VISITATION	0	0	0	2,891	2,891

GENERAL NOTES

1 BUILDING FOUNDATIONS AT ADMIN. ADDITION TO BE LOCATED AROUND (E) UNDERGROUND UTILITIES SEE CIVIL FOR ADDITIONAL INFORMATION

2 PROVIDE AND INSTALL A COVERED TRASH DUMPSTER/RECYCLING AREA PER COUNTY STANDARD REQUIREMENTS. COORDINATION LOCATION AND SIZE WITH COUNTY

FENCE TYPES



LEGEND

- (E) BUILDING
- BUILDING ADDITION
- (N) BUILDING
- WORK LIMIT
- FENCE OVERHANG AT TYPE A
- CHAIN LINK SECURITY FENCE (FENCE TYPE LOCATION)
- AC PAVING
- CONCRETE FLATWORK
- (E) TREE
- FH FIRE HYDRANT
- FDC FIRE DEPARTMENT CONNECTION
- PIV POST INDICATOR VALVE

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SACRAMENTO, CA 95833

COSTAL DEVELOPMENT PERMIT AMENDMENT

NO.	DESCRIPTION	DATE

SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

APN #052-531-03000

100 ROUNTREE LANE
WATSONVILLE, CA

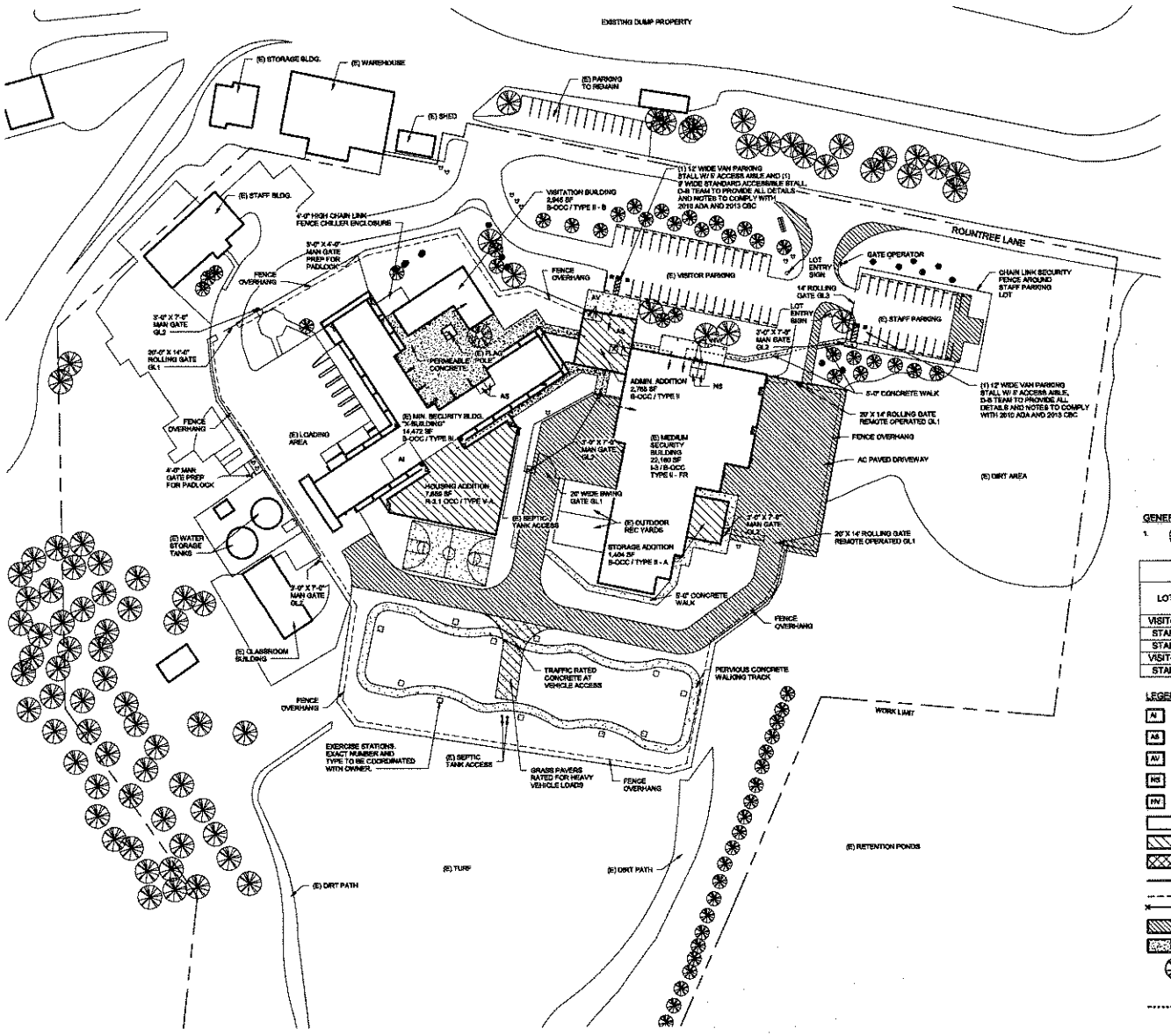
OVERALL SITE PLAN

PROJECT NUMBER 40222
DATE 7/15/2015

A1.1.1

SCALE As indicated

10/26/2015 12:14:11 PM



1 ACCESSIBILITY SITE PLAN
SCALE: 1" = 50'-0"

GENERAL NOTES

1. (E) PARKING LOTS TO BE COMPLETELY RESTRIPED AS SHOWN, ACCESSIBLE SPACES TO COMPLY WITH CBC SECTION 118-208 AND 118-502.

PARKING SUMMARY

LOT	STANDARD PARKING	STANDARD ACCESSIBLE PARKING	VAN PARKING	TOTAL PARKING	LOT ENTRY SIGN
VISITOR	33	1	1	35	1
STAFF	22	0	1	23	1
STAFF	22	0	1	23	1
VISITOR	33	1	1	35	1
STAFF	22	0	1	23	1

LEGEND

- AI — ACCESSIBLE INMATE RESTROOM
- AS — ACCESSIBLE STAFF RESTROOM
- AV — ACCESSIBLE VISITOR RESTROOM
- NS — NON-ACCESSIBLE STAFF RESTROOM
- NV — NON-ACCESSIBLE VISITOR RESTROOM
- (E) BUILDING
- BUILDING ADDITION
- (N) BUILDING
- WORK LIMIT
- FENCE OVERHANG AT TYPE A
- CHAIN LINK SECURITY FENCE (FENCE TYPE LOCATION)
- AC PAVING
- CONCRETE FLATWORK
- (E) TREE
- ACCESSIBLE PATH OF TRAVEL. PATH OF TRAVEL TO BE VERIFIED BY DESIGN/BUILD TEAM AND SHALL COMPLY WITH THE 2010 FEDERAL ADA AND THE 2013 CBC CHAPTER 11B.

CGL COMPANIES
2485 NATOMAS PARK DR., SUITE 300
SACRAMENTO, CA 95833

COASTAL DEVELOPMENT PERMIT AMENDMENT

NO.	DESCRIPTION	DATE

SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

APN #052-531-03000

100 ROUNTREE LANE
WATSONVILLE, CA

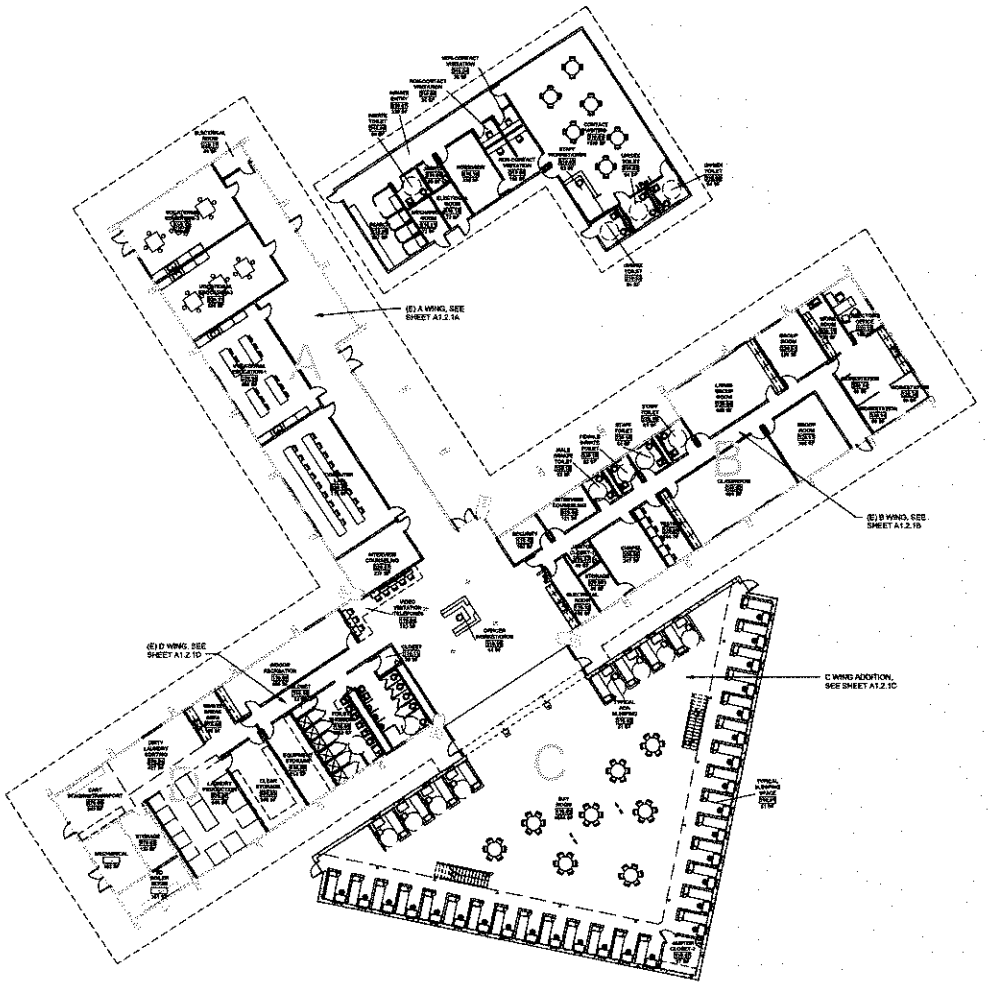
ACCESSIBILITY SITE PLAN

PROJECT NUMBER 40222
DATE 7/15/2015

A1.1.2

SCALE: As indicated

7/28/2015 8:46:14 AM



1 OVERALL X-BUILDING FLOOR PLAN
SCALE: 1/16" = 1'-0"

CGL COMPANIES
2485 NATOMAS PARK DR., SUITE 300
SACRAMENTO, CA 95833

COASTAL DEVELOPMENT PERMIT AMENDMENT

NO.	DESCRIPTION	DATE

SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

APN #052-531-03000

100 ROUNTREE LANE
WATSONVILLE, CA

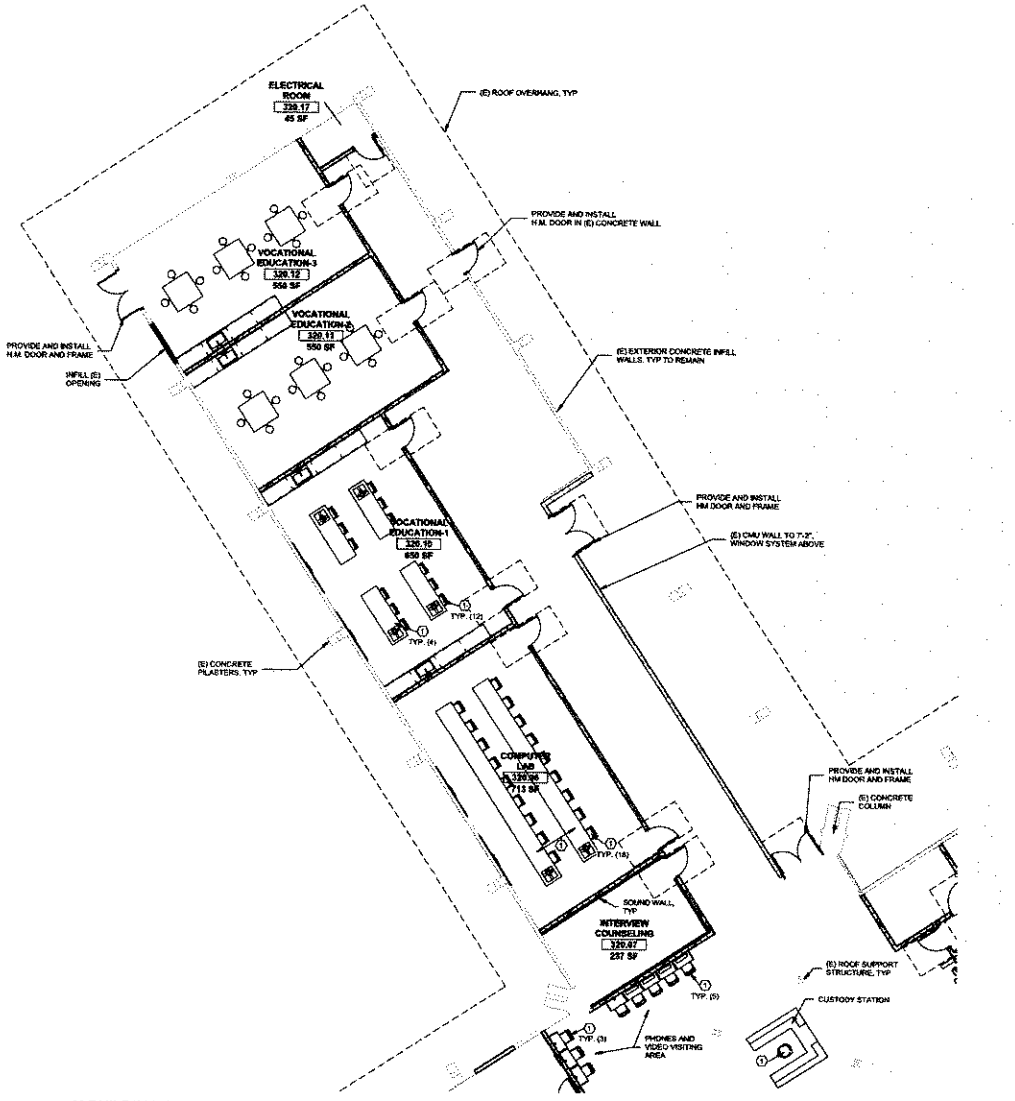
X-BUILDING & VISITATION BUILDING - OVERALL PLAN

PROJECT NUMBER 40222
DATE 7/15/2015

A1.2.1

SCALE: 1/16" = 1'-0"

7/15/2015 6:17:35 AM

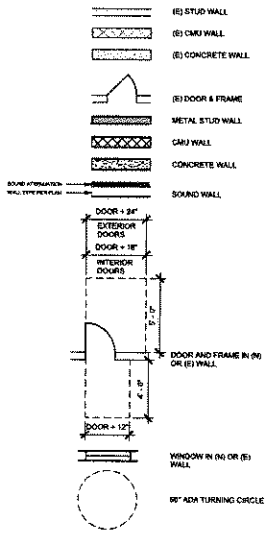


1 X-BUILDING A WING PLAN
SCALE: 1/8" = 1'-0"

SHEET NOTES

1 OWNER FURNISHED / OWNER INSTALLED EQUIPMENT / FURNITURE, N.I.C

FLOOR PLAN LEGEND



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2485 NATOMAS PARK DR., SUITE 300
SACRAMENTO, CA 95833

COASTAL DEVELOPMENT PERMIT AMENDMENT

NO.	DESCRIPTION	DATE

SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

APN #052-531-03000

100 ROUNTREE LANE
WATSONVILLE, CA

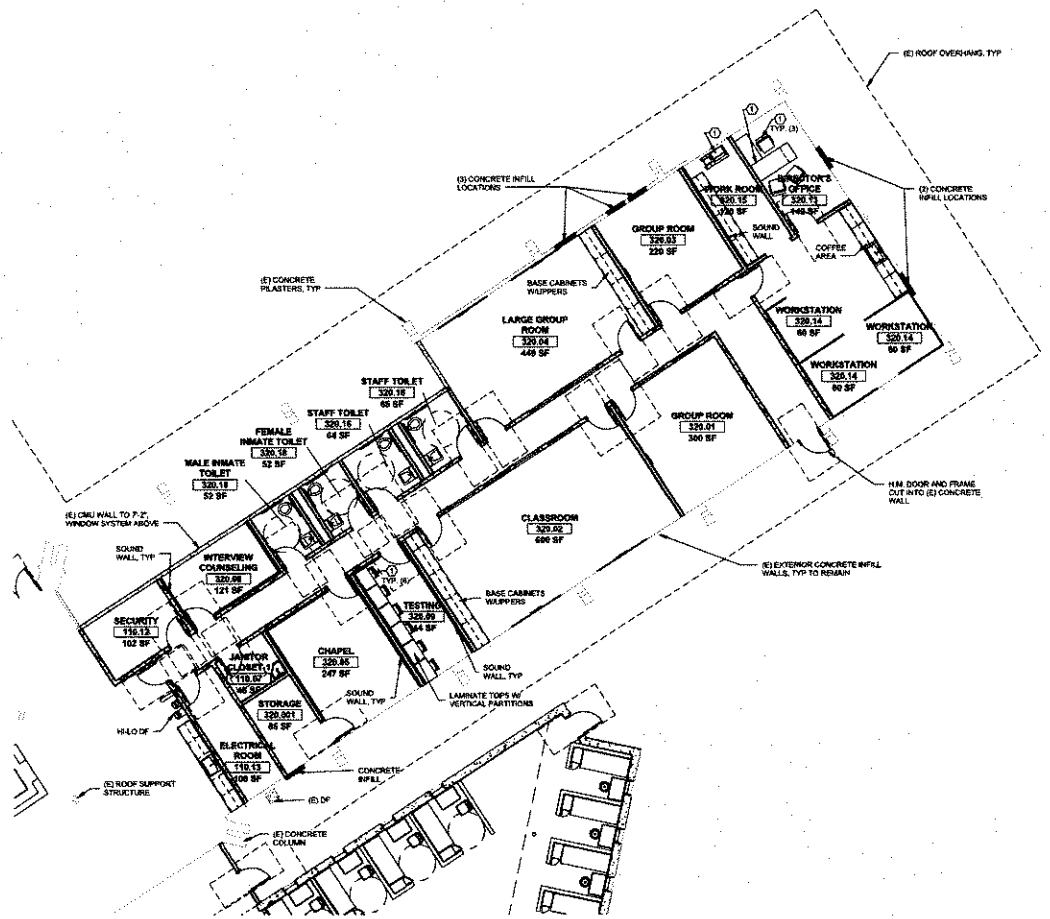
X-BUILDING - A WING PLAN

PROJECT NUMBER 40222
DATE 7/15/2015

A1.2.1A

SCALE As Indicated

7/15/2015 8:11:26 AM



1 X-BUILDING B WING PLAN
SCALE: 1/8" = 1'-0"

SHEET NOTES

1 OWNER FURNISHED / OWNER INSTALLED EQUIPMENT / FURNITURE, N.I.C.

FLOOR PLAN LEGEND

(E) STUD WALL
(E) CMU WALL
(E) CONCRETE WALL
(E) DOOR & FRAME
METAL STUD WALL
CMU WALL
CONCRETE WALL
SOUND WALL
DOOR + 24" EXTERIOR DOORS
DOOR + 18" INTERIOR DOORS
DOOR AND FRAME IN (N) OR (E) WALL
DOOR + 12"
WINDOW IN (N) OR (E) WALL
60" ADA TURNING CIRCLE

CGL COMPANIES
2485 NATOMAS PARK DR., SUITE 300
SACRAMENTO, CA 95833

COASTAL DEVELOPMENT PERMIT AMENDMENT

NO.	DESCRIPTION	DATE

SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

APN #052-531-03000

100 ROUNTREE LANE WATSONVILLE, CA

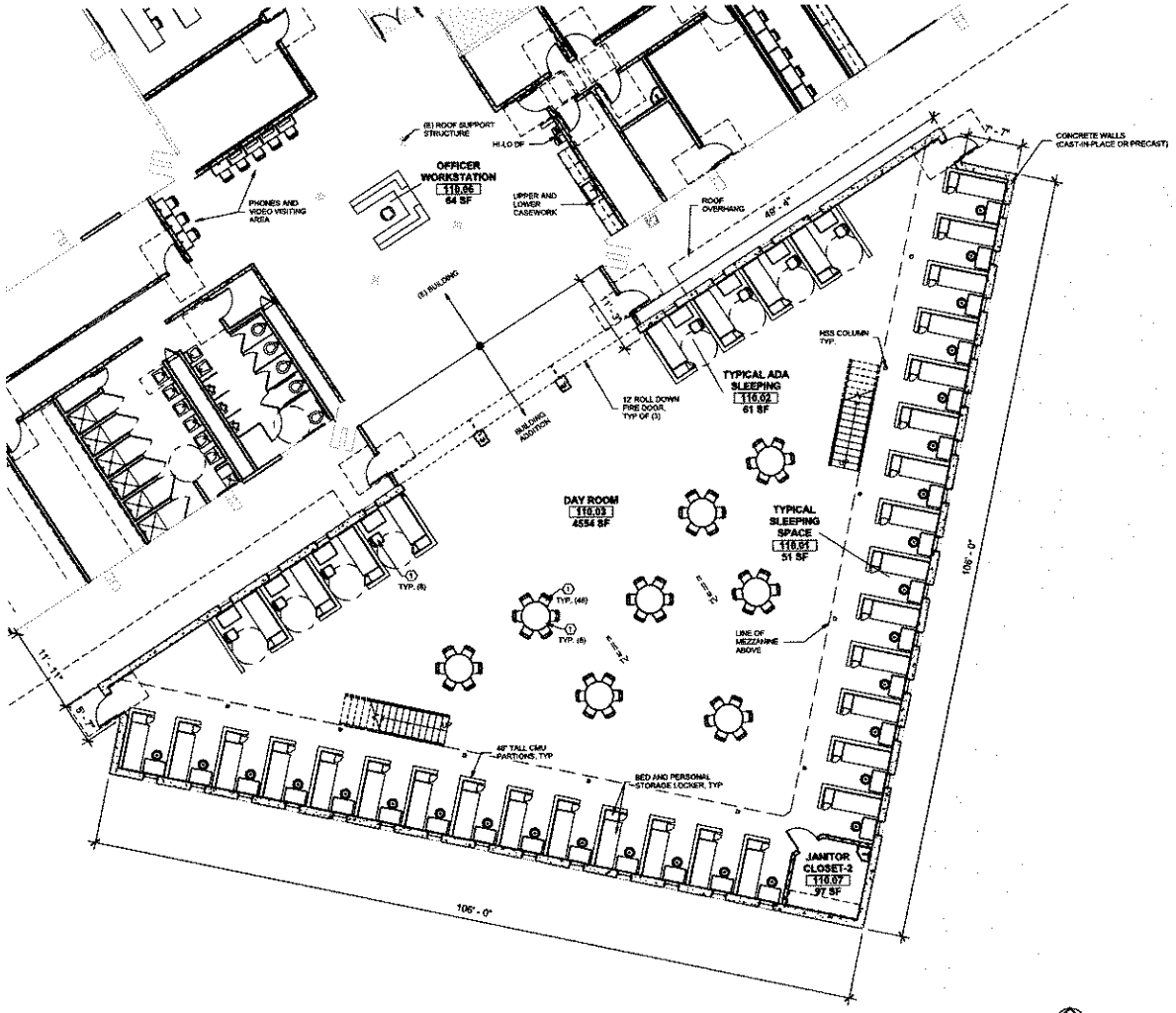
X-BUILDING - B WING PLAN

PROJECT NUMBER 40222
DATE 7/15/2015

A1.2.1B

SCALE: As indicated

7/15/2015 6:17:45 AM



1 X-BUILDING C WING PLAN
SCALE: 1/8" = 1'-0"

SHEET NOTES

1. OWNER FURNISHED / OWNER INSTALLED EQUIPMENT / FURNITURE, N.I.C.

FLOOR PLAN LEGEND

- (E) STUD WALL
- (E) CMU WALL
- (E) CONCRETE WALL
- (E) DOOR & FRAME
- METAL STUD WALL
- CMU WALL
- CONCRETE WALL
- SOUND WALL
- DOOR + 24"
- EXTERIOR DOORS
- DOOR + 18"
- INTERIOR DOORS
- DOOR AND FRAME IN (N) OR (E) WALL
- DOOR + 12"
- WINDOW IN (N) OR (E) WALL
- 60" ADA TURNING CIRCLE

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SACRAMENTO, CA 95833

COASTAL DEVELOPMENT PERMIT AMENDMENT

NO.	DESCRIPTION	DATE

SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

APN #052-531-03000

100 ROUNTREE LANE WATSONVILLE, CA

X-BUILDING - C WING PLAN

PROJECT NUMBER 40222
DATE 7/15/2015

A1.2.1C

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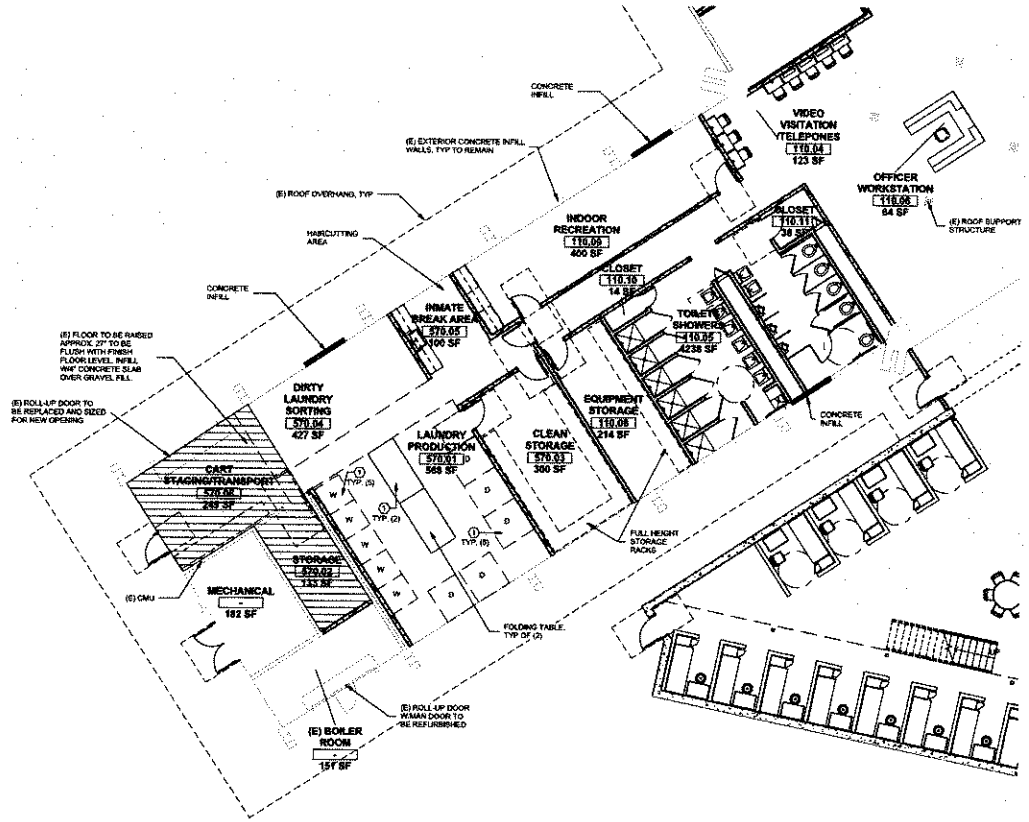


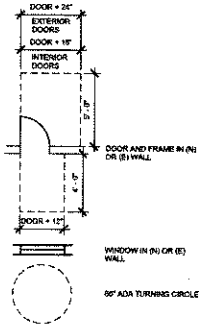
1 X-BUILDING D WING PLAN
SCALE: 1/8" = 1'-0"

SHEET NOTES

1 OWNER FURNISHED / OWNER INSTALLED EQUIPMENT / FURNITURE, N.I.C.

FLOOR PLAN LEGEND

(E) STUD WALL
(E) CMU WALL
(E) CONCRETE WALL
(E) DOOR & FRAME
METAL STUD WALL
CMU WALL
CONCRETE WALL
SOUND WALL



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SACRAMENTO, CA 95833

COASTAL DEVELOPMENT PERMIT AMENDMENT

NO.	DESCRIPTION	DATE

SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

APN #052-531-03000

100 ROUNTREE LANE
WATSONVILLE, CA

X-BUILDING - D WING PLAN

PROJECT NUMBER 40222
DATE 7/15/2015

A1.2.1D

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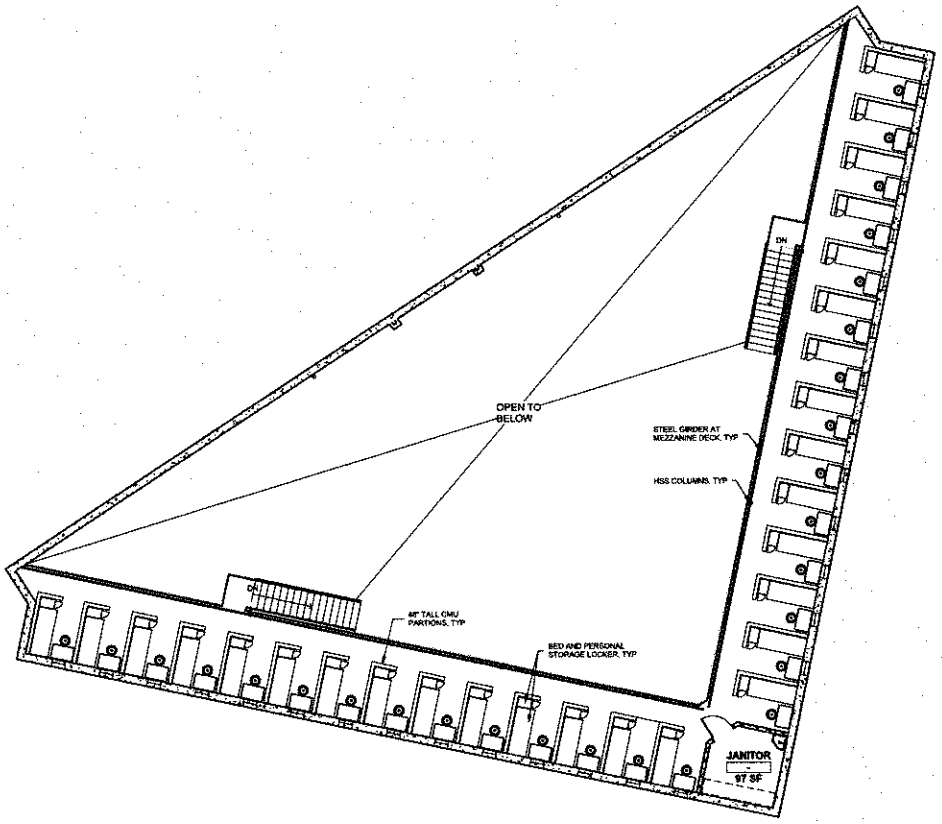
7/15/2015 8:18:41 AM



1 C WING MEZZANINE LEVEL PLAN
SCALE: 1/8" = 1'-0"

FLOOR PLAN LEGEND

- (E) STUD WALL
- (E) CMU WALL
- (E) CONCRETE WALL
- (E) DOOR & FRAME
- METAL STUD WALL
- CMU WALL
- CONCRETE WALL
- SOUND WALL
- DOOR AND FRAME IN (N) OR (E) WALL
- WINDOW IN (N) OR (E) WALL
- 60" ADA TURNING CIRCLE

CGL COMPANIES
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COASTAL DEVELOPMENT PERMIT AMENDMENT

NO.	DESCRIPTION	DATE

SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

APN #052-531-03000

100 ROUNTREE LANE
WATSONVILLE, CA

X-BUILDING - MEZZANINE PLAN

PROJECT NUMBER	40222
DATE	7/15/2015

A1.2.2

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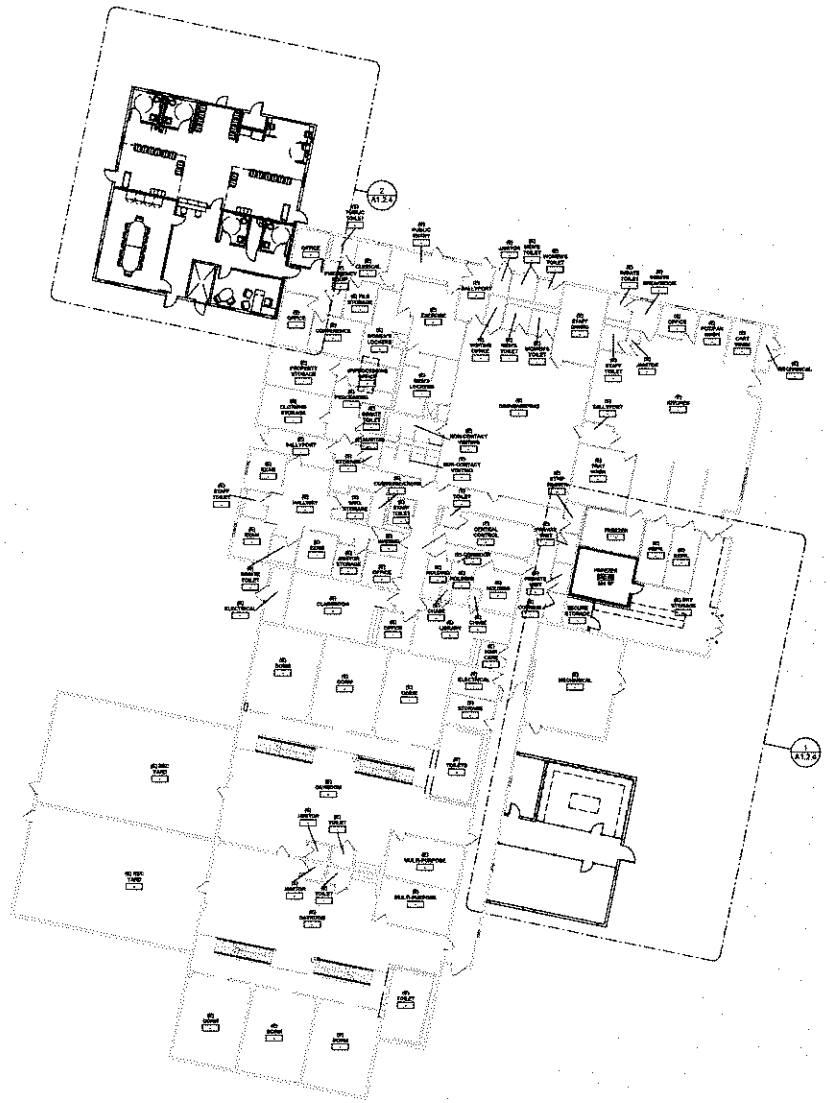

1 MEDIUM SECURITY OVERALL PLAN
SCALE: 1/16" = 1'-0"

FLOOR PLAN LEGEND

- (E) STUD WALL
- (E) CMU WALL
- (E) CONCRETE WALL
- (E) DOOR & FRAME
- METAL STUD WALL
- CMU WALL
- CONCRETE WALL
- SOUND WALL
- DOOR AND FRAME IN (N) OR (E) WALL
- WINDOW IN (N) OR (E) WALL
- 60" ADA TURNING CIRCLE

CGL COMPANIES
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SACRAMENTO, CA 95833

COASTAL DEVELOPMENT PERMIT AMENDMENT

NO.	DESCRIPTION	DATE

SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

APN #052-531-03000

100 ROUNTREE LANE
WATSONVILLE, CA

MEDIUM SECURITY BUILDING OVERALL PLAN

PROJECT NUMBER	40222
DATE	7/15/2015

A1.2.3

SCALE: As indicated

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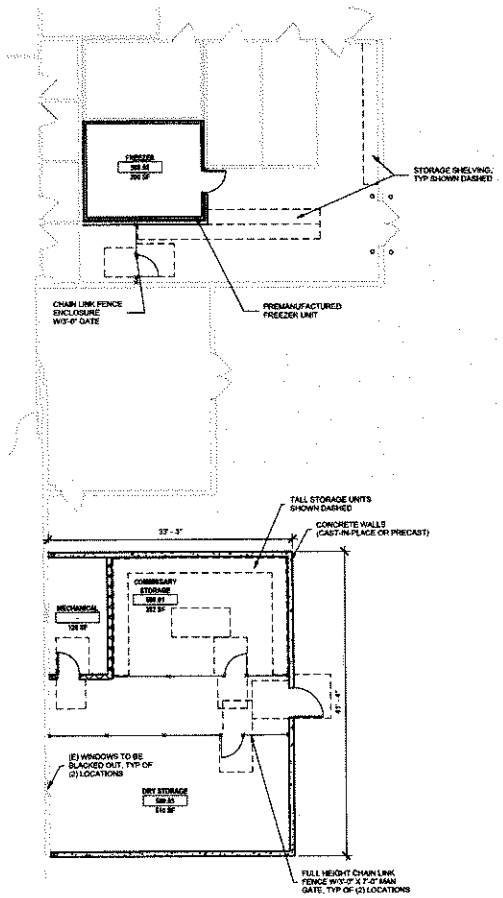
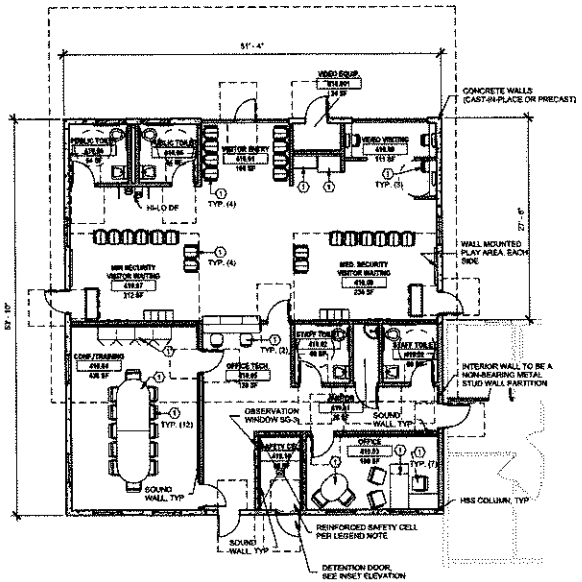


1 MEDIUM SECURITY STORAGE ADDITION
SCALE: 1/8" = 1'-0"

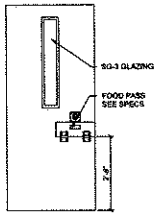


2 ADMINISTRATION ADDITION
SCALE: 1/8" = 1'-0"

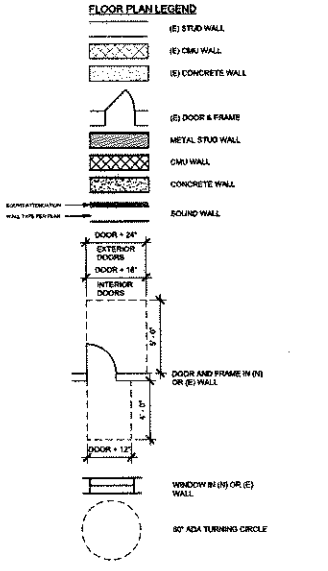
SHEET NOTES

1. OWNER FURNISHED / OWNER INSTALLED EQUIPMENT / FURNITURE, N.I.C.

DETENTION DOOR



FLOOR PLAN LEGEND



REINFORCED POURED IN PLACE CONCRETE (6-INCH MINIMUM) OR CONCRETE MASONRY UNITS (8-INCH MINIMUM), GROUTED SOLID WITH REINFORCING BAR (#4 MINIMUM) SPACED 8-INCHES ON CENTER HORIZONTAL AND VERTICAL. WALLS EXTEND TO THE STRUCTURE ABOVE, OR STEEL DECK AND 2" CONCRETE, OR CONCRETE 4" MINIMUM "CAPS" THE CEILING SPACE. OTHER "CAP" FORM MATERIALS SUCH AS PLASTER OR WIRE MESH IS NOT ALLOWED.

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COASTAL DEVELOPMENT PERMIT AMENDMENT

NO.	DESCRIPTION	DATE

SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

APN #052-531-03000

100 ROUNTREE LANE WATSONVILLE, CA

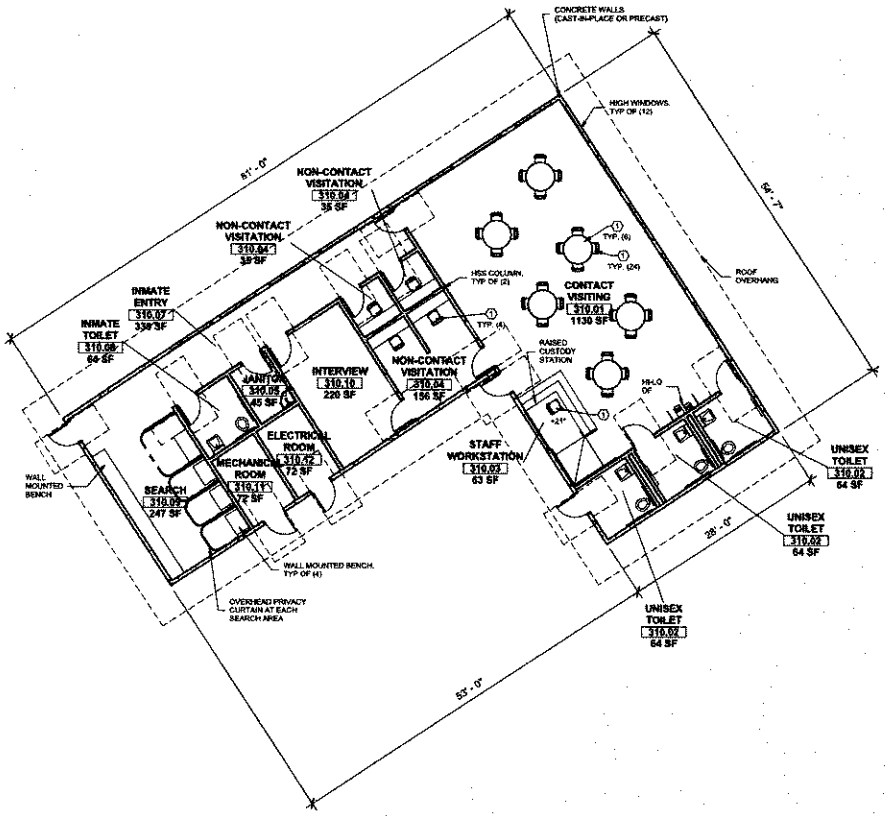
STORAGE & ADMIN. ADDITION AT MEDIUM SECURITY BUILDING

PROJECT NUMBER	40222
DATE	7/15/2015

A1.2.4

SCALE: As indicated

7/15/2015 6:19:07 AM

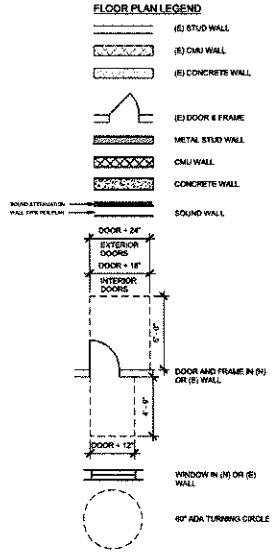


1 VISITATION BUILDING PLAN
SCALE: 1/8" = 1'-0"

SHEET NOTES

1 OWNER FURNISHED / OWNER INSTALLED EQUIPMENT / FURNITURE, N.I.C.

FLOOR PLAN LEGEND



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SACRAMENTO, CA 95833

COASTAL DEVELOPMENT PERMIT AMENDMENT

NO.	DESCRIPTION	DATE

SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

APN #052-531-03000

100 ROUNTREE LANE
WATSONVILLE, CA

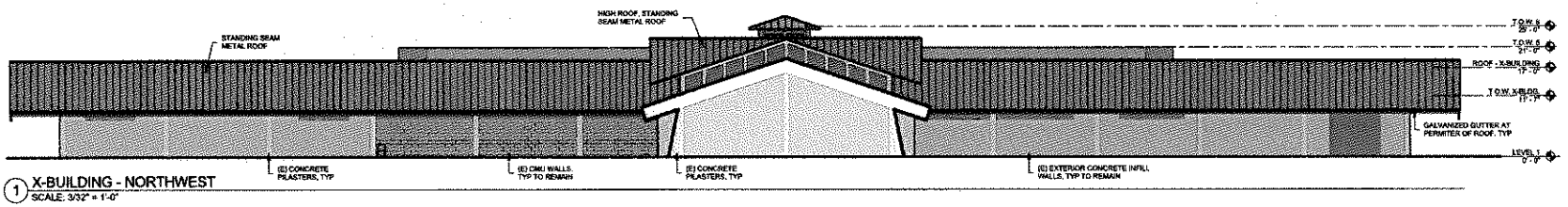
VISITATION BUILDING PLAN

PROJECT NUMBER	40222
DATE	7/15/2015

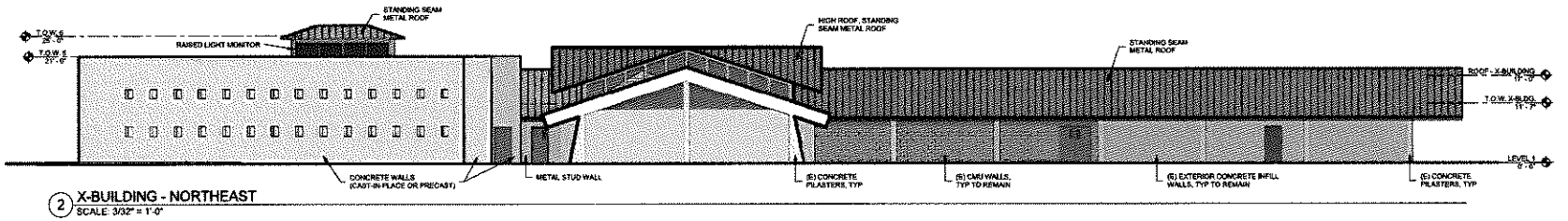
A1.2.5

SCALE: As indicated

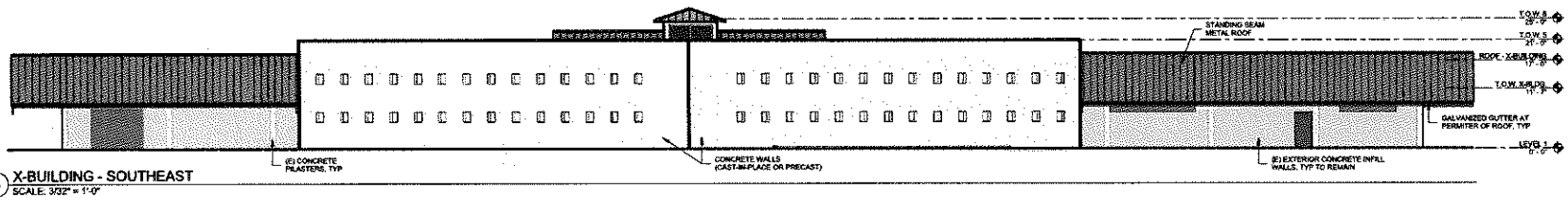
7/15/2015 6:18:19 AM



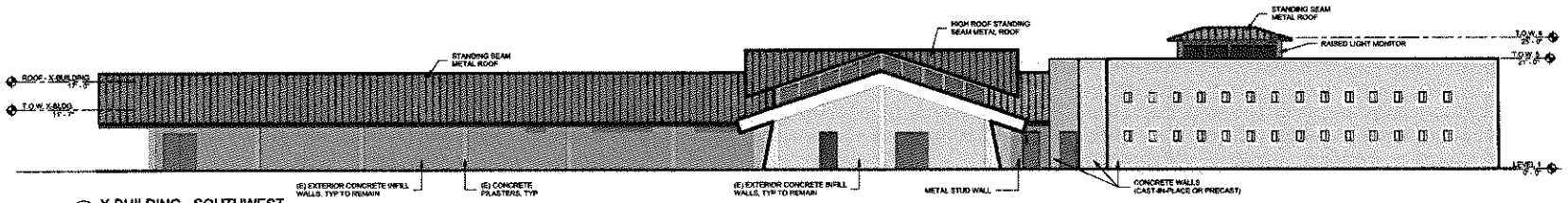
1 X-BUILDING - NORTHWEST
SCALE: 3/32" = 1'-0"



2 X-BUILDING - NORTHEAST
SCALE: 3/32" = 1'-0"



3 X-BUILDING - SOUTHEAST
SCALE: 3/32" = 1'-0"



4 X-BUILDING - SOUTHWEST
SCALE: 3/32" = 1'-0"

CGL COMPANIES
2485 NATOMAS PARK DR., SUITE 300
SACRAMENTO, CA 95833

COASTAL DEVELOPMENT PERMIT AMENDMENT

NO.	DESCRIPTION	DATE

SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

APN #052-531-03000

100 ROUNTREE LANE
WATSONVILLE, CA

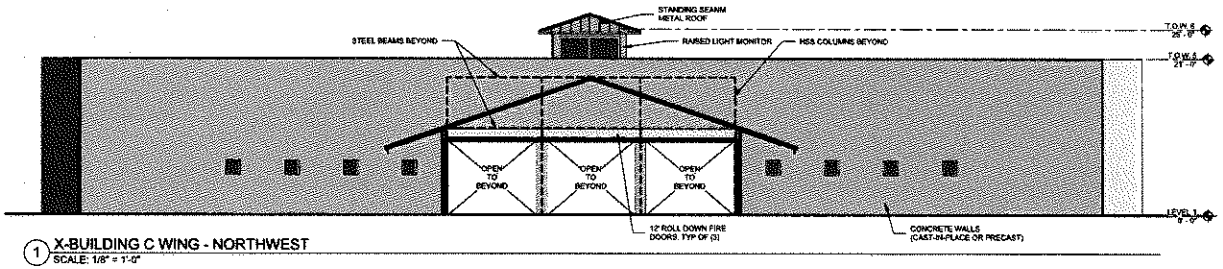
X-BUILDING EXTERIOR ELEVATIONS

PROJECT NUMBER	40222
DATE	7/15/2015

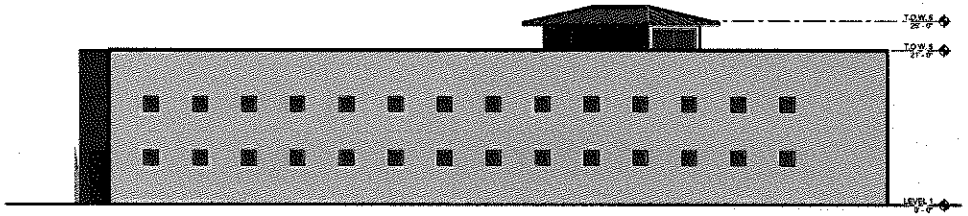
A2.1.1

SCALE: 3/32" = 1'-0"

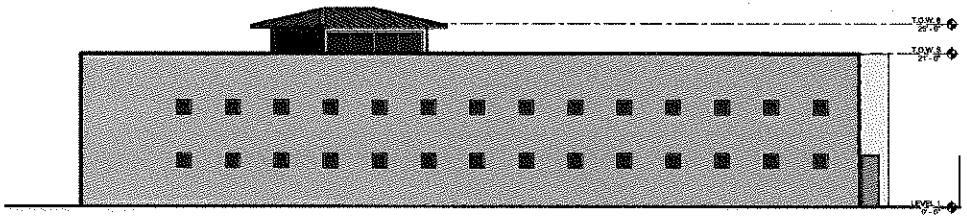
7/15/2015 8:30:10 AM



1 X-BUILDING C WING - NORTHWEST
SCALE: 1/8" = 1'-0"



2 X-BUILDING C WING - EAST
SCALE: 1/8" = 1'-0"



3 X-BUILDING C WING - SOUTH
SCALE: 1/8" = 1'-0"

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COASTAL DEVELOPMENT PERMIT AMENDMENT

NO.	DESCRIPTION	DATE

SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

APN #052-531-03000

100 ROUNTREE LANE
WATSONVILLE, CA

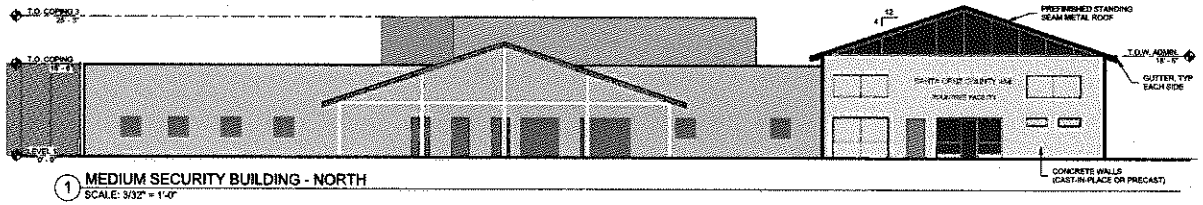
X-BUILDING C WING EXTERIOR ELEVATIONS

PROJECT NUMBER	40222
DATE	7/15/2015

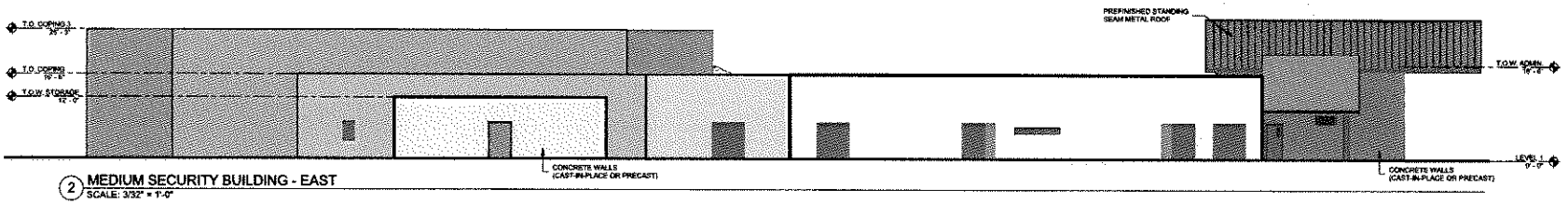
A2.1.2

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

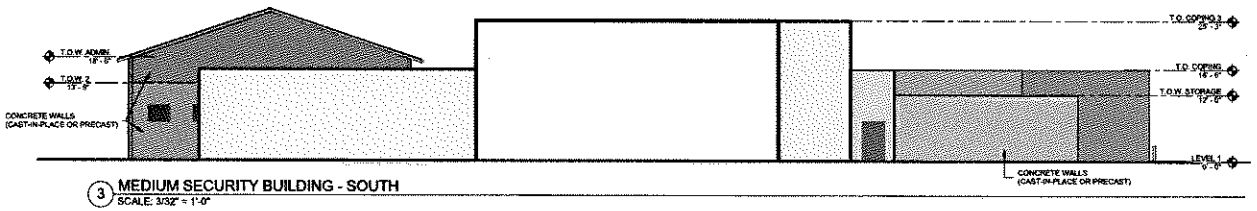
7/15/2015 2:26:42 AM



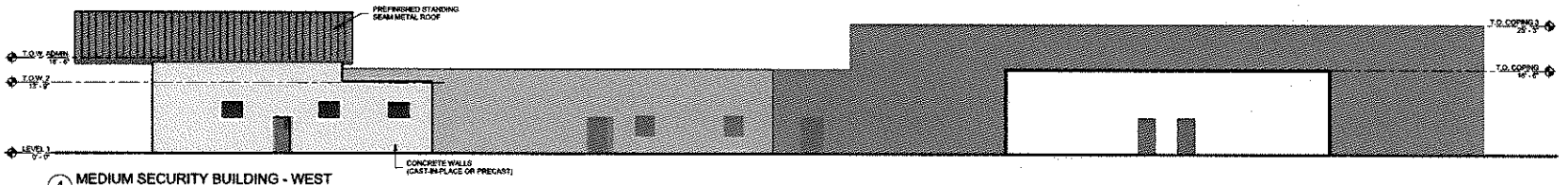
1 MEDIUM SECURITY BUILDING - NORTH
SCALE: 3/32" = 1'-0"



2 MEDIUM SECURITY BUILDING - EAST
SCALE: 3/32" = 1'-0"



3 MEDIUM SECURITY BUILDING - SOUTH
SCALE: 3/32" = 1'-0"



4 MEDIUM SECURITY BUILDING - WEST
SCALE: 3/32" = 1'-0"

CGL
A Hunt Company
CGL COMPANIES
2485 NATOMAS PARK DR., SUITE 300
SACRAMENTO, CA 95833

COASTAL DEVELOPMENT PERMIT AMENDMENT

NO.	DESCRIPTION	DATE

SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

APN #052-531-03000

100 ROUNTREE LANE
WATSONVILLE, CA

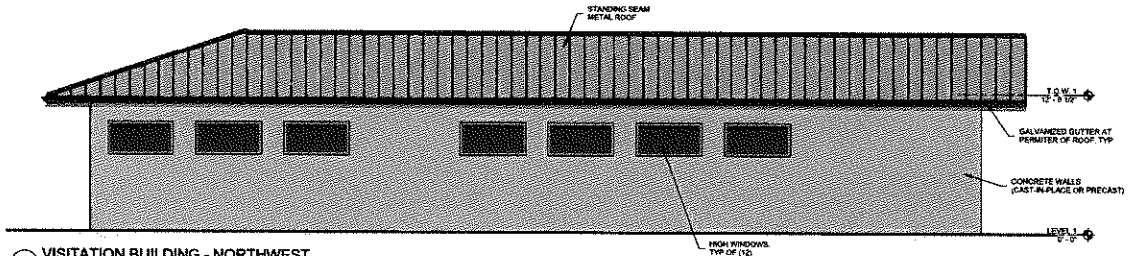
MEDIUM SECRUTIY BUILDING EXTERIOR ELEVATIONS

PROJECT NUMBER	40222
DATE	7/15/2015

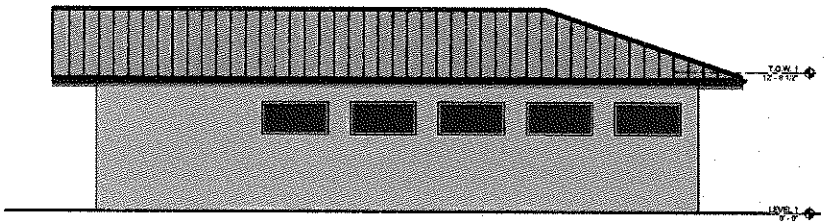
A2.1.3

SCALE 3/32" = 1'-0"

7/15/2015 8:21:10 AM



1 VISITATION BUILDING - NORTHWEST
SCALE: 3/16" = 1'-0"



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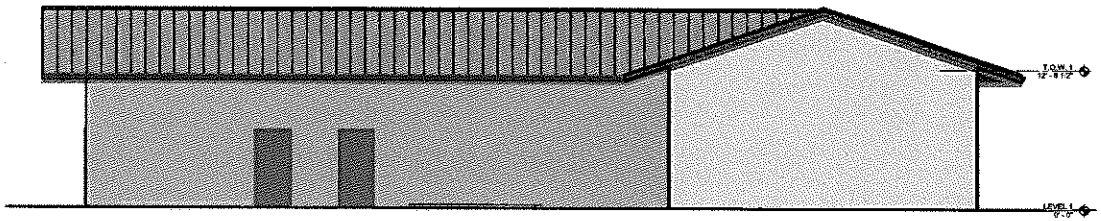
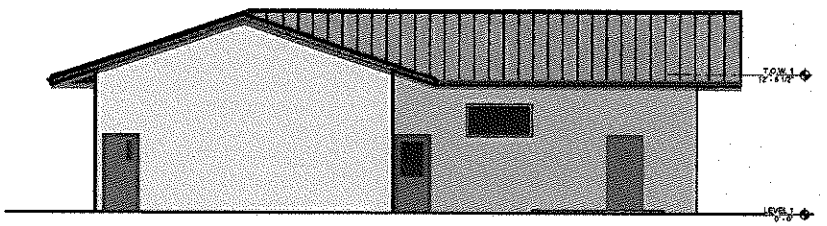


3 VISITATION BUILDING - SOUTHEAST
SCALE: 3/16" = 1'-0"



4 VISITATION BUILDING - SOUTHWEST
SCALE: 3/16" = 1'-0"

CGL
A Hunt Company
CGL COMPANIES
2485 NATOMAS PARK DR., SUITE 300
SACRAMENTO, CA 95833

COASTAL DEVELOPMENT PERMIT AMENDMENT

NO.	DESCRIPTION	DATE

SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

APN #052-531-03000

100 ROUNTREE LANE
WATSONVILLE, CA

VISITATION BUILDING EXTERIOR ELEVATIONS

PROJECT NUMBER	40222
DATE	7/15/2015

A2.1.4

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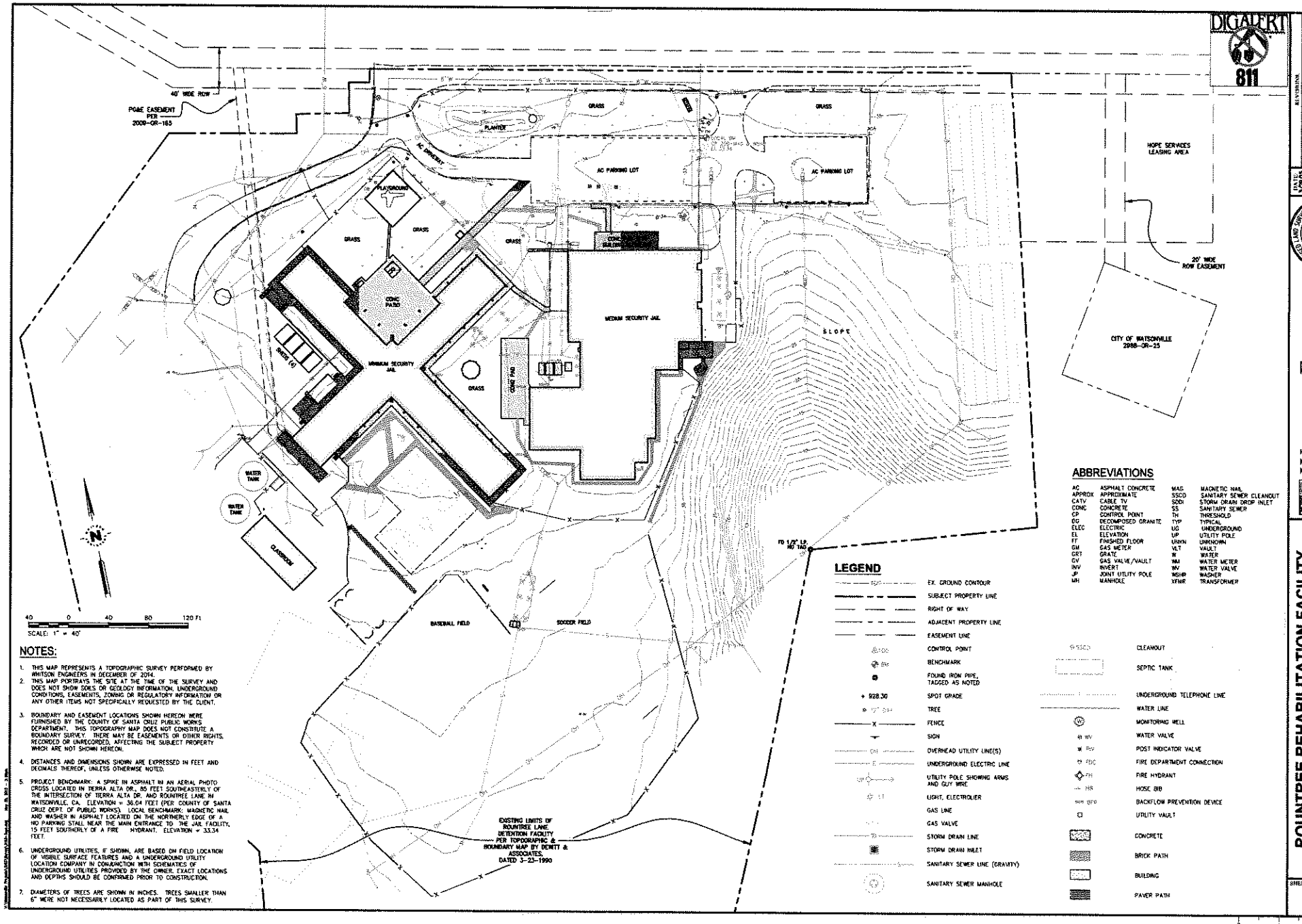


NOTES:

1. THIS MAP REPRESENTS A TOPOGRAPHIC SURVEY PERFORMED BY WHITSON ENGINEERS IN DECEMBER OF 2014.
2. THIS MAP PORTRAYS THE SITE AT THE TIME OF THE SURVEY AND DOES NOT SHOW SOILS OR GEOLOGY INFORMATION, UNDERGROUND CONDITIONS, EASEMENTS, ZONING OR REGULATORY INFORMATION OR ANY OTHER ITEMS NOT SPECIFICALLY REQUESTED BY THE CLIENT.
3. BOUNDARY AND EASEMENT LOCATIONS SHOWN HEREON WERE FURNISHED BY THE COUNTY OF SANTA CRUZ PUBLIC WORKS DEPARTMENT. THIS TOPOGRAPHY MAP DOES NOT CONSTITUTE A BOUNDARY SURVEY. THERE MAY BE EASEMENTS OR OTHER RIGHTS, RECORDED OR UNRECORDED, AFFECTING THE SUBJECT PROPERTY WHICH ARE NOT SHOWN HEREON.
4. DISTANCES AND DIMENSIONS SHOWN ARE EXPRESSED IN FEET AND DECIMALS THEREOF, UNLESS OTHERWISE NOTED.
5. PROJECT BENCHMARK: A SPIKE IN ASPHALT IN AN AERIAL PHOTO CROSS LOCATED IN TIERRA ALTA DR., 85 FEET SOUTHEASTERLY OF THE INTERSECTION OF TIERRA ALTA DR. AND ROUNTREE LANE IN WATSONVILLE, CA. ELEVATION = 36.04 FEET (PER COUNTY OF SANTA CRUZ DEPT. OF PUBLIC WORKS). LOCAL BENCHMARK: MAGNETIC NAIL AND WASHER IN ASPHALT LOCATED ON THE NORTHERLY EDGE OF A NO PARKING STALL NEAR THE MAIN ENTRANCE TO THE JAIL FACILITY, 15 FEET SOUTHERLY OF A FIRE HYDRANT. ELEVATION = 33.34 FEET.
6. UNDERGROUND UTILITIES, IF SHOWN, ARE BASED ON FIELD LOCATION OF VISIBLE SURFACE FEATURES AND A UNDERGROUND UTILITY LOCATION COMPANY IN CONJUNCTION WITH SCHEMATICS OF UNDERGROUND UTILITIES PROVIDED BY THE OWNER. EXACT LOCATIONS AND DEPTHS SHOULD BE CONFIRMED PRIOR TO CONSTRUCTION.
7. DIAMETERS OF TREES ARE SHOWN IN INCHES. TREES SMALLER THAN 6" WERE NOT NECESSARILY LOCATED AS PART OF THIS SURVEY.

LEGEND

- EX. GROUND CONTOUR
- SUBJECT PROPERTY LINE
- RIGHT OF WAY
- ADJACENT PROPERTY LINE
- EASEMENT LINE
- CONTROL POINT
- BENCHMARK
- FOUND IRON PIPE, TAGGED AS NOTED
- SPOT GRADE
- TREE
- FENCE
- SIGN
- OVERHEAD UTILITY LINE(S)
- UNDERGROUND ELECTRIC LINE
- UTILITY POLE SHOWING ARMS AND GUY WIRE
- LIGHT, ELECTROLIER
- GAS LINE
- GAS VALVE
- STORM DRAIN LINE
- STORM DRAIN INLET
- SANITARY SEWER LINE (GRAVITY)
- SANITARY SEWER MANHOLE
- CLEANOUT
- SEPTIC TANK
- UNDERGROUND TELEPHONE LINE
- WATER LINE
- MONITORING WELL
- WATER VALVE
- POST INDICATOR VALVE
- FIRE DEPARTMENT CONNECTION
- FIRE HYDRANT
- HOSE BIB
- BACKFLOW PREVENTION DEVICE
- UTILITY VAULT
- CONCRETE
- BRICK PATH
- BUILDING
- PAVER PATH

ABBREVIATIONS

AC	ASPHALT CONCRETE	MAG	MAGNETIC NAIL
APPROX	APPROXIMATE	SSCO	SANITARY SEWER CLEANOUT
CATV	CABLE TV	SDDI	STORM DRAIN DROP INLET
CONC	CONCRETE	SS	SANITARY SEWER
CP	CONTROL POINT	TH	THRESHOLD
DG	DECOMPOSED GRANITE	TYP	TYPICAL
ELEC	ELECTRIC	UG	UNDERGROUND
EL	ELEVATION	UP	UTILITY POLE
FF	FINISHED FLOOR	UNKN	UNKNOWN
GM	GAS METER	VLT	VAULT
GRT	GRATE	W	WATER
GV	GAS VALVE/VAULT	WM	WATER METER
INV	INVERT	WV	WATER VALVE
JP	JOINT UTILITY POLE	WSHR	WASHER
MH	MANHOLE	XFMR	TRANSFORMER

DIGALERT 811

REVISION			
NO.	BY	DATE	DESCRIPTION

DATE: 3/20/15
SCALE: 1"=40'
CHK'D: R.T.
JOB NO: 3163.00

WHITSON ENGINEERS
9699 Blue Larkspur Lane • Suite 105 • Monterey, CA 93940
831 649-5225 • Fax 831 373-5065
CIVIL ENGINEERING • LAND SURVEYING • PROJECT MANAGEMENT

LICENSED LAND SURVEYOR RICHARD P. WEBER No. 8302 STATE OF CALIFORNIA

ROUNTREE REHABILITATION FACILITY

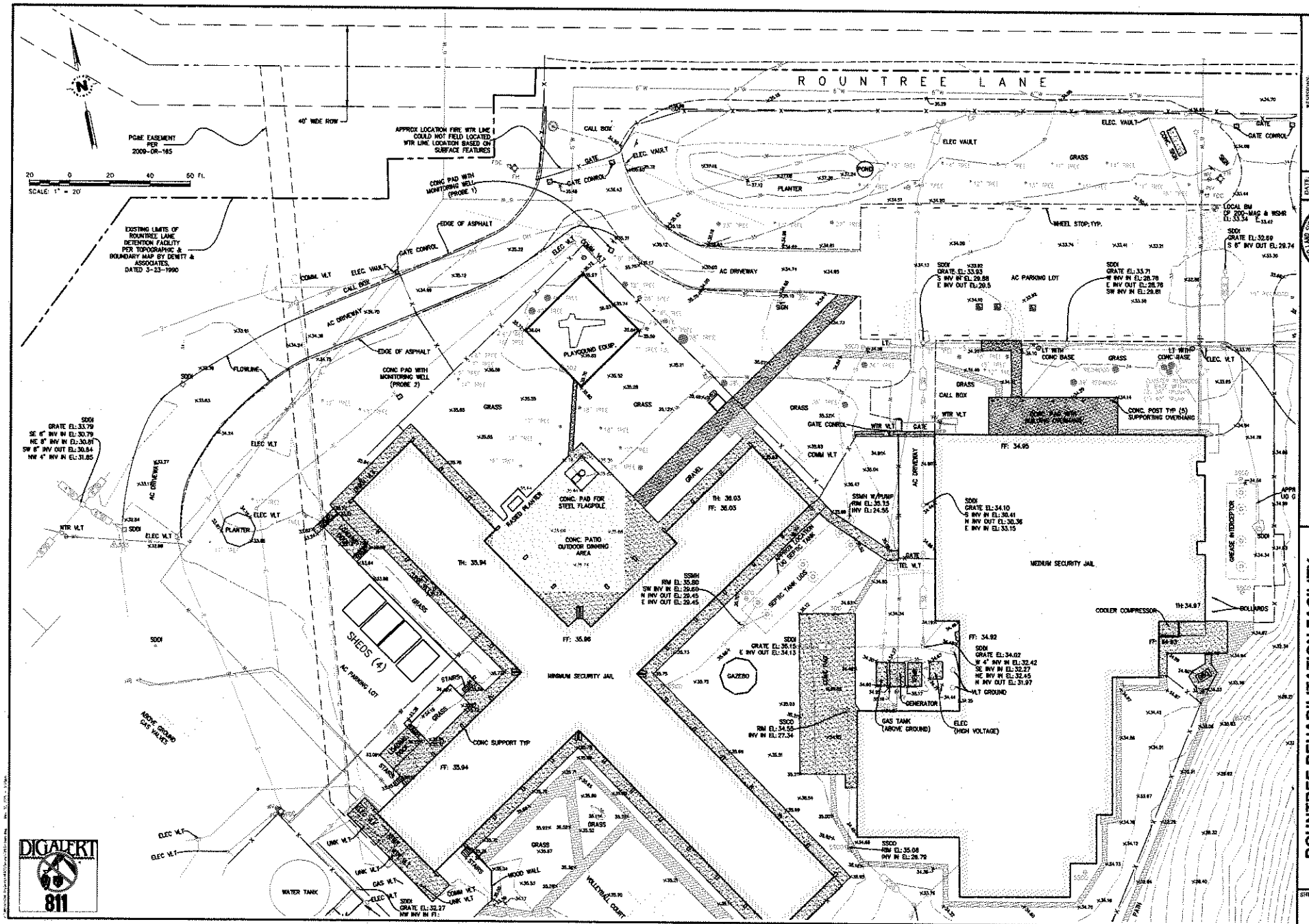
SANTA CRUZ COUNTY CALIFORNIA

EXISTING TOPOGRAPHY AND UTILITY INFORMATION

APN: 052-531-43

SHEET 1 OF 4

0 1 2 INCHES 2



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CIVIL ENGINEERING • LAND SURVEYING • PROJECT MANAGEMENT

REVISIONS:

NO.	BY:	DATE:	DESCRIPTION:

DATE: 5/26/15
SCALE: 1"=40'
ENGR: R.T.
JOB NO: 3815.00

LICENSED LAND SURVEYOR RICHARD T. WEBER No. 8602 STATE OF CALIFORNIA

ROUNTREE REHABILITATION FACILITY

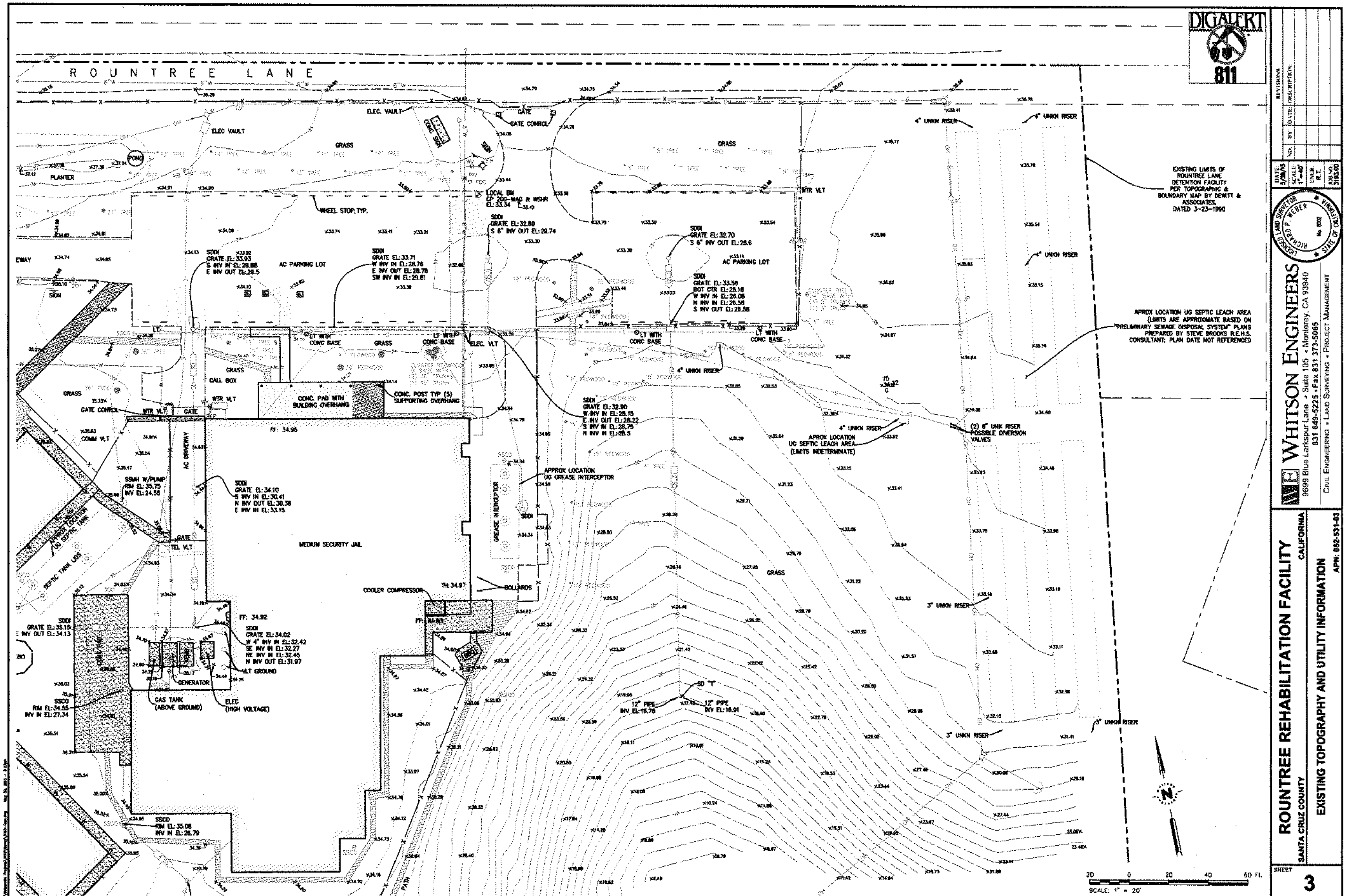
SANTA CRUZ COUNTY CALIFORNIA

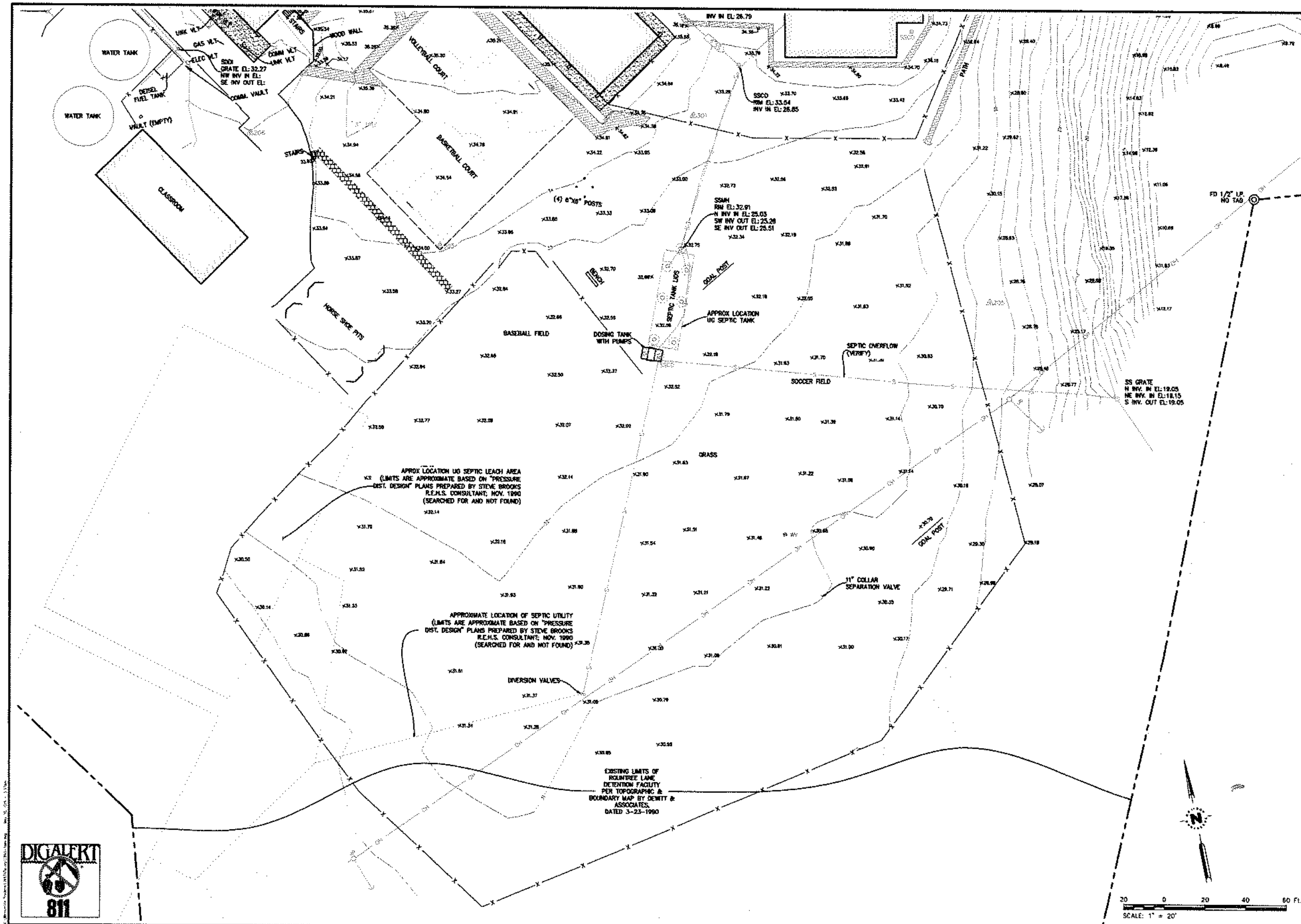
EXISTING TOPOGRAPHY AND UTILITY INFORMATION

APN: 052-531-03

SHEET 2 OF 4

0 1 2 INCHES


ROUNTREE REHABILITATION FACILITY
SANTA CRUZ COUNTY
CALIFORNIA
EXISTING TOPOGRAPHY AND UTILITY INFORMATION
APN: 052-531-03
WHITSON ENGINEERS
9699 Blue Larkspur Lane • Suite 105 • Monterey, CA 93940
831 649-5225 • Fax 831 373-5065
Civil Engineering • Land Surveying • Project Management
RICHARD P. WEBER
LICENSED LAND SURVEYOR
STATE OF CALIFORNIA
SHEET
3
OF 4
DATE 5/28/15
SCALE 1"=40'
ENGR. R.T.
JOB NO. 3163.00
REVISIONS
NO. BY DATE DESCRIPTION
DIGALERT
811
ROUNTREE LANE
SCALE: 1" = 20'
MEDIUM SECURITY JAIL
AC PARKING LOT
GRASS
EXISTING LIMITS OF ROUNTREE LANE DETENTION FACILITY PER TOPOGRAPHIC & BOUNDARY MAP BY DEWITT & ASSOCIATES, DATED 3-23-1990
APROX LOCATION UG SEPTIC LEACH AREA (LIMITS ARE APPROXIMATE BASED ON "PRELIMINARY SEWAGE DISPOSAL SYSTEM" PLANS PREPARED BY STEVE BROOKS R.E.H.S. CONSULTANT; PLAN DATE NOT REFERENCED)
APROX LOCATION UG SEPTIC LEACH AREA (LIMITS INDETERMINATE)
APPROX LOCATION UG GREASE INTERCEPTOR
GREASE INTERCEPTOR
COOLER COMPRESSOR
GENERATOR
GAS TANK (ABOVE GROUND)
ELEC (HIGH VOLTAGE)
CONC. PAD WITH BUILDING OVERHANG
CONC. POST TYP (5) SUPPORTING OVERHANG
AC DRIVEWAY
CALL BOX
GATE CONTROL
ELEC. VAULT
CONC SIGN
PLANTER
POND
WHEEL STOP, TYP.
LOCAL BM CP 200-MAG & WSHR EL 33.34
SSMH W/PUMP RIM EL: 35.75 INV EL: 24.56
APPROX LOCATION UG SEPTIC TANK
SEPTIC TANK LIDS
FF: 34.95
FF: 34.92
TH: 34.97
BOLLARDS
(2) 8" UNK RISER POSSIBLE DIVERSION VALVES
4" UNKN RISER
3" UNKN RISER
12" PIPE INV EL: 15.78
12" PIPE INV EL: 15.91
SD "T"
PATH



ROUNTREE REHABILITATION FACILITY

SANTA CRUZ COUNTY CALIFORNIA

EXISTING TOPOGRAPHY AND UTILITY INFORMATION

APN: 052-531-03

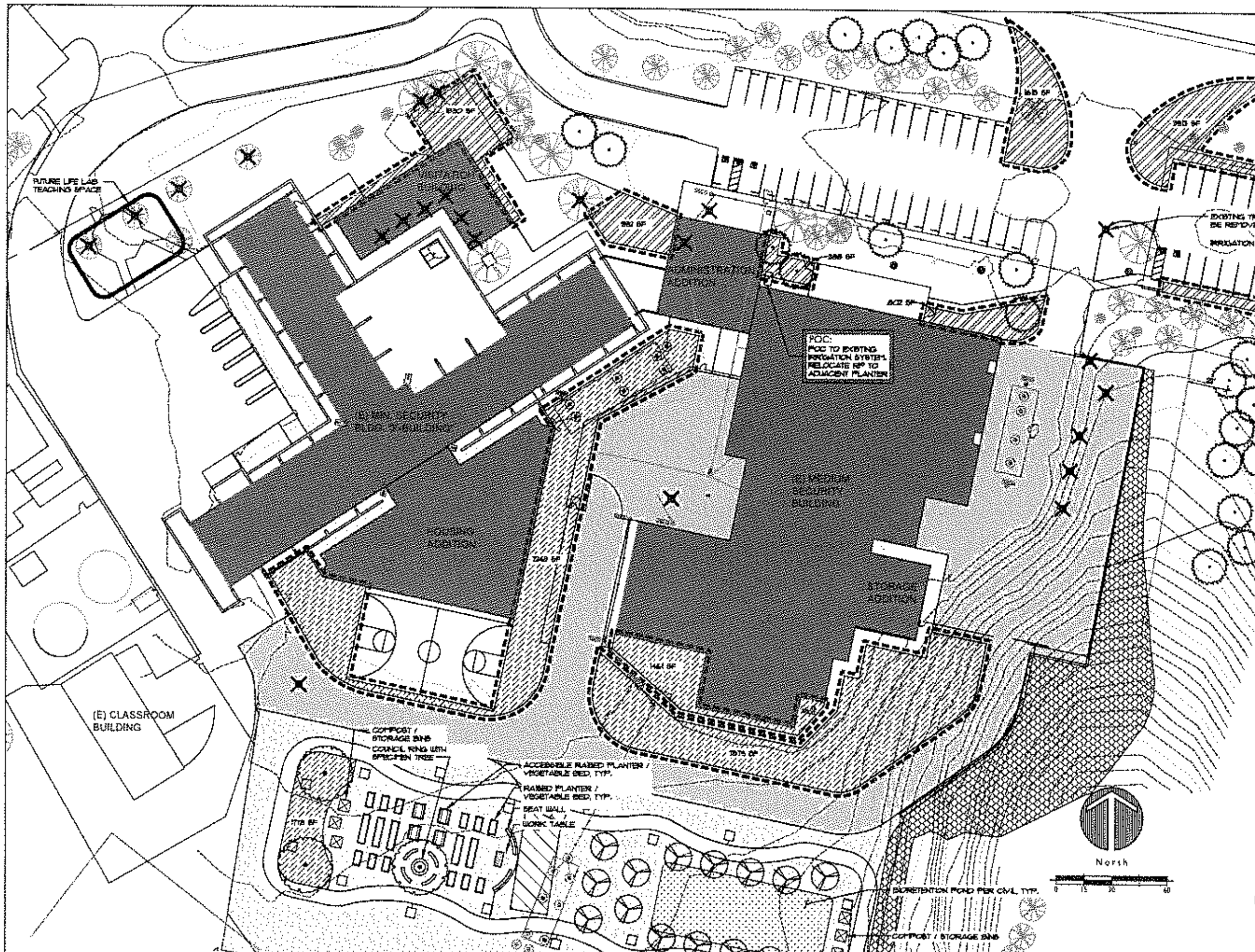
WHITSON ENGINEERS
9699 Blue Larkspur Lane • Suite 105 • Monterey, CA 93940
831 649-5225 • Fax 831 373-5065
Civil Engineering • Land Surveying • Project Management

LICENSED LAND SURVEYOR RICHARD P. WEBER No. 8002 STATE OF CALIFORNIA

DATE: 5/26/15
SCALE: 1"=40'
ENGR: R.T.
JOB NO.: 3183.00

REVISIONS:			
NO.	BY:	DATE:	DESCRIPTION:

SHEET 4 OF 4



CGL
A Hunt Company

CGL COMPANIES
2485 NATOMAS PARK DR., SUITE 300
SACRAMENTO, CA 95833

SSA
LANDSCAPE ARCHITECTS INCORPORATED
303 Potrero St. Ste 40 C
Santa Cruz, CA 95060-2775
PH: (831) 459-0455
FX: (831) 459-0484
www.ssala.com
CRLA #2805

100% CRITERIA DOCUMENTS

NO.	DESCRIPTION	DATE

SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY RENOVATION AND EXPANSION

90 ROUNTREE LANE
WATSONVILLE, CA

LANDSCAPE PLAN

PROJECT NUMBER	150003
DATE	7/16/2015
	L1.0
SCALE	1" = 30'-0"

TREE REPLACEMENT TABLE

REMOVED:	REPLACED:
24 TOTAL	48 TOTAL

PLANTING SCHEDULE

ORNAMENTAL PLANTING	AGAVE ATTENUATA / AGAVE; ANIGOZANTHOS FLAVIDUS / KANGAROO PAW; BACCHARIS PILULARIS PIGEON POINT / COYOTE BRUSH; CAREX DIVULSA / BERKELEY SEDGE; CEANOTHUS GRISEUS HORIZONTALIS YANKEE POINT / CALIFORNIA LILAC; FREMONTODENDRON CALIFORNICUM / CALIFORNIA FLANNEL BUSH; JUNCUS PATENS CARMANS GREY / SPREADING RUSH; MUHLENBERGIA RIGENS / DEER GRASS; ROMNEYA COULTERI / MATILIJA POPPY; ROSA CALIFORNICA / CALIFORNIA WILD ROSE; SALVIA GREGGII / AUTUMN SAGE; SISYRINCHIUM BELLUM / BLUE EYED GRASS	9,340 SF
NATIVE GROUNDCOVER	ARCTOSTAPHYLOS X EMERALD CARPET / EMERALD CARPET MANZANITA; CEANOTHUS GRISEUS HORIZONTALIS YANKEE POINT / CALIFORNIA LILAC; CISTUS SALVIFOLIUS / ROCKROSE SAGELEAF; ERIGERON GLAUCUS / BEACH DAISY; FRAGARIA CHILOENSIS / BEACH STRAWBERRY	10,061 SF
MULCH		19,535 SF
DECOMPOSED GRANITE		4,425 SF
HYDROSEED - HYDROSEED WILDFLOWER / FESCUE BLEND		5,755 SF
TREES	24" BOX - TBD	5
	36" BOX - OLEA E. 'SWAN HILL' - FRUITLESS OLIVE	3
	24" BOX - SEQUOIA S. 'APTOS BLUE' - REDWOOD	30
RAISED PLANTER	PRECAST CONCRETE / 4' X 16'	8
	PRECAST CONCRETE / 4' X 8'	12
	PRECAST CONCRETE ACCESSIBLE	4

PLANTING NOTES

1. ALL PLANTS WILL BE DROUGHT TOLERANT.
2. ALL LANDSCAPE AREAS TO BE TOP DRESSED WITH 3" THICK LAYER OF BARK MULCH. MULCH SHALL BE REDWOOD, FIR, CEDAR, OR A COMBINATION OF THESE. THE COMPOSITION OF THE MULCH SHALL BE A MIX OF SHREDDED BARK, WOOD AND SAWDUST, 0-4" EQUAL TO 'WONDER MULCH' BY VISION RECYCLING.
3. THE SOIL BACKFILL MIX SHALL BE INSTALLED IN EVERY PLANTING PIT AND BE COMPRISED OF AN APPROVED TOP SOIL MIX WHICH CAN BE EITHER IMPORTED OR AMENDED NATIVE MATERIAL, PER SPECIFICATIONS. ONCE THE SOIL MATERIAL IS IN PLACE, A SOIL FERTILITY TEST WILL BE COMPLETED BY THE CONTRACTOR TO DETERMINE THE APPROPRIATE ADDITIVE SCHEDULE PER SPECIFICATIONS.
4. CONTRACTOR SHALL SET OUT PLANT MATERIAL AS PER PLAN AND RECEIVE APPROVAL FROM THE CITY WITH RESPECT TO PLANT HEALTH AND LOCATION PRIOR TO INSTALLATION. CONTRACTOR SHALL GIVE MINIMUM 3 WORKING DAYS NOTICE FOR OBSERVATION AND SHALL HAVE ALL PLANT MATERIAL IN SPECIFIED LOCATIONS FOR REVIEW AT ONE TIME. CONTRACTOR SHALL REPLACE ANY MATERIAL AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
5. PLANTING AREAS AROUND CHAIN LINK FENCE SHALL MAINTAIN A 36" CLEAR MULCH BUFFER ZONE ON EACH SIDE AND NO PLANTS OVER 24" TALL WITHIN 15' OF THE FENCE LINE ON THE INTERIOR SIDE. FINAL PLANTING PLAN WITHIN THE JAIL INTERIOR SHALL NOT CREATE HIDING SPACES FOR PEOPLE OR FOR MATERIALS. ANY NON-GROUNDCOVER PLANTS SHALL NOT OCCUR IN MASSES, AND SHALL BE LOCATED IN AREAS OF HIGH SUPERVISION.
6. TREES REMOVED SHALL BE REPLACED TO MITIGATE VISUAL IMPACTS AS REQUIRED BY THE COUNTY OF SANTA CRUZ PLANNING DEPARTMENT.

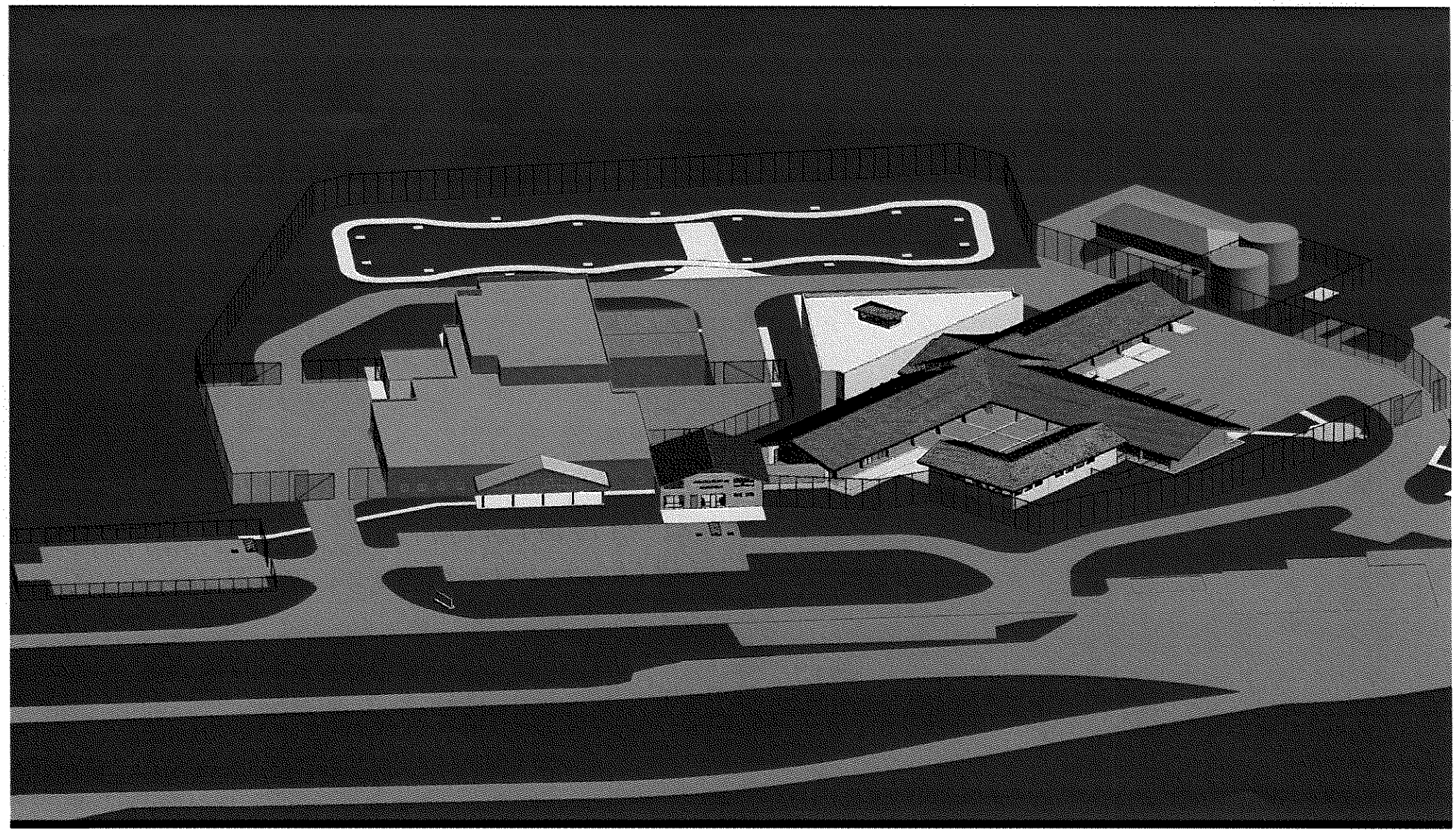
IRRIGATION LEGEND

PLANT TYPE	MANUFACTURER/MODEL
TREES	RAIN BIRD RWS-B-C-SOCK
SHRUBS OUTLET	RAIN BIRD XERI-BUG XB SINGLE EMITTER SINGLE OUTLET PRESSURE COMPENSATING DRIP EMITTER, BARBED INLET, WITH PC DIFFUSER CAP. USE RAIN BIRD DBC-025 CAP FOR STAKE AND CAP COMBINED CONFIGURATION
TREES & SHRUBS	RAIN BIRD XCZ-100-PRB-COM DRIP CONTROL KIT, 1" PESB VALVE, 1"BASKET FILTER, AND 40PSI PRESSURE REGULATOR, 1" BALL VALVE.
SHRUB AREAS	RAINBIRD R-VAN NOZZLE ON 1800 SERIES SPRAY BODY
SHRUB AREAS	RAIN BIRD PESB PLASTIC REMOTE CONTROL VALVE, GLOBE CONFIGURATION WITH NPT THREADED INLET / OUTLET

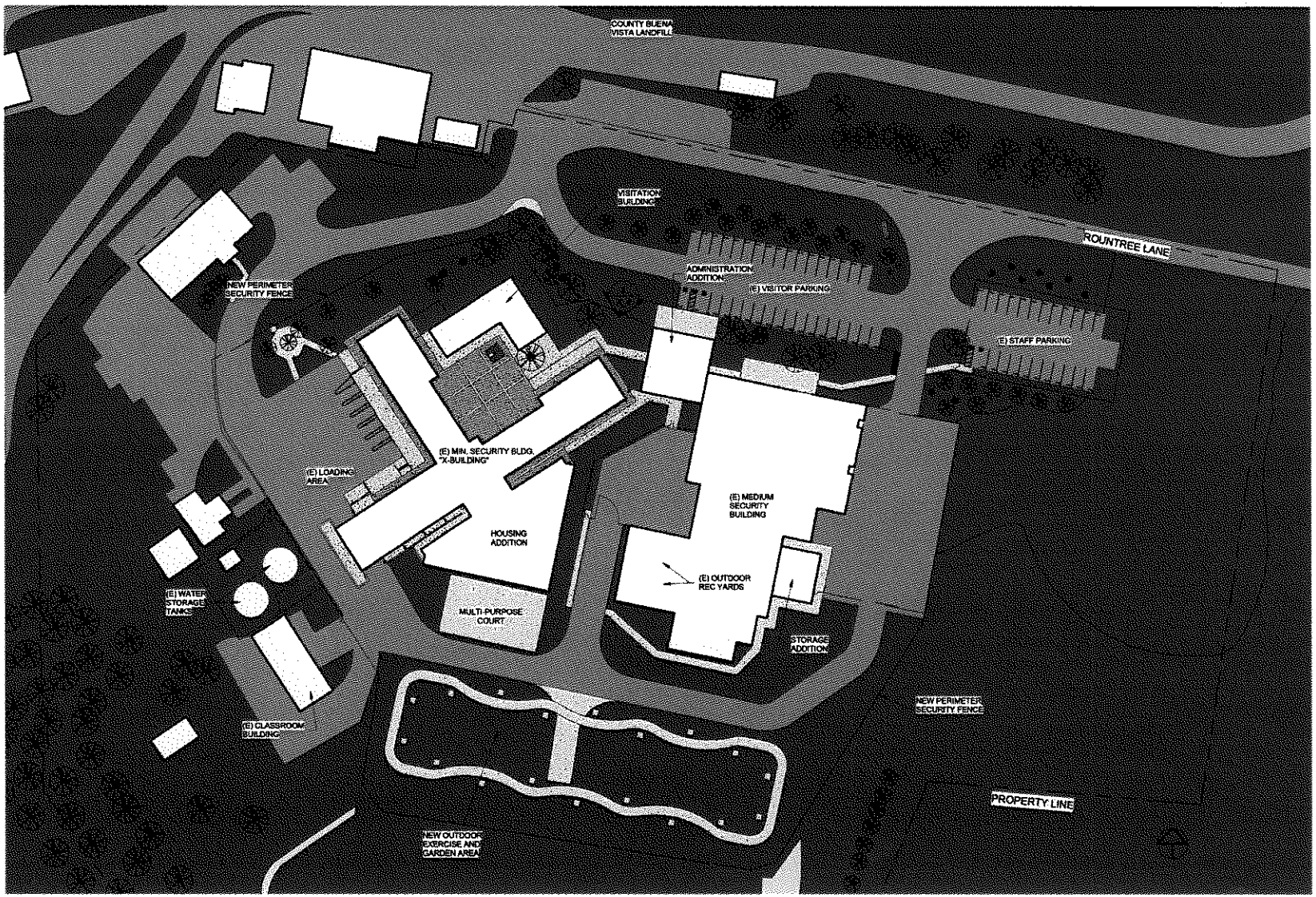
MANUFACTURER/MODEL
RAINBIRD 44-LRC, 1" BRASS QUICK COUPLING VALVE WITH CORROSION-RESISTANT STAINLESS STEEL SPRINGS, LOCKING THERMOPLASTIC RUBBER COVER AND 2-PIECE BODY.
HOSE BIB, 3/4" BRASS, WITH VANDAL PROOF REMOVABLE TAP
KBI BYSHE, PVC BLOCKED TRUE UNION BALL VALVE S.O.V., 1/2" TO 3", SAME SIZE AS PIPE
CONNECT TO (E) MAINLINE OR BACKFLOW. CONTRACTOR TO VERIFY LOCATION OF CAP PRIOR TO START OF WORK.
IRRIGATION LATERAL LINE: POLYETHYLENE AND PVC CLASS 200 POLYETHYLENE SDR-7 UP TO 1-1/4, THEN PVC CLASS 200 SDR 21 FOR 1-1/2" AND LARGER. USE PURPLE COLORED PIPE FOR RECYCLED WATER
IRRIGATION MAINLINE: PVC SCHEDULE 40 USE PURPLE COLORED PIPE FOR RECYCLED WATER

IRRIGATION NOTES

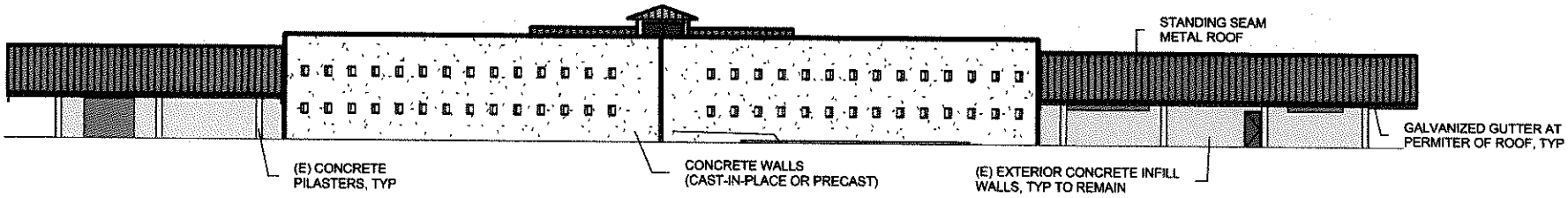
1. PRESSURE IS TO BE VERIFIED IN FIELD BY CONTRACTOR PRIOR TO BEGINNING WORK ON THE IRRIGATION SYSTEM. REPORT FINDINGS TO THE OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK. FAILURE TO DO SO MAY RESULT IN ADDITIONAL WORK BY THE CONTRACTOR AT NO COST TO THE OWNER.
2. CONTRACTOR SHALL USE EXTREME CARE WHERE IT IS NECESSARY TO TRENCH NEAR EXISTING TREES. EXCAVATION IN AREAS EXHIBITING ROOTS 2" AND LARGER SHALL BE DONE BY HAND. ROOTS 1" OR LARGER IN DIAMETER DAMAGED IN CONSTRUCTION SHALL BE CLEANLY CUT AND NOT LEFT IN A RAGGED CONDITION. TREE ROOTS SHALL BE COVERED WITH WET BURLAP WHILE EXPOSED.
3. THE IRRIGATION SYSTEM SHALL BE DESIGNED IN CONFORMANCE WITH LOCAL AND STATE WATER CONSERVATION ORDINANCES.



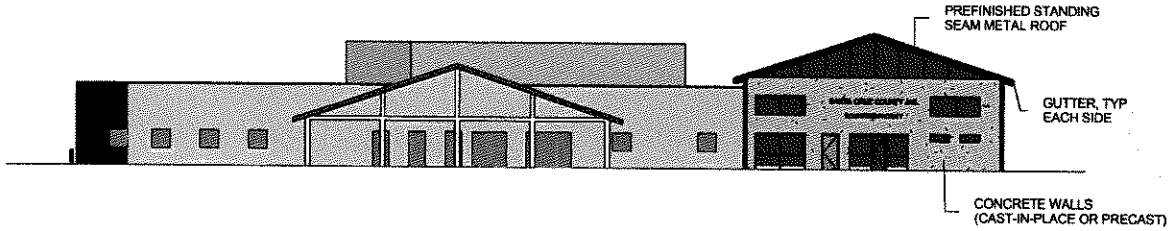
SANTA CRUZ COUNTY SHERIFF'S OFFICE ROUNTREE REHABILITATION AND RE-ENTRY FACILITY RENOVATION



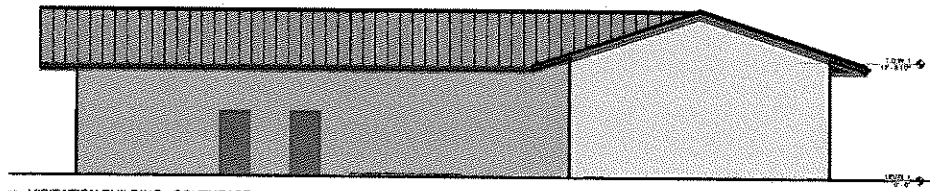
SANTA CRUZ COUNTY SHERIFF'S OFFICE ROUNTREE REHABILITATION AND RE-ENTRY FACILITY RENOVATION



1 X-BUILDING - SOUTHEAST 1

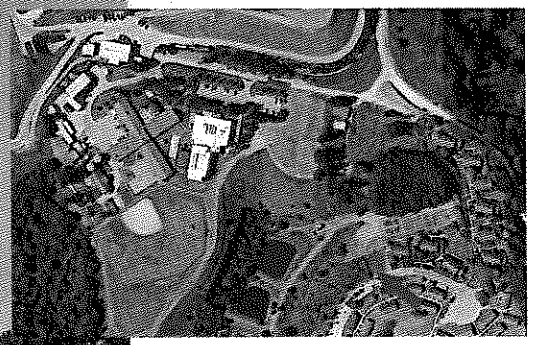


2 MEDIUM SECURITY BUILDING - NORTH 1



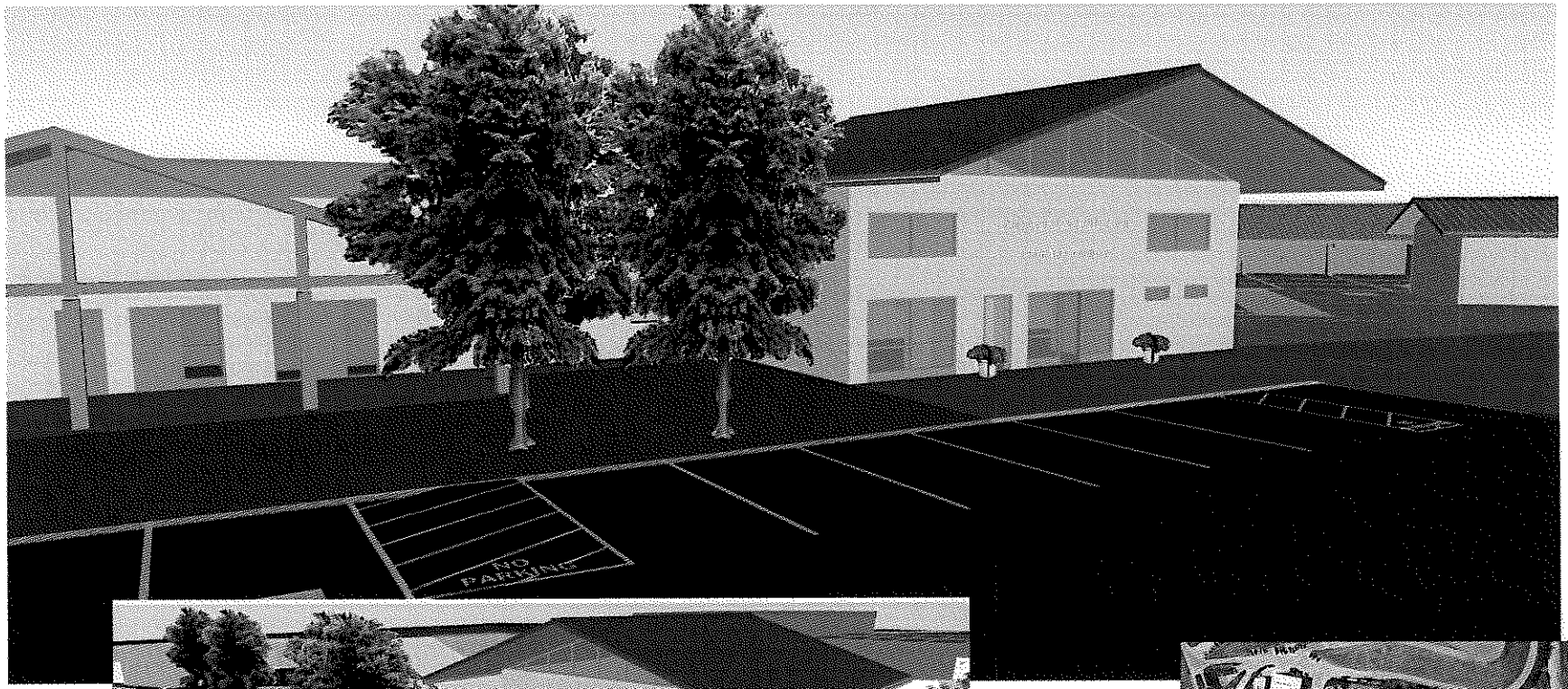
3 VISITATION BUILDING - SOUTHEAST

SANTA CRUZ COUNTY SHERIFF'S OFFICE ROUNTREE REHABILITATION AND RE-ENTRY FACILITY RENOVATION

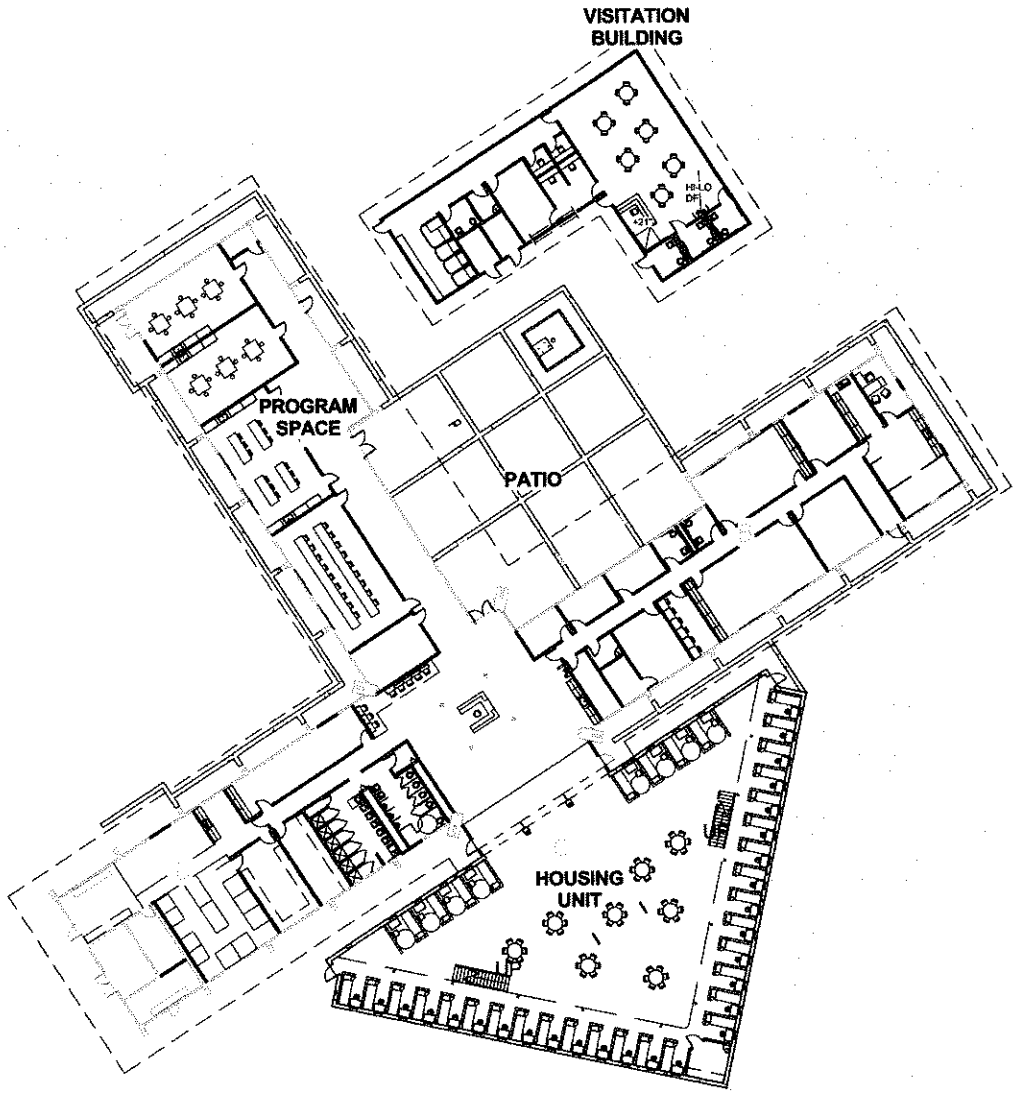


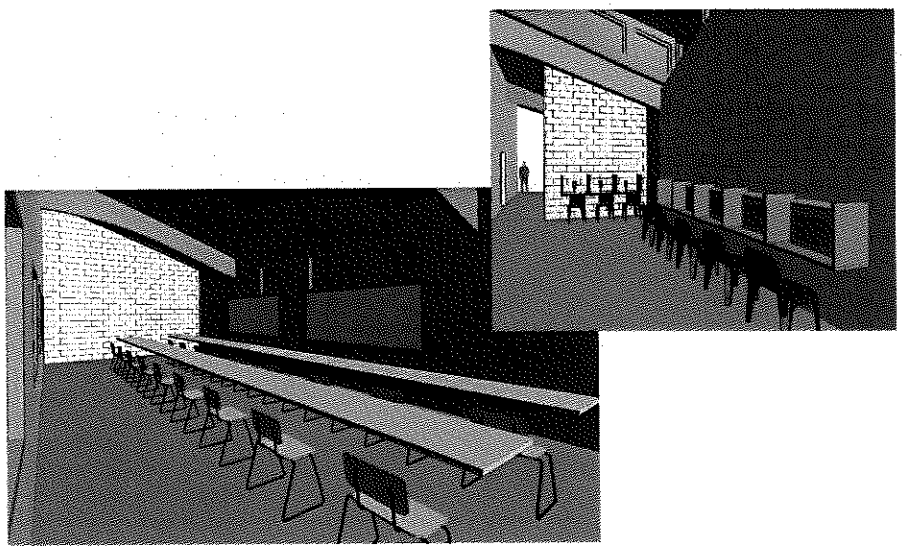
TYPICAL SECURITY FENCE

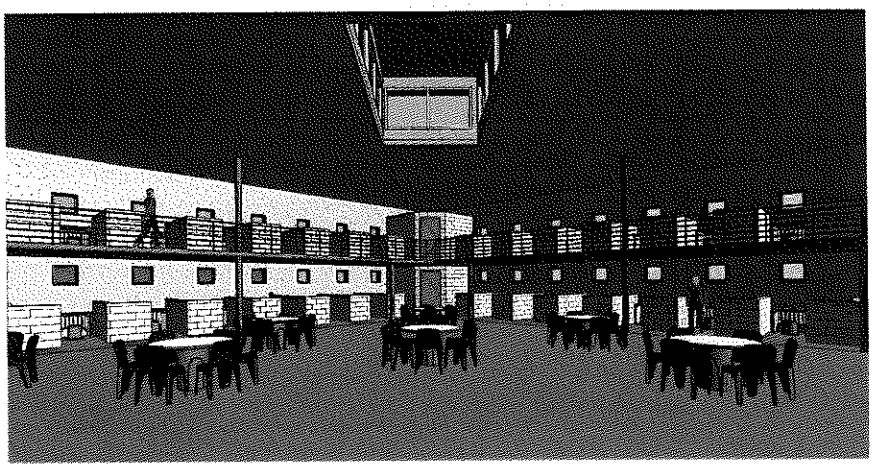
SANTA CRUZ COUNTY SHERIFF'S OFFICE ROUNTREE REHABILITATION AND RE-ENTRY FACILITY RENOVATION



SANTA CRUZ COUNTY SHERIFF'S OFFICE ROUNTREE REHABILITATION AND RE-ENTRY FACILITY RENOVATION







SANTA CRUZ COUNTY SHERIFF'S OFFICE ROUNTREE REHABILITATION AND RE-ENTRY FACILITY RENOVATION

A SURVEY OF THE SIGNIFICANT TREES THAT WILL BE IMPACTED BY THE PROPOSED RENOVATION AND EXPANSION OF THE SANTA CRUZ COUNTY ROUNDTREE FACILITY AT 90 ROUNDTREE LANE - WATSONVILLE

Prepared at the request of:
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Site visit by:
Nigel Belton – ISA Certified Arborist WE-0410A
June 26, 2015

Job – SC Roundtree – 6-15

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Site visit by Nigel Belton, ISA Certified Arborist WE-0410A – June 26, 2015

A SURVEY OF THE SIGNIFICANT TREES THAT WILL BE IMPACTED BY THE PROPOSED RENOVATION AND EXPANSION OF THE SANTA CRUZ COUNTY ROUNDTREE FACILITY AT 90 ROUNDTREE LANE WATSONVILLE

Background:

Rodney Trujillo of Whitson Engineers contacted me regarding the provision of a survey and an arborist's report concerning the significant trees located at the Santa Cruz County Roundtree Rehabilitation and Re-entry Facility located at 90 Roundtree Lane, Watsonville. The County plans to expand and renovate this facility which will have an impact on many existing trees.

I met on site with Lieutenant Paul Ramos of the Santa Cruz County Sherriff's Office and Constance Conroy, Project Manager, County of Santa Cruz Department of Public Works to discuss the scope of the improvement work and potential impacts on the significant trees. Lieutenant Ramos instructed me that in addition to those trees that will have to be removed because of their proximity to the new structures and infrastructure, all of the larger trees situated in close proximity to the new security fence location will also have to be removed.

Assignment:

This assignment entails the provision of a tree survey and a preliminary arborist's report concerning 75 trees over 6 inches in diameter measured at 54 inches above grade (diameter at breast height or DBH). The tree survey identifies individual trees with numbered tags affixed to their trunks. The tag numbers correspond with the numbers utilized in the tree survey chart, the arborist's report and an accompanying tree survey map.

The tree survey chart documents tree dimensions and conditions. It identifies those trees that must be removed because of their condition ratings and /or locations within the proximity of proposed construction work.

This preliminary arborist's report provides recommendations pertaining to design considerations in order to minimize root loss and damage within the critical root zones of affected trees. The report also includes tree protection strategies that must be implemented during the construction phase of this project. These recommendations include tree protection zone fencing requirements and root preservation strategies.

The arborist's report also includes recommendations concerning the maintenance of the health, structural integrity and safety of individual trees that are designated for preservation.

Summary:

Seventy five trees with trunk diameters over six inches measured at breast height were surveyed on the Roundtree Facility Site. Fifty three of these trees are situated within closer proximity to the proposed remodeling and expansion work and as such are included in the recommendations of this report. The 22 London Plane Sycamores situated in the landscape next to the frontage of Roundtree lane are setback well away from proposed construction activities and have all been recommended for preservation.

A total of 43 trees on this site are recommended for preservation and protection during the construction period.

The critical root zones of all trees designated for preservation must be protected from damage with Tree Protection Zone Fences. These fences must be installed before demolition work proceeds and remain in place throughout the entire construction period (the TPZ fence locations are shown on the attached Tree Location Map). The TPZ fences must not be dismantled or moved without the consent of the project arborist. Care must also be taken whenever any construction work or trenching for new drains or utilities will encroach within critical root zone areas (These areas are generally defined as being within tree canopy driplines). The project arborist must inspect and supervise all work in critical root zone areas.

The Coast Redwood Trees on this site are exhibiting symptoms of drought stress and should be irrigated as prescribed in the report if water is available for this purpose. These trees should be mulched with woodchips to conserve soil moisture and improve their growing conditions.

The three large Nichols Eucalyptus Trees recommended for preservation require pruning work and the installation of support cables as specified in the report. These actions are recommended to improve the structural integrity and safety of these trees.

The project arborist must visit the site and provide supervision as specified in the inspection schedule.

At total of 28 eight trees are recommended for removal.

Fourteen of these trees have been designated for removal because of their locations in close proximity to areas of construction or within construction footprints.

Seven of these trees are designated for removal because of their close proximity to the proposed security fence.

Seven trees have been recommended for removal because of poor condition ratings (poor health or structural concerns).

The status of Four London Planes Sycamore Trees located on the west side of the facility is yet to be determined.

These trees may have to be removed if is determined that they are too close to the proposed security fence location and the corner of the minimum security building.

Limiting Conditions:

This is a preliminary report based on information regarding the proposed improvements provided to me at this time.

The inspection of these trees was made from the ground only. No trees were climbed to examine above ground structures nor were any trees examined below the soil grade to examine their root structures. Inspections of tree structures were limited to visual examinations only.

Note that recommendations regarding pruning work and the installation of tree support systems are intended to reduce the chance of tree failures but must never be considered as being guarantees against such events. Trees can and sometimes do fail despite these procedures being implemented.

Discussion Regarding the Proposed Improvements:

The proposed improvements for the rehabilitation facility will entail the construction and expansion of buildings on the north side of the existing structures and the expansion of the service yard on the east side.

These improvements include the construction of a new administration addition to the medium security building and a new visitation building adjacent to the minimum security building. The construction of these buildings will impact a number of significant trees (trees with trunks over six inches diameter at breast height) that are either located within or near to their footprints (about 14 trees).

The expansion of the service yard on the east side of the facility will require the removal of six Coast Redwood Trees.

The installation of a new security fence on the north and west sides of the facility will require the removal of all significant trees located within close proximity to the inside of this structure for security reasons.

The 22 London Plane Sycamore Trees located in the two areas of turf next to Roundtree Lane should not be impacted because the footprints of the adjacent parking and driveway infrastructure will remain the same.

General Recommendations Concerning Tree Protection and Preservation:

1 - Tree Protection Zone Fence Specifications:

Tree Protection Zone (TPZ) fencing must be installed as specified in this report and shown on the attached Tree Location Map. The TPZ fencing must be inspected and documented by the project arborist before any demolition, grading and site work can proceed. These protective fences must not be removed (or moved) during the construction period without the consent of the project arborist. No equipment or vehicles can enter the TPZ at any time, nor can grading work or utility trenching occur within these protected areas without the direct supervision of the project arborist. No construction materials or construction waste may be stored or dumped within the defined TPZ areas. Laminated Tree Protection Zone notices that provide descriptions of these protections and restrictions must be attached to these fences at 10 foot intervals.

TPZ fences must consist of five foot tall (or higher) steel chain-link fencing attached to steel pipes driven 24 inches into the ground where in close proximity to the construction areas (concerning Trees #1 through #53).

TPZ fencing can consist of plastic snow fencing attached to steel standards concerning the protection of the 22 London Plane Trees located in the two turf areas next to Roundtree Lane.

2 – Utility, Sewer Line and Drainage Trenching Requirements:

Note that all new underground utilities, drains, sewer lines and septic systems must be routed around the outside of the canopy drip lines of protected trees where possible in order to protect these Critical Root Zone areas from damage. In the event that utilities and drains must be routed under tree canopies they must be setback as far as possible from tree trunks to reduce the potential for root loss and damage.

In the event that trenching work for utilities (including sanitary sewer lines, water, electrical, gas, telephone and cable services) or storm drains and irrigation lines must encroach within the defined Tree Protection Zones, the project arborist must provide guidance and site supervision regarding appropriate root protection and preservation strategies in order to minimize root loss and disturbance.

Root protection strategies may entail either tunneling the under significant roots (roots between 1.5 and 2 inches diameter contingent on their locations) to insert these services underneath them or root pruning work, contingent on the proximity of these services to the trunks of the affected trees. Root pruning work entails the use of a sharp saw to cleanly cut significant sized roots (roots over 1.5 inches diameter) at the edge of the excavation in order to avoid tearing damage (a sawzall is recommended for this work).

In some cases an initial soil cut must be made in the service trench at between 12 and 16 inches outside of the final edge of excavation line in order to locate any significant roots. These larger roots must then be hand dug back to the final excavation line and pruned with a saw before the trenching work is completed.

3 – Irrigation and Mulching to Improve Tree Health and Conserve Soil Moisture:

The provision of supplemental irrigation to drought stressed trees is recommended only if enough water is available for this purpose. In the event that enough water is available for this purpose, it should be applied to the soil surface at a rate of 10 gallons per inch of trunk diameter measured at 54 inches above grade (DBH measurement). The water should be delivered through irrigation tubing (such as Netafim product) or by means of soaker hoses every three weeks until the onset of adequate rainfall patterns.

The installation of wood chip mulches (bark products are not recommended) should serve to conserve soil moisture and improve soil health over time. The mulches should be applied at a depth of three to four inches and cover the soil surface within and beyond canopy drip lines where space allows. These mulches should be setback at least nine inches from tree trunks as a general rule.

4 – Tree Pruning and Support Cable Installation Work:

All tree pruning and support system installation work must be performed by a State Licensed tree service provider in accordance with ISA Pruning Standards and ANSI A300 Best Management Practices. This work must be performed under the supervision of an ISA Certified Arborist.

Support cables should be inspected every two years to ensure that they are in good condition.

Observations and Recommendations Pertaining to Individual Trees:

Tree's #1, #2 & #3 – Three Coast Redwood *(Sequoia sempervirens)*:

These large trees have 41, 43 & 37 inch, 38 inch and 38 inch DBH trunk measurements, respectively.

These tree are located in the landscape adjacent to the north side of the medium security building. The trees are growing in unirrigated turf which is in poor condition.

These trees exhibit fair to good condition ratings despite having some symptoms of initial drought stress. Tree #1 has a co-dominant structure (3 similar sized trunks) but appears to be structurally sound. I noted the presence of large exposed roots on the soil surface under the canopies of these trees.

1 - The preliminary grading and drainage plan prepared by Whitson Engineers shows three areas of concern within the proximity of these trees. These issues concern include the following features.

(1) - A proposed pathway which will be in very close proximity to the trunk of Tree #3.

I recommend that the new pathway is re-routed to be set back as far as possible from the trunks of these trees. One option will be to route the path next to the curb line of the adjacent parking stalls and then have it turn 90 degrees to access the front entrance of the building. The installation of a simple split–rail fence may be one way to discourage people from taking a short cut under these trees. The new path should be constructed on as close to existing grade as possible to avoid cutting too many roots within the critical root zones of these trees. This should entail the installation of a reinforced concrete pathway that does not rely on base material for its structural integrity.

(2) - The bio swale/retention system shown in close proximity to Tree's #2 & #3.

The bio swale location must be moved further west to be situated beyond the canopy dripline of Tree #3. Tree's #4, #5 & #6 (three Douglas Firs) are recommended for removal and their location appears to be a good option for the new bio swale.

(3) - The concrete pad between the new pathway and the building.

The pad that connects the front of the building to the new pathway on the plan must be constructed of reinforced concrete installed on grade to avoid excessive root loss.

2 - Install Tree Protection Zone Fencing as shown on the Tree Location Map before any demolition and construction equipment comes on site.

3 - The three Coast Redwood Trees are vulnerable to drought stress at this time.

I recommend that these trees are irrigated (as prescribed in the notes on page 5) if enough water is available for this purpose. I understand that this prescription will entail the application of a lot of water so it should be understood that this is a general guideline. The actual volume of water used can be lower than initially calculated if necessary. I also recommend that the soil under the canopy of these trees is covered by a wood chip mulch to conserve soil moisture and improve soil health.

Tree's #4, #5 & #6 – Three Douglas Firs *(Pseudotsuga menziesii)*:

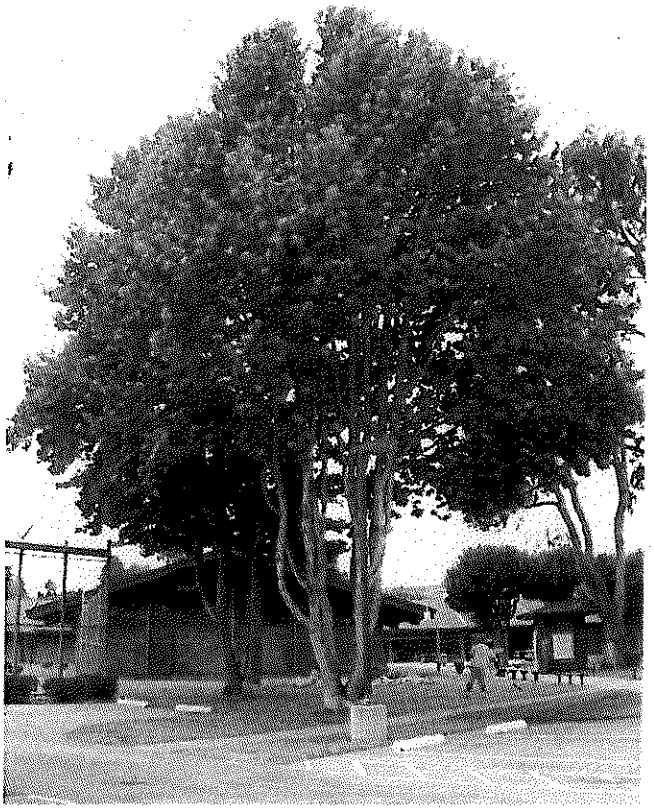
These trees have 16 inch, 11 inch and 21 inch DBH measurements, respectively.

The three Douglas firs have poor condition ratings due to the effects of the drought. The foliage of these trees is thin and of poor color. The new seasons shoot growth in the branch tips is poor when compared to healthy trees of the same species.

I recommend that the Douglas Firs are removed because they are in poor health and have become unattractive due to drought stress. These firs should be replaced with more drought tolerant trees.

Tree's #7 and #8 – Two Liquidambar Trees *(Liquidambar styraciflua)*:

Both of these trees exhibit good health but have very poor structures due to their co-dominant growth patterns. The trees have multiple stems emanating from common trunks near ground level and as such are vulnerable to structural failures.

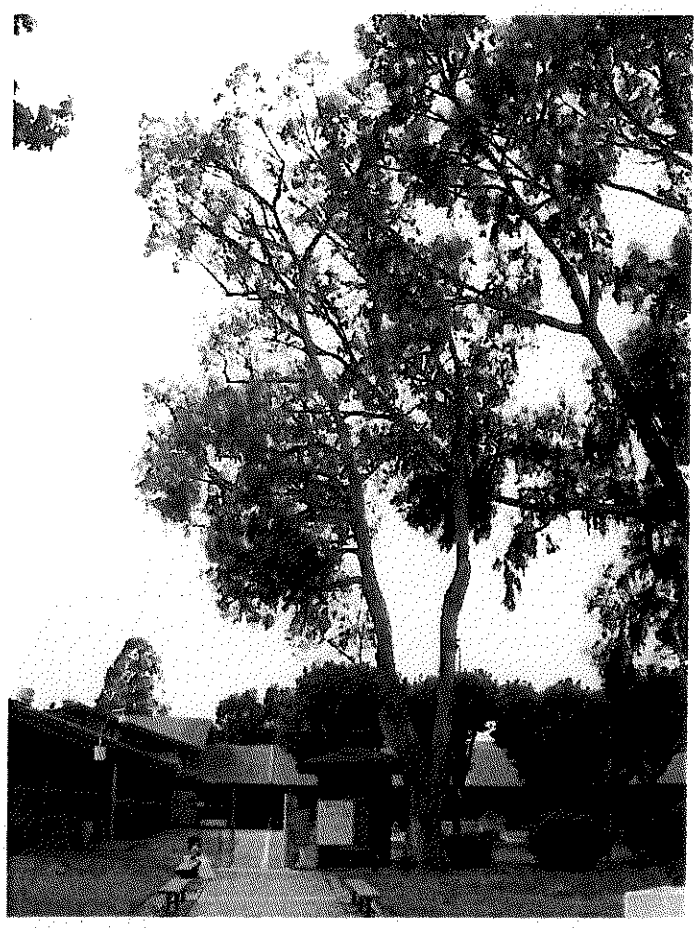


The footprint of the new administration addition will encroach within the location of Tree #7 and will be setback about three feet away from the trunk of Tree #8.

Both of these trees must be removed because of their locations relative to footprint of the new administration building.

Tree #9 – 33 inch DBH Nichols Eucalyptus *(Eucalyptus nicholii)*:

The trunk of this tree will be located about 12 feet inside the location of the new security fence shown on the improvement plans.

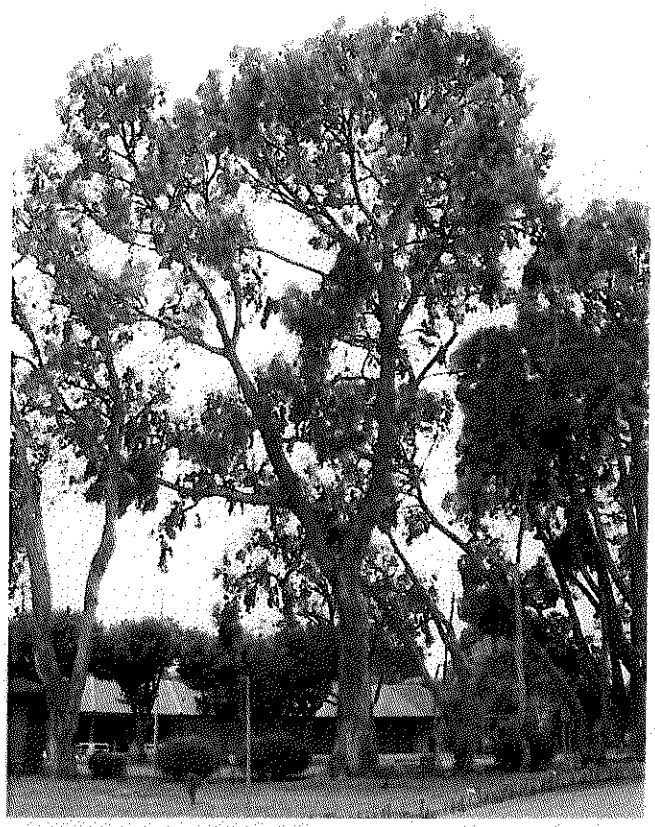


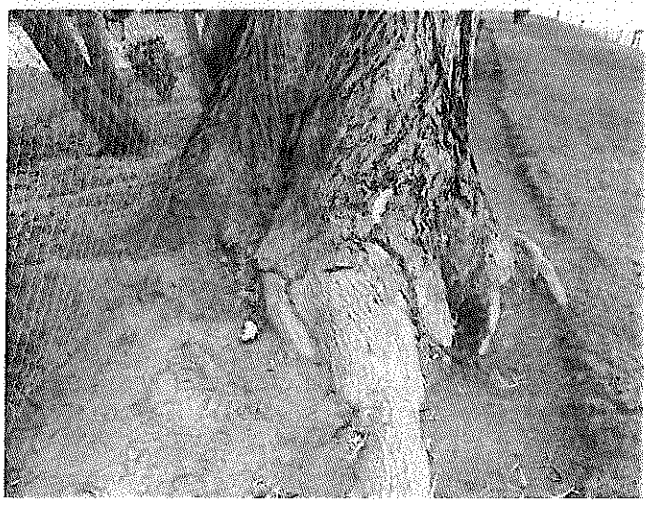
The tree exhibits good health and has a fair structure rating.

I recommend that this this tree is removed because of its proximity to the inside of the new security fence.

Tree #10 – 47 inch DBH Nichols Eucalyptus:

This tree exhibits good health and has a fair structure rating. The base of the trunk of this tree will be situated about two feet outside of the new security fence location. I noted two large buttress roots growing on the soil surface for some distance from the trunk.

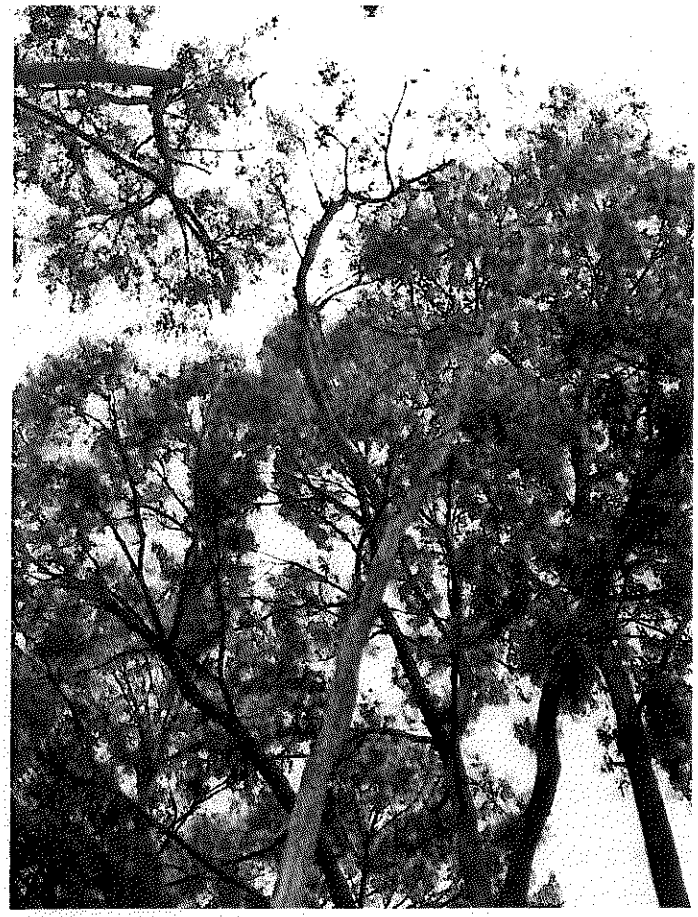




I recommend that this tree is removed due to its close proximity to the proposed security fence which will be built on a concrete footing. The footing location will encroach through both of these supportive roots which are too high above existing grade to allow for the utilization of a grade beam on piers as an alternative design to preserve this tree.

Tree #11 – 11 inch DBH Nichols Eucalyptus:

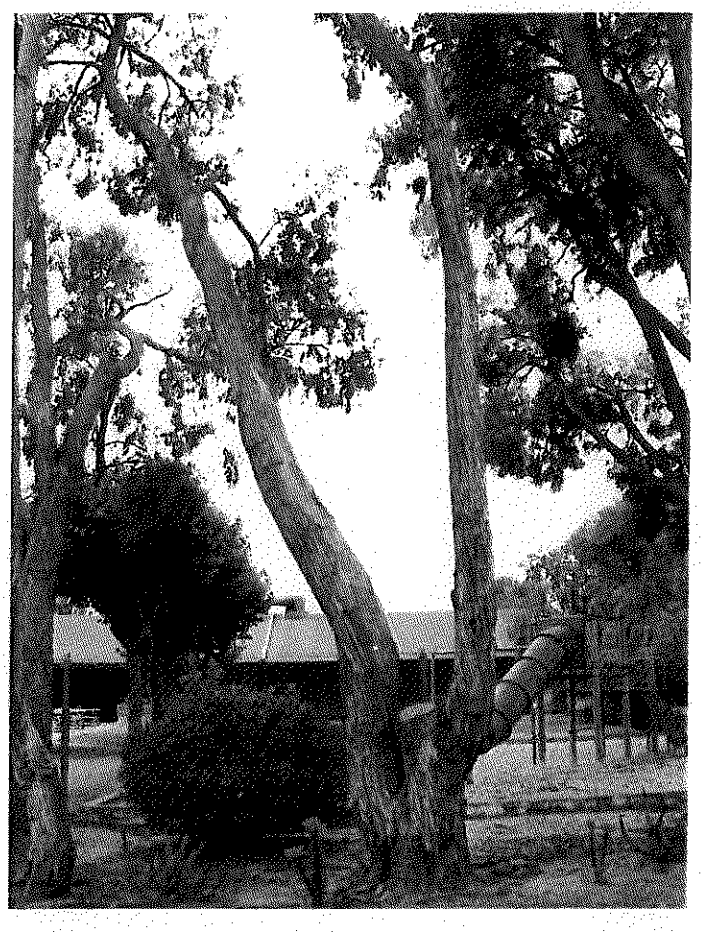
This tree exhibits poor health and has a fair structure rating. The tree is unattractive in appearance and is being suppressed by the larger adjacent trees.



I recommend that this tree is removed because of its poor condition and appearance.

Tree #12 – 21 & 14 inch DBH Nichols Eucalyptus:

This tree exhibits good health but has a very poor co-dominant structure.



The trunk divides into two co-dominant stems at about three feet above grade. The largest stem leans heavily westward over the proposed landscape area next to the new visitation center. The majority of the limb structure is concentrated at the ends of both stems.

I recommend that this tree is removed because of its poor structural condition rating. The tree is vulnerable to failure in the area of attachment between the two stems. This condition cannot be effectively mitigated through pruning work without ruining the appearance of this tree or by instillation of a support cable.

Tree #13 – 33 inch DBH Nichols Eucalyptus:

This large tree exhibits good health and has a fair to poor structure rating. I noted that the trunk of this tree divides into two co-dominant stems at approximately nine feet above grade. The area of attachment between these stems is narrow and relatively poor. The north facing scaffold limb (attached at about five feet above grade) is poorly attached to the trunk and appears to be heavy and over-extended. The limb structure within the balance of the upper canopy appears to be relatively light and structurally sound.

I recommend that this tree is preserved and pruned and cabled to improve its structure and safety.

1 - Prune to remove any larger dead wood over ½ inch diameter and reduce weight in the end of the north facing scaffold limb. This limb could also be removed completely.

2 - Install five support cables high in the canopy of this tree in such a way as to create two triangulations of cable between the four main stems. Utilize 5/8 through rods with threaded amon eyes as attachment points for 5/16 EHS Grade cable and thimbles. Inspect the tree and the cable hardware every two years.

3 - Install Tree Protection Zone Fencing as shown on the Tree Location Map before any demolition and construction equipment comes on site.

Tree #14 – 8 & 5 inch DBH Nichols Eucalyptus:

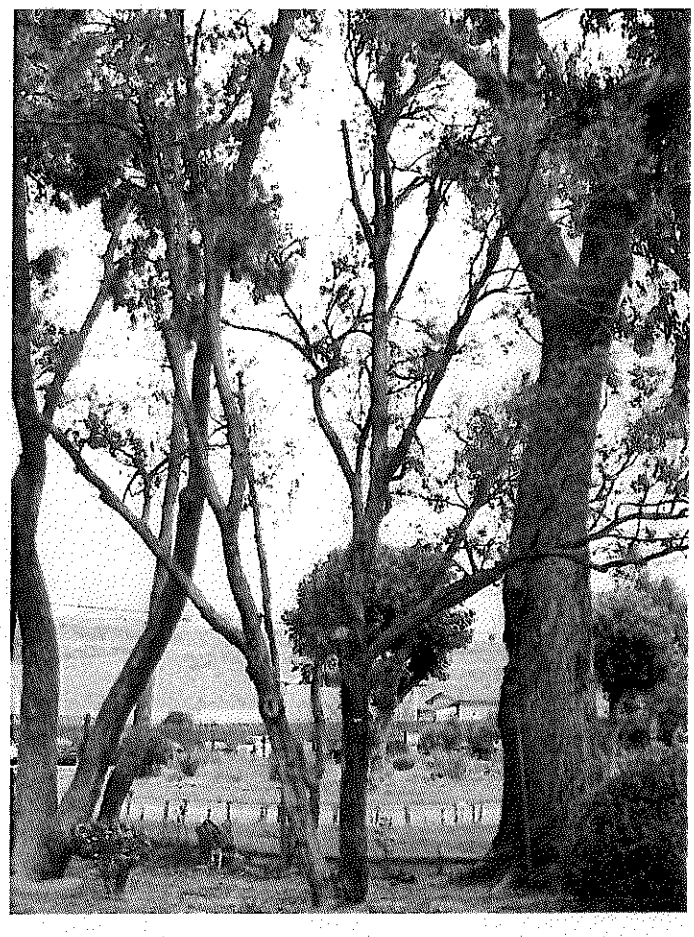
A small tree located next to the entrance driveway.

I recommend that this tree is preserved.

1 - Install Tree Protection Zone Fencing as shown on the Tree Location Map before any demolition and construction equipment comes on site.

Tree #15 – 7/8/10 inch DBH Nichols Eucalyptus:

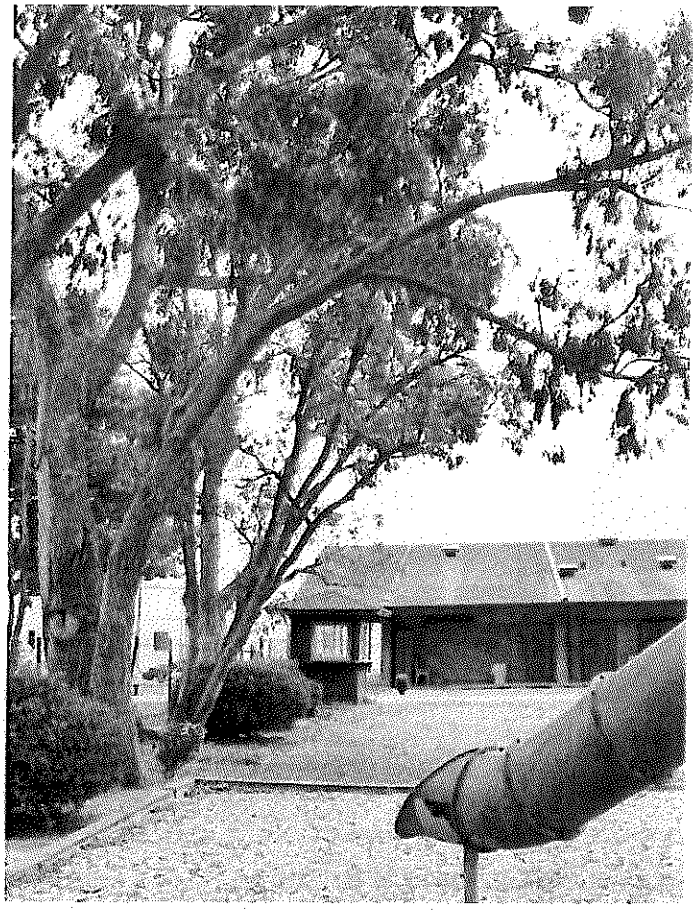
This tree exhibits very poor health and has a poor structure rating.



I recommend that this tree is removed because of its poor condition ratings.

Tree #16 – 18 & 13 inch DBH Nichols Eucalyptus:

This tree exhibits good health but has a very poor structure rating. The tree leans heavily towards the west and over the proposed visitation building site.



I recommend that this tree is removed because of its very poor structure rating and encroachment over the footprint of the proposed building.

Tree #17 – 51 inch DBH Nichols Eucalyptus:

This large specimen exhibits good health and has a fair to poor structure at this time. The tree has a co-dominant structure at about five feet above grade. The south facing co-dominant stem leans heavily to the southeast.

I recommend that this tree is preserved and maintained to improve its structural integrity and safety.

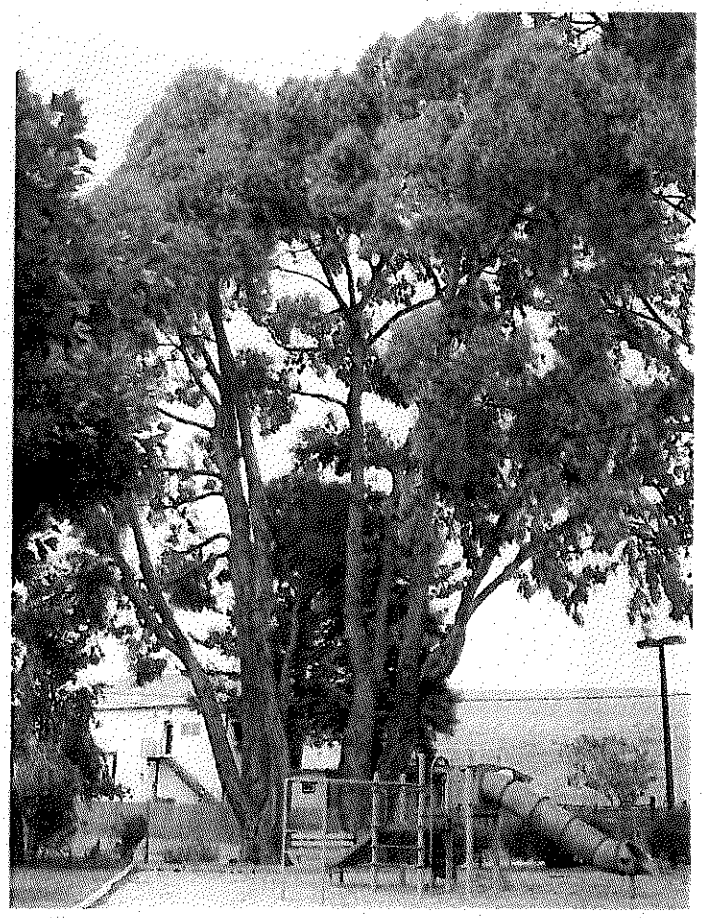
1 - Prune this tree to remove larger dead wood and reduce weight in limb ends (end weight reduction).

2 - Install one cable set between the two co-dominant stems utilizing 5/8 inch or ¾ inch diameter through rods with amon eyes and 5/16 inch diameter EHS Grade cable.

3 - Install Tree Protection Zone Fencing as shown on the Tree Location Map before any demolition and construction equipment comes on site.

Tree #18 – 50 & 22 inch DBH Nichols Eucalyptus:

This large tree exhibits good health and a fair to poor structure rating. The tree has four co-dominant stems attached to a common trunk at between four and six feet above grade.



I recommend that this tree is preserved and maintained to improve its structural integrity and safety.

1 - Prune this tree to remove larger dead wood and reduce end weight.

2 - Install three cable sets in between the three most vertical stems utilizing 5/8 or ¾ inch diameter through rods and amon eyes with 5/16 inch EHS Grade cable (triangulate the cables). Install one direct cable to the north facing stem utilizing the same hardware.

3 - Install Tree Protection Zone Fencing as shown on the Tree Location Map before any demolition and construction equipment comes on site.

Tree #19 – 8/5/14 inch DBH Bottle Brush *(Callistemon viminalis)*:

This weeping Bottlebrush will be located within the proposed security fence.

I recommend that this tree is removed because of concerns about its location and visibility.

Tree #20 – 6/5/4 inch DBH Bottle Brush:

This tree is the taller of the two Bottle Brush trees. It is in good condition and is an attractive specimen.

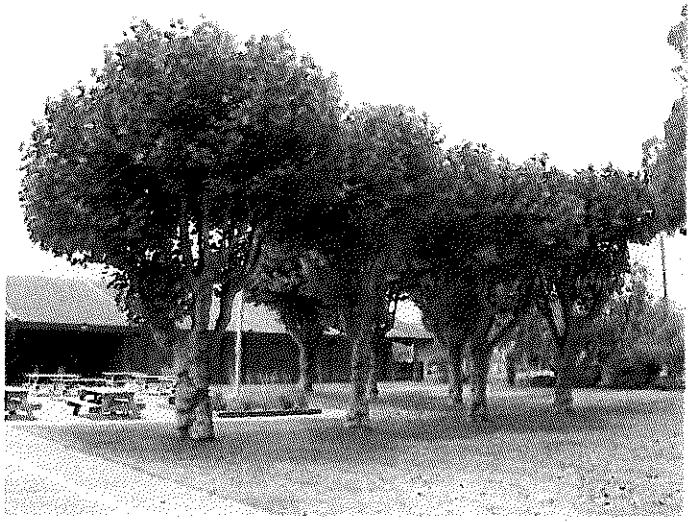
I recommend that if at all possible this tree is preserved because it is an attractive tree.

1 – I recommend that the canopy of this tree is raised high enough to provide an acceptable amount of visibility and line of sight regarding security concerns.

2 - Install Tree Protection Zone Fencing as shown on the Tree Location Map before any demolition and construction equipment comes on site.

Tree #21 – 17 inch DBH London Plane Sycamore *(Platanus x Acerifolia)*:

This tree exhibits good health and has a fair structure rating. The trunk of this tree will be setback about seven feet from the foundation footprint of the new visitation structure.



1 - I recommend that this tree is considered for preservation in the event that any required over excavation for the foundation does not encroach within six feet of the trunk. Otherwise the tree should be removed.

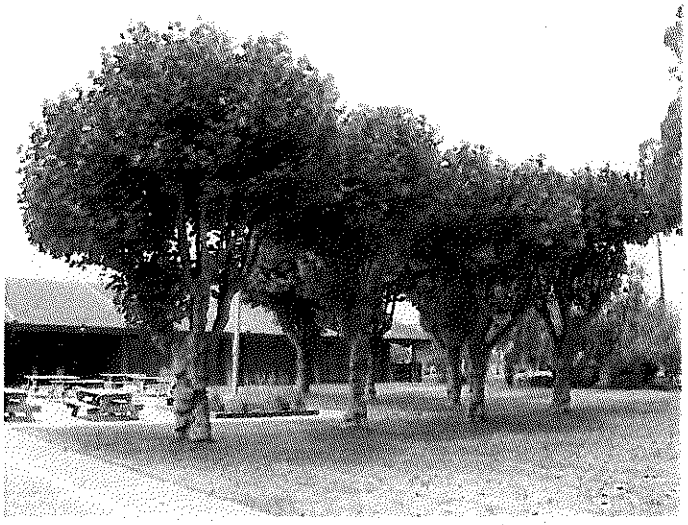
2 - Install Tree Protection Zone Fencing as shown on the Tree Location Map before any demolition and construction equipment comes on site (setback four feet from the edge of the foundation line).

3 – A root protection buffer may be required in the area between the foundation and the fence.

Tree's #22 through #27 – Six London Plane Sycamores:

17, 16, 16, 18, 16 & 23 inch DBH, respectively.

These trees are located within the footprint of the proposed visitation center.



Remove all of these trees because of their location within the building footprint.

Tree #28 – 16 inch DBH Liquidambar Tree:

This tree has a relatively good condition rating and is located about eight feet inside the proposed security fence location.

Remove this tree because of its proximity to the new security fence location.

Tree #29 – 11 inch DBH Liquidambar Tree:

This tree has a good condition rating and is located next to the outside of the proposed security fence.

Remove this tree because of its location next to the security fence footprint.

Tree's #30 through #33 – Four London Plane Sycamores:

9, 12, 13 & 18 inch DBH measurements, respectively. These trees located on the west side of the facility exhibit good health and fair structures having been pollarded.

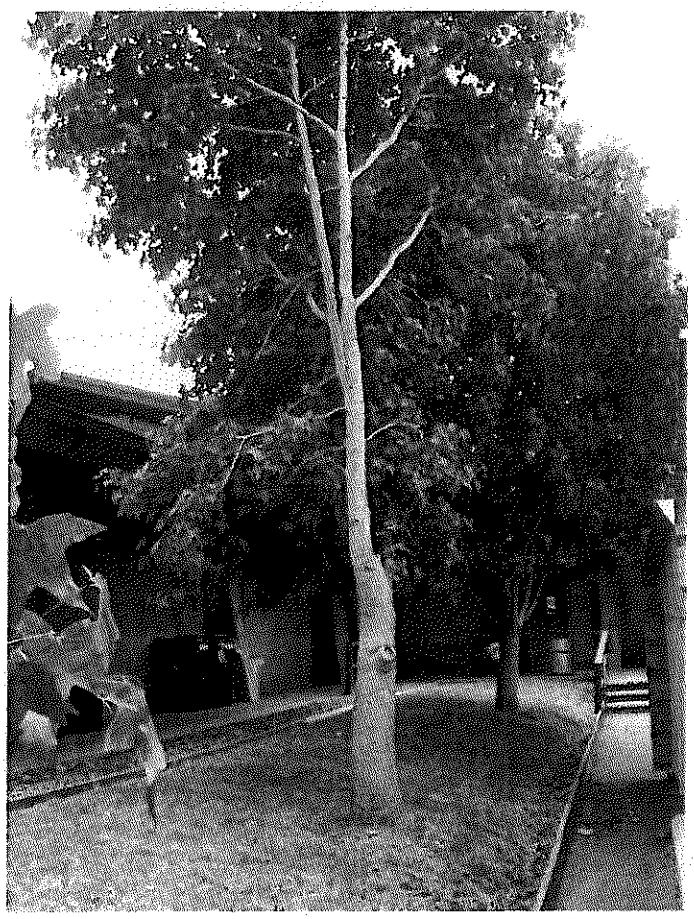
Three of these trees may have to be removed because of their proximity to the new security fence location (Tree's #30 through #32). In the event that they can be retained, they will serve to provide shade and beauty to this area.

I recommend that all of these considerations are evaluated carefully before a final decision if made. The fourth tree (Tree #33) is located near the corner of the building and is set well back from the proposed fence site. This tree could be retained if there are no compelling reasons for it to be removed as it does not appear to be in the way of any improvements.

1 – In the event that any of these trees are to be preserved, install Tree Protection Zone Fencing as shown on the Tree Location Map before any demolition and construction equipment comes on site.

Tree #34 – 8 inch DBH Liquidambar Tree:

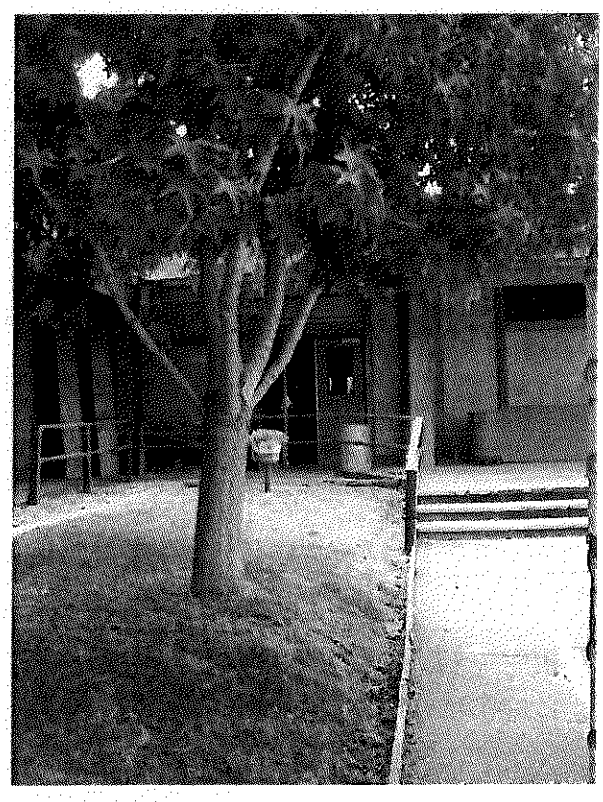
This tree is located near the apex of the northwest and southwest wings of the minimum security building. It has a very poor structure having lost its most dominant co-dominant stem in a previous storm event. The trunk of this tree is setback about three and a half feet from the adjacent asphalt parking surface.



This tree must be removed because of its compromised structure and location near the parking area which will be vulnerable to root damage over time.

Tree #35 – 7 inch DBH Liquidambar Tree:

This tree is located within three and a half feet of the asphalt parking area in the apex of northwest and southwest wings of the minimum security building.



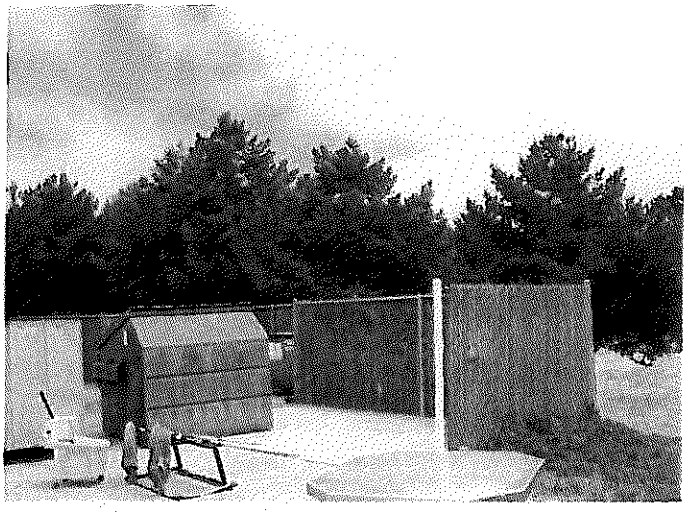
Remove this tree because of the high probability of significant infrastructure damage from root growth over time. This species is noted for its destructive root growth pattern.

Tree's #36 through #40 – Five Coast Redwood Trees:

These trees have 11, 14, 19, 18 & 20 inch DBH measurements, respectively.

The trees are located within the footprint of the proposed expanded service yard area on the east side of the facility. The Coast Redwood trees exhibit fair to poor health due to the effects of the drought.

These trees are recommended for removal because of their location within the area of proposed improvement work.



Tree #41 – 13 inch DBH Coast Redwood:

This tree exhibits fair to poor health due to the effects of the drought and will be located about seven feet back from the expanded service yard area.

This tree is recommended for removal because of its proximity to the proposed service yard area.

Tree's #42 & #43 – Two Coast Redwoods:

These trees have 11 & 23 inch DBH measurements, respectfully.

These trees exhibit fair to poor health due to the effects of the drought.

I recommend that these trees are preserved.

1 - Mulch and irrigate these trees if additional water is available for this purpose (see the notes on irrigation and mulching on page 5).

2 – Install Tree Protection Zone Fencing as shown on the Tree Location Map.

Tree's #44 & #45 – Two Coast Redwood Trees:

These trees have 21 and 32 inch DBH measurements, respectively and are located in the landscaped area that protrudes into the parking area to the north of the service yard. The trees exhibit fair health due to drought stress.

These trees will be encroached upon by the proposed expansion of the asphalt driveway surface and a new pathway.

I recommend the removal of both trees because of their locations within close proximity to proposed infrastructure changes.

Tree #46 – 20 inch DBH Coast Redwood:

This tree is also located in the landscape area that protrudes into the parking lot. The tree exhibits fair health due to drought stress and has a notable trunk distortion.

I recommend that this tree is preserved despite its odd trunk development which does not appear to be of concern at this time.

1 - Mulch and irrigate this tree if additional water is available for this purpose (see the notes on irrigation and mulching on page 5).

2 – Install Tree Protection Zone Fencing as shown on the Tree Location Map.

Tree's #47 through #53 – Seven Coast Redwood Trees:

These trees have 13, 20, 19, 19, 17, 18 & 15/8 inch DBH measurements, respectfully.

All of these trees are located within the boundary fence adjoining the eastern parking area. The trees are in fair condition due to the effects of the drought.

I recommend that all of these trees are preserved.

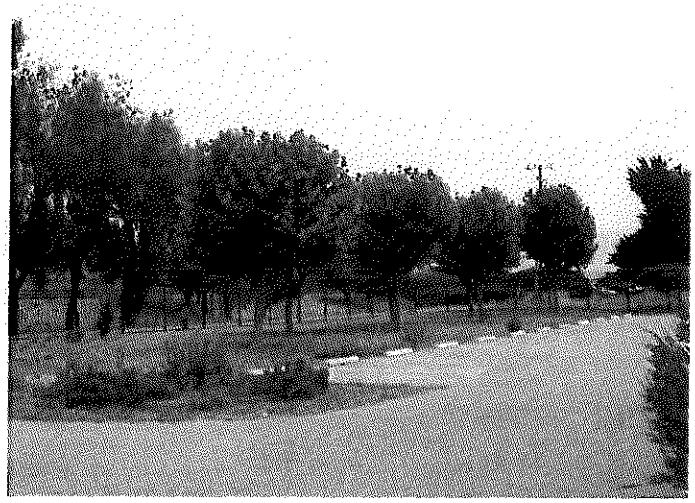
1 - Mulch and irrigate these trees if additional water is available for this purpose (see the notes on irrigation and mulching on page 5).

2 – Install Tree Protection Zone Fencing as shown on the Tree Location Map.

Tree's #54 through 75 – Twenty two London Plane Sycamores:

I estimate that the average trunk measurements for these trees approximate 14 inches diameter.

These trees are located in the two areas of turf located next to the frontage of Roundtree Lane and have not been tagged numerically as they are situated well away from proposed construction activity. The trees exhibit good health and have fair to good structure ratings.



I recommend that these trees are protected by two lines of plastic snow fencing installed next to the curbs as shown on the Tree Location Map.

Inspection Schedule:

This development site must be inspected by the project arborist before and during the construction period at the following times:

1 – Meet with the tree removal and pruning contractor to identify trees designated for removal and discuss the scope of pruning and cable installation work.

2 – Inspect this site when the Tree Protection Zone (TPZ) fences have been installed after the tree removal and pruning work has been completed and before any demolition, grading and construction work proceeds.

3 – Inspect the site any time utility, sewer line or drainage trenches encroach under the drip lines of protected trees. Provide guidance and supervision regarding root protection procedures.

4 – Inspect this site when excavation work for the construction of new building foundations, infrastructure and bio- retention areas encroach within the canopy drip lines of protected trees.

Please do not hesitate to contact me if you have any questions.

Respectfully submitted

Nigel Belton

Attachments:

- Assumptions and Limiting Conditions
- Tree Survey Chart
- Tree Location map
- ISA Pruning Standards
- Sample Tree Protection Zone notice

TREE SURVEY CHART
ROUND TREE REHABILITION CENTER
90 ROUNDTREE LANE - WATSONVILLE

#	*SHEET 1.* TREE NAME	TRUNK DIAMETER @ 54" ABOVE GRADE – (DBH)	ESTIMATED HEIGHT	ESTIMATED SPREAD	HEALTH	STRUCTURE	SUITABLE FOR PRESERVATION	RECOMMENDED FOR REMOVAL	COMMENTS
1	Coast Redwood *(Sequoia sempervirens)*	41/43 /37	60	30	3	3	X		Three trunks (co-dominant structure). Signs of initial drought stress.
2	Coast Redwood	3/8	55	25	3	2	X		Signs of initial drought stress.
3	Coast Redwood	38	50	20	2	3	X		Signs of initial drought stress.
4	Douglas Fir *(Pseudotsuga menziesii)*	16	5	20	4	3		X	Very drought stressed.
5	Douglas Fir	11	40	15	4	3		X	Very drought stressed.
6	Douglas Fir	21	60	20	4	3		X	Very drought stressed.
7	Liquidambar *(Liquidambar styraciflua)*	10/11/ 11/15	60	30	2	4		X	Located near to the footprint of the proposed administration building. Poor co-dominant structure.
8	Liquidambar	14/11/ 17	60	25	2	4		X	Located within the proposed construction footprint.
9	Nichols Eucalyptus *(Eucalyptus nicholii)*	33	80	35	2	3		X	Remove because of location inside proposed security fence.
10	Nichols Eucalyptus	47	90	55	1	3		X	Remove because of location next to proposed security fence.
11	Nichols Eucalyptus	11	80	15	4	3		X	Very poor health.
12	Nichols Eucalyptus	21/14	70	45	2	4		X	Very poor structure.
13	Nichols Eucalyptus	33	90	50	1	3	X		Recommended for pruning and support cable installation work.
14	Nichols Eucalyptus	8/5	15	15	3	2	X		A small specimen that can be retained.
15	Nichols Eucalyptus	7/8/10	25	20	4	4		X	Located within the proposed security fence footprint.
16	Nichols Eucalyptus	18/13	70	30	1	4		X	Very poor structure.

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June 23, 2015 – Revised July 6, 2015

TREE SURVEY CHART
ROUND TREE REHABILITION CENTER
90 ROUNDTREE LANE - WATSONVILLE

#	*SHEET 2.* TREE NAME	TRUNK DIAMETER @ 54" ABOVE GRADE – (DBH)	ESTIMATED HEIGHT	ESTIMATED SPREAD	HEALTH	STRUCTURE	SUITABLE FOR PRESERVATION	RECOMMENDED FOR REMOVAL	COMMENTS
17	Nichols Eucalyptus	51	80	50	1	3	X		Recommended for pruning and support cable installation work.
18	Nichols Eucalyptus	50/22	90	35	1	3	X		Recommended for pruning and support cable installation.
19	Bottle Brush *(Callistemon ssp)*	8/5/4	15	15	1	3		X	Located near the proposed security fence.
20	Bottle Brush	6/5/4	15	15	1	3	X		Setback some distance from the proposed security fence.
21	London Plane Tree *Platanus x acerifolia*	17	15	15	1	3	X		Preserve if not too significantly impacted by proposed construction.
22	London Plane Tree	17	15	15	1	3		X	Located within the footprint of the proposed visitation center.
23	London Plane Tree	16	15	15	1	3		X	Located within the footprint of the proposed visitation center.
24	London Plane Tree	16	15	15	1	3		X	Located within the footprint of the proposed visitation center.
25	London Plane Tree	18	15	15	1	3		X	Located within the footprint of the proposed visitation center.
26	London Plane Tree	16	20	15	1	3		X	Located within the footprint of the proposed visitation center.
27	London Plane Tree	23	20	15	1	3		X	Located within the footprint of the proposed visitation center.
28	Liquidambar	16	30	25	1	3		X	Located near the proposed security fence.
29	Liquidambar	11	25	25	1	3		X	Located near the proposed security fence.
30	London Plane Tree	9	25	20	1	3		?	Located near the proposed security fence. Possible candidate for preservation.

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June 23, 2015 – Revised July 6, 2015

TREE SURVEY CHART
ROUND TREE REHABILITION CENTER
90 ROUNDTREE LANE - WATSONVILLE

#	*SHEET 3.* TREE NAME	TRUNK DIAMETER @ 54" ABOVE GRADE – (DBH)	ESTIMATED HEIGHT	ESTIMATED SPREAD	HEALTH	STRUCTURE	SUITABLE FOR PRESERVATION	RECOMMENDED FOR REMOVAL	COMMENTS
31	London Plane Tree	12	25	20	2	3		?	Located near the proposed security fence. Possible candidate for preservation.
32	London Plane Tree	13	20	20	2	3		?	Located near the proposed security fence. Possible candidate for preservation.
)	London Plane Tree	18	15	15	2	3		?	Located near the corner of the building. Possible candidate for preservation.
34	Liquidambar	8	15	10	1	4		X	Badly damaged tree.
35	Liquidambar	7	20	20	1	3		X	Located near the asphalt parking area. Potential root damage in the future.
36	Coast Redwood	11	15	15	3	2		X	Located within the footprint of the proposed service area expansion.
37	Coast Redwood	14	20	20	3	2		X	Located within the footprint of the proposed service area expansion.
38	Coast Redwood	19	30	25	3	2		X	Located within the footprint of the proposed service area expansion.
39	Coast Redwood	18	30	25	3	2		X	Located within the footprint of the proposed service area expansion.
40	Coast Redwood	20	30	20	3	2		X	Located within the footprint of the proposed service area expansion.
41	Coast Redwood	13	30	15	3	2		X	Located within close proximity to the proposed service area expansion.
42	Coast Redwood	11	25	15	3	2	X		Symptoms of drought stress.
43	Coast Redwood	23	35	15	3	2	X		Symptoms of drought stress.
44	Coast Redwood	21	40	20	3	2		X	Symptoms of drought stress. Located in proposed construction footprint.
45	Coast Redwood	32	30	20	3	2		X	Symptoms of drought stress. Located in proposed construction footprint.

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June 23, 2015 – Revised July 6, 2015

TREE SURVEY CHART
ROUND TREE REHABILITION CENTER
90 ROUNDTREE LANE - WATSONVILLE

#	*SHEET 4.* TREE NAME	TRUNK DIAMETER @ 54" ABOVE GRADE – (DBH)	ESTIMATED HEIGHT	ESTIMATED SPREAD	HEALTH	STRUCTURE	SUITABLE FOR PRESERVATION	RECOMMENDED FOR REMOVAL	COMMENTS
46	Coast Redwood	20	20	20	3	2	X		Symptoms of drought stress. Located in parking lot area.
47	Coast Redwood	13	30	25	3	2	X		Symptoms of drought stress.
48	Coast Redwood	20	40	25	3	2	X		Symptoms of drought stress.
49	Coast Redwood	19	35	25	3	2	X		Symptoms of drought stress.
50	Coast Redwood	19	30	25	3	2	X		Symptoms of drought stress.
51	Coast Redwood	17	30	25	3	2	X		Symptoms of drought stress.
52	Coast Redwood	18	30	25	3	2	X		Symptoms of drought stress.
53	Coast Redwood	15/8	30	20	3	2	X		Symptoms of drought stress.
Tree's #54 To #75	22 London Plane Sycamore Trees	14	20	15	2	3	X		These trees are located in the landscape on the north side of the parking areas. The trees have not been tagged being situated well away from the proposed construction activities. Note that the dimensions and conditions shown represent average ratings for all of these trees.

- Note - Health and Structure Ratings - 1 = Best rating - 5 = Worst rating:

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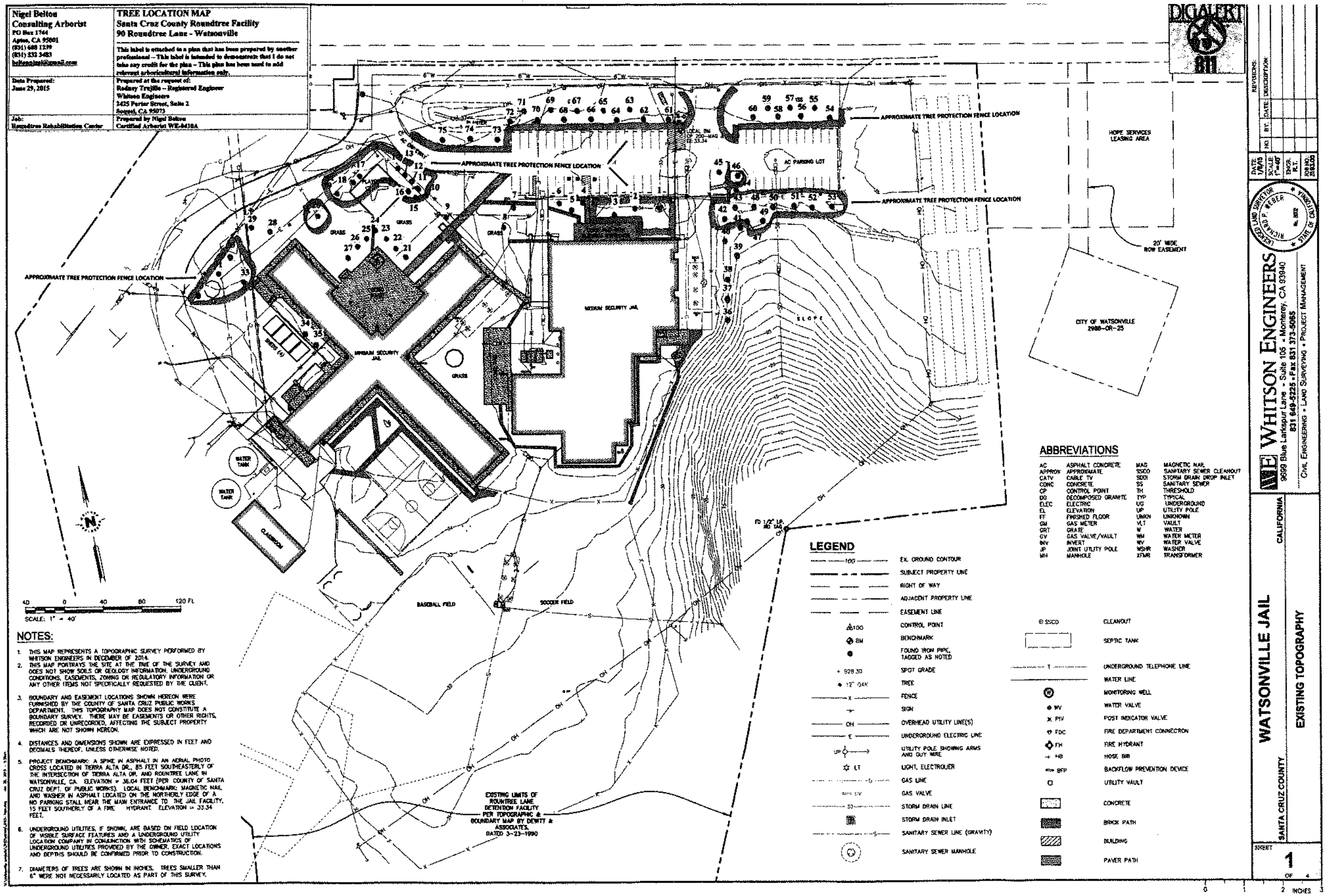
June 23, 2015 – Revised July 6, 2015


Nigel Belton
Consulting Arborist
PO Box 1744
Aptos, CA 95001
(831) 688 1239
(831) 332 3483
beltonnigel@gmail.com
TREE LOCATION MAP
Santa Cruz County Roundtree Facility
90 Roundtree Lane - Watsonville
This label is attached to a plan that has been prepared by another professional – This label is intended to demonstrate that I do not take any credit for the plan – This plan has been used to add relevant arboricultural information only.
Date Prepared:
June 29, 2015
Prepared at the request of:
Rodney Trujillo – Registered Engineer
Whitson Engineers
2425 Porter Street, Suite 2
Soquel, CA 95073
Job:
Roundtree Rehabilitation Center
Prepared by Nigel Belton
Certified Arborist WE-8410A
APPROXIMATE TREE PROTECTION FENCE LOCATION
HOPE SERVICES LEASING AREA
AC PARKING LOT
20' WIDE ROW EASEMENT
CITY OF WATSONVILLE 2988-OR-25
MEDIUM SECURITY JAIL
MINIMUM SECURITY JAIL
SHEDS (4)
GRASS
WATER TANK
CLASSROOM
BASEBALL FIELD
SOCCER FIELD
SLOPE
EXISTING LIMITS OF ROUNTREE LANE DETENTION FACILITY PER TOPOGRAPHIC & BOUNDARY MAP BY DEWITT & ASSOCIATES, DATED 3-23-1990
40 0 40 80 120 Ft
SCALE: 1" = 40'
NOTES:
1. THIS MAP REPRESENTS A TOPOGRAPHIC SURVEY PERFORMED BY WHITSON ENGINEERS IN DECEMBER OF 2014.
2. THIS MAP PORTRAYS THE SITE AT THE TIME OF THE SURVEY AND DOES NOT SHOW SOILS OR GEOLOGY INFORMATION, UNDERGROUND CONDITIONS, EASEMENTS, ZONING OR REGULATORY INFORMATION OR ANY OTHER ITEMS NOT SPECIFICALLY REQUESTED BY THE CLIENT.
3. BOUNDARY AND EASEMENT LOCATIONS SHOWN HEREON WERE FURNISHED BY THE COUNTY OF SANTA CRUZ PUBLIC WORKS DEPARTMENT. THIS TOPOGRAPHY MAP DOES NOT CONSTITUTE A BOUNDARY SURVEY. THERE MAY BE EASEMENTS OR OTHER RIGHTS, RECORDED OR UNRECORDED, AFFECTING THE SUBJECT PROPERTY WHICH ARE NOT SHOWN HEREON.
4. DISTANCES AND DIMENSIONS SHOWN ARE EXPRESSED IN FEET AND DECIMALS THEREOF, UNLESS OTHERWISE NOTED.
5. PROJECT BENCHMARK: A SPIKE IN ASPHALT IN AN AERIAL PHOTO CROSS LOCATED IN TIERRA ALTA DR., 85 FEET SOUTHEASTERLY OF THE INTERSECTION OF TIERRA ALTA DR. AND ROUNTREE LANE IN WATSONVILLE, CA. ELEVATION = 36.04 FEET (PER COUNTY OF SANTA CRUZ DEPT. OF PUBLIC WORKS). LOCAL BENCHMARK: MAGNETIC NAIL AND WASHER IN ASPHALT LOCATED ON THE NORTHERLY EDGE OF A NO PARKING STALL NEAR THE MAIN ENTRANCE TO THE JAIL FACILITY, 15 FEET SOUTHERLY OF A FIRE HYDRANT. ELEVATION = 33.34 FEET.
6. UNDERGROUND UTILITIES, IF SHOWN, ARE BASED ON FIELD LOCATION OF VISIBLE SURFACE FEATURES AND A UNDERGROUND UTILITY LOCATION COMPANY IN CONJUNCTION WITH SCHEMATICS OF UNDERGROUND UTILITIES PROVIDED BY THE OWNER. EXACT LOCATIONS AND DEPTHS SHOULD BE CONFIRMED PRIOR TO CONSTRUCTION.
7. DIAMETERS OF TREES ARE SHOWN IN INCHES. TREES SMALLER THAN 6" WERE NOT NECESSARILY LOCATED AS PART OF THIS SURVEY.
ABBREVIATIONS
AC ASPHALT CONCRETE
APPROX APPROXIMATE
CATV CABLE TV
CONC CONCRETE
CP CONTROL POINT
DG DECOMPOSED GRANITE
ELEC ELECTRIC
EL ELEVATION
FF FINISHED FLOOR
GM GAS METER
GRT GRATE
GV GAS VALVE/VAULT
INV INVERT
JP JOINT UTILITY POLE
MH MANHOLE
MAG MAGNETIC NAIL
SSCO SANITARY SEWER CLEANOUT
SDDI STORM DRAIN DROP INLET
SS SANITARY SEWER
TH THRESHOLD
TYP TYPICAL
UG UNDERGROUND
UP UTILITY POLE
UNKN UNKNOWN
VLT VAULT
W WATER
WM WATER METER
WV WATER VALVE
WSHR WASHER
XFMR TRANSFORMER
LEGEND
EX. GROUND CONTOUR
SUBJECT PROPERTY LINE
RIGHT OF WAY
ADJACENT PROPERTY LINE
EASEMENT LINE
CONTROL POINT
BENCHMARK
FOUND IRON PIPE, TAGGED AS NOTED
SPOT GRADE
TREE
FENCE
SIGN
OVERHEAD UTILITY LINE(S)
UNDERGROUND ELECTRIC LINE
UTILITY POLE SHOWING ARMS AND GUY WIRE
LIGHT, ELECTROLIER
GAS LINE
GAS VALVE
STORM DRAIN LINE
STORM DRAIN INLET
SANITARY SEWER LINE (GRAVITY)
SANITARY SEWER MANHOLE
CLEANOUT
SEPTIC TANK
UNDERGROUND TELEPHONE LINE
WATER LINE
MONITORING WELL
WATER VALVE
POST INDICATOR VALVE
FIRE DEPARTMENT CONNECTION
FIRE HYDRANT
HOSE BIB
BACKFLOW PREVENTION DEVICE
UTILITY VAULT
CONCRETE
BRICK PATH
BUILDING
PAVER PATH
WHITSON ENGINEERS
9699 Blue Larkspur Lane - Suite 105 - Monterey, CA 93940
831 649-5225 - Fax 831 373-5065
CIVIL ENGINEERING - LAND SURVEYING - PROJECT MANAGEMENT
WATSONVILLE JAIL
SANTA CRUZ COUNTY
CALIFORNIA
EXISTING TOPOGRAPHY
SHEET 1 OF 4
REVISIONS:
NO. BY: DATE: DESCRIPTION:
DATE: 1/8/15
SCALE: 1"=40'
ENGR. R.T.
LICENSED LAND SURVEYOR RICHARD P. WEBER STATE OF CALIFORNIA
DIGALERT 811
0 1 2 INCHES 3

Assumptions and limiting Conditions

1. Any legal description given by the appraiser/consultant is assumed to be correct. No responsibility is assumed for matters legal in character nor is any opinion rendered as to the quality of any title.

2. The appraiser /consultant can neither guarantee nor be responsible for accuracy of information provided by others.

3. The appraiser/consultant shall not be required to give testimony or to attend court by reason of this appraisal unless subsequent written arrangements are made, including payment of an additional fee for services.

4. Loss or removal of any part of this report invalidates the entire appraisal/evaluation.

5. Possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person(s) to whom it is addressed without written consent of the appraiser/consultant.

6. This report and the values expressed herein represent the opinion of the appraiser/consultant, and the appraiser's/consultant's fee is in no way contingent upon the reporting of a specified value nor upon any finding to be reported.

7. Sketches, diagrams, graphs, photos, etc in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering reports or surveys.

8. This report has been made in conformity with acceptable appraisal/evaluation/diagnostic reporting techniques and procedures, as recommended by the International Society of Arboriculture.

9. When applying any pesticide, fungicide, or herbicide, always follow label instructions.

10. No tree described in this report was climbed, unless otherwise stated. We cannot take responsibility for any defects which only could have been discovered by climbing. A full root collar inspection, consisting of excavating the soil around the tree to uncover the root collar and major buttress roots was not performed, unless otherwise stated. We cannot take responsibility for any root defects which could only have been discovered by such an inspection.

Consulting Arborist Disclosure Statement

Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce risk of living near trees. Clients may choose to accept or disregard the recommendations of the arborist, or to seek additional advice.

Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within the trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like medicine, cannot be guaranteed.

Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

Nigel Belton
ISA Certified Arborist – WE 410A

Written by: WC ISA Certification Committee
Ed Perry, Editor
John C. Britton, Chairman
Ed Brennan
Denice Froehlich
Richard W. Harris
Steve Holcomb
John M. Phillips
Fred Roth

These Standards address pruning in terms of tree growth and response. They are not intended as a training manual for pruning or climbing techniques. Tree pruning is often dangerous, with unseen hazards. Proper training in safe work practices and supervision is required for tree climbing. It is the tree worker's responsibility to exercise adequate precautions for safety. All tree maintenance must be performed in compliance with ANSI Z133.1, 1988 Safety Standards.

C. When removing a live branch, pruning cuts should be made in branch tissue just outside the branch bark ridge and collar, which are trunk tissue. *(Figure 1)* If no collar is visible, the angle of the cut should approximate the angle formed by the branch bark ridge and the trunk. *(Figure 2)*

D. When removing a dead branch, the final cut should be made outside the collar of live callus tissue. If the collar has grown out along the branch stub, only the dead stub should be removed, the live collar should remain intact, and uninjured. *(Figure 3)*

E. When reducing the length of a branch or the height of a leader, the final cut should be made just beyond (without violating) the branch bark ridge of the branch being cut to. The cut should approximately bisect the angle formed by the branch bark ridge and an imaginary line perpendicular to the trunk or branch cut. *(Figure 4)*

F. A goal of structural pruning is to maintain the size of lateral branches to less than three-fourths the diameter of the parent branch or trunk. If the branch is codominant or close to the size of the parent branch, thin the branch's foliage by 15% to 25%, particularly near the terminal. Thin the parent branch less, if at all. This will allow the parent branch to grow at a faster rate, will reduce the weight of the lateral branch, slow its total growth, and develop a stronger branch attachment. If this does not appear appropriate, the branch should be completely removed or shortened to a large lateral. *(Figure 5)*

G. On large-growing trees, except whorl-branching conifers, branches that are more than one-third the diameter of the trunk should be spaced along the trunk at least 18 inches apart, on center. If this is not possible because of the present size of the tree, such branches should have their foliage thinned 15% to 25%, particularly near their terminals. *(Figure 6)*

H. Pruning cuts should be clean and smooth with the bark at the edge of the cut firmly attached to the wood.

I. Large or heavy branches that cannot be thrown clear, should be lowered on ropes to prevent injury to the tree or other property.

J. Wound dressings and tree paints have not been shown to be effective in preventing or reducing decay. They are therefore not recommended for routine use when pruning.

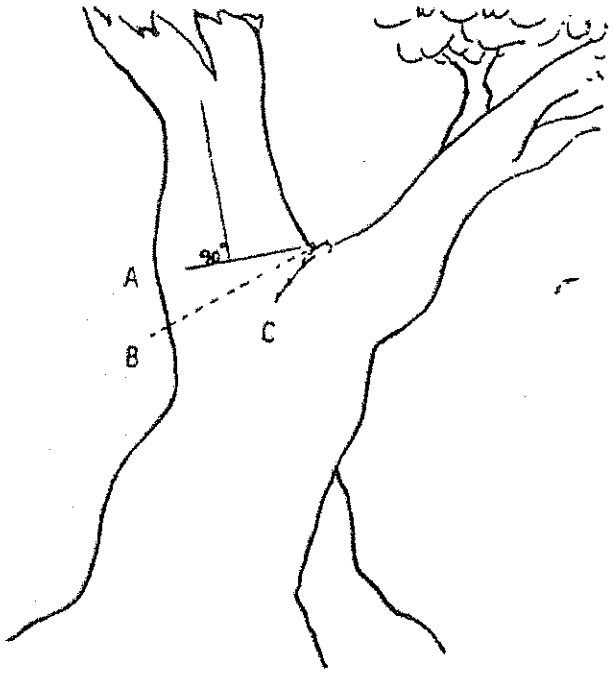


FIGURE 4. *In removing the end of a limb to a large lateral branch, the final cut is made along a line that bisects the angle between the branch bark ridge and a line perpendicular to the limb being removed. Angle AB is equal to Angle BC.*

FIGURE 5. *A tree with limbs tending to be equal-sized, or codominant. Limbs marked B are greater than ¾ the size of the parent limb A. Thin the foliage of branch B more than branch A to slow its growth and develop a stronger branch attachment.*

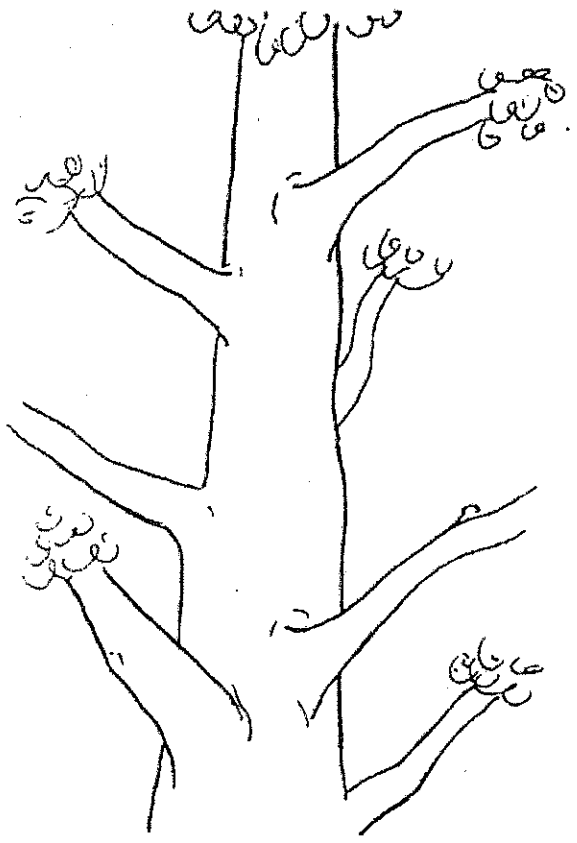


FIGURE 6. *Major branches should be well spaced both along and around the stem.*

II. Types of Pruning — Mature Trees *(continued)*

E. CROWN RAISING

Crown raising removes the lower branches of a tree in order to provide clearance for buildings, vehicles, pedestrians, and vistas. It is important that a tree have at least one-half of its foliage on branches that originate in the lower two-thirds of its crown to ensure a well-formed, tapered structure and to uniformly distribute stress within a tree.

When pruning for view, it is preferable to develop "windows" through the foliage of the tree, rather than to severely raise or reduce the crown.

III. Size of Pruning Cuts

Each of the Pruning Techniques (Section I) and Types of Pruning (Section II) can be done to different levels of detail or refinement. The removal of many small branches rather than a few large branches will require more time, but will produce a less-pruned appearance, will force fewer watersprouts and will help to maintain the vitality and structure of the tree. Designating the maximum size (base diameter) that any occasional undesirable branch may be left within the tree crown, such as ½", 1" or 2" branch diameter, will establish the degree of pruning desired.

IV. Climbing Techniques

A. Climbing and pruning practices should not injure the tree except for the pruning cuts.

B. Climbing spurs or gaffs should not be used when pruning a tree, unless the branches are more than throw-line distance apart. In such cases, the spurs should be removed once the climber is tied in.

C. Spurs may be used to reach an injured climber and when removing a tree.

D. Rope injury to thin barked trees from loading out heavy limbs should be avoided by installing a block in the tree to carry the load. This technique may also be used to reduce injury to a crotch from the climber's line.

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Consulting Arborist Disclosure Statement

Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce risk of living near trees. Clients may choose to accept or disregard the recommendations of the arborist, or to seek additional advice.

Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within the trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like medicine, cannot be guaranteed.

Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

Nigel Belton
ISA Certified Arborist – WE 410A

C. When removing a live branch, pruning cuts should be made in branch tissue just outside the branch bark ridge and collar, which are trunk tissue. *(Figure 1)* If no collar is visible, the angle of the cut should approximate the angle formed by the branch bark ridge and the trunk. *(Figure 2)*

D. When removing a dead branch, the final cut should be made outside the collar of live callus tissue. If the collar has grown out along the branch stub, only the dead stub should be removed, the live collar should remain intact, and uninjured. *(Figure 3)*

E. When reducing the length of a branch or the height of a leader, the final cut should be made just beyond (without violating) the branch bark ridge of the branch being cut to. The cut should approximately bisect the angle formed by the branch bark ridge and an imaginary line perpendicular to the trunk or branch cut. *(Figure 4)*

F. A goal of structural pruning is to maintain the size of lateral branches to less than three-fourths the diameter of the parent branch or trunk. If the branch is codominant or close to the size of the parent branch, thin the branch's foliage by 15% to 25%, particularly near the terminal. Thin the parent branch less, if at all. This will allow the parent branch to grow at a faster rate, will reduce the weight of the lateral branch, slow its total growth, and develop a stronger branch attachment. If this does not appear appropriate, the branch should be completely removed or shortened to a large lateral. *(Figure 5)*

G. On large-growing trees, except whorl-branching conifers, branches that are more than one-third the diameter of the trunk should be spaced along the trunk at least 18 inches apart, on center. If this is not possible because of the present size of the tree, such branches should have their foliage thinned 15% to 25%, particularly near their terminals. *(Figure 6)*

H. Pruning cuts should be clean and smooth with the bark at the edge of the cut firmly attached to the wood.

I. Large or heavy branches that cannot be thrown clear, should be lowered on ropes to prevent injury to the tree or other property.

J. Wound dressings and tree paints have not been shown to be effective in preventing or reducing decay. They are therefore not recommended for routine use when pruning.

II. Types of Pruning — Mature Trees *(continued)*

E. CROWN RAISING

Crown raising removes the lower branches of a tree in order to provide clearance for buildings, vehicles, pedestrians, and vistas. It is important that a tree have at least one-half of its foliage on branches that originate in the lower two-thirds of its crown to ensure a well-formed, tapered structure and to uniformly distribute stress within a tree.

When pruning for view, it is preferable to develop "windows" through the foliage of the tree, rather than to severely raise or reduce the crown.

III. Size of Pruning Cuts

Each of the Pruning Techniques (Section I) and Types of Pruning (Section II) can be done to different levels of detail or refinement. The removal of many small branches rather than a few large branches will require more time, but will produce a less-pruned appearance, will force fewer watersprouts and will help to maintain the vitality and structure of the tree. Designating the maximum size (base diameter) that any occasional undesirable branch may be left within the tree crown, such as ½", 1" or 2" branch diameter, will establish the degree of pruning desired.

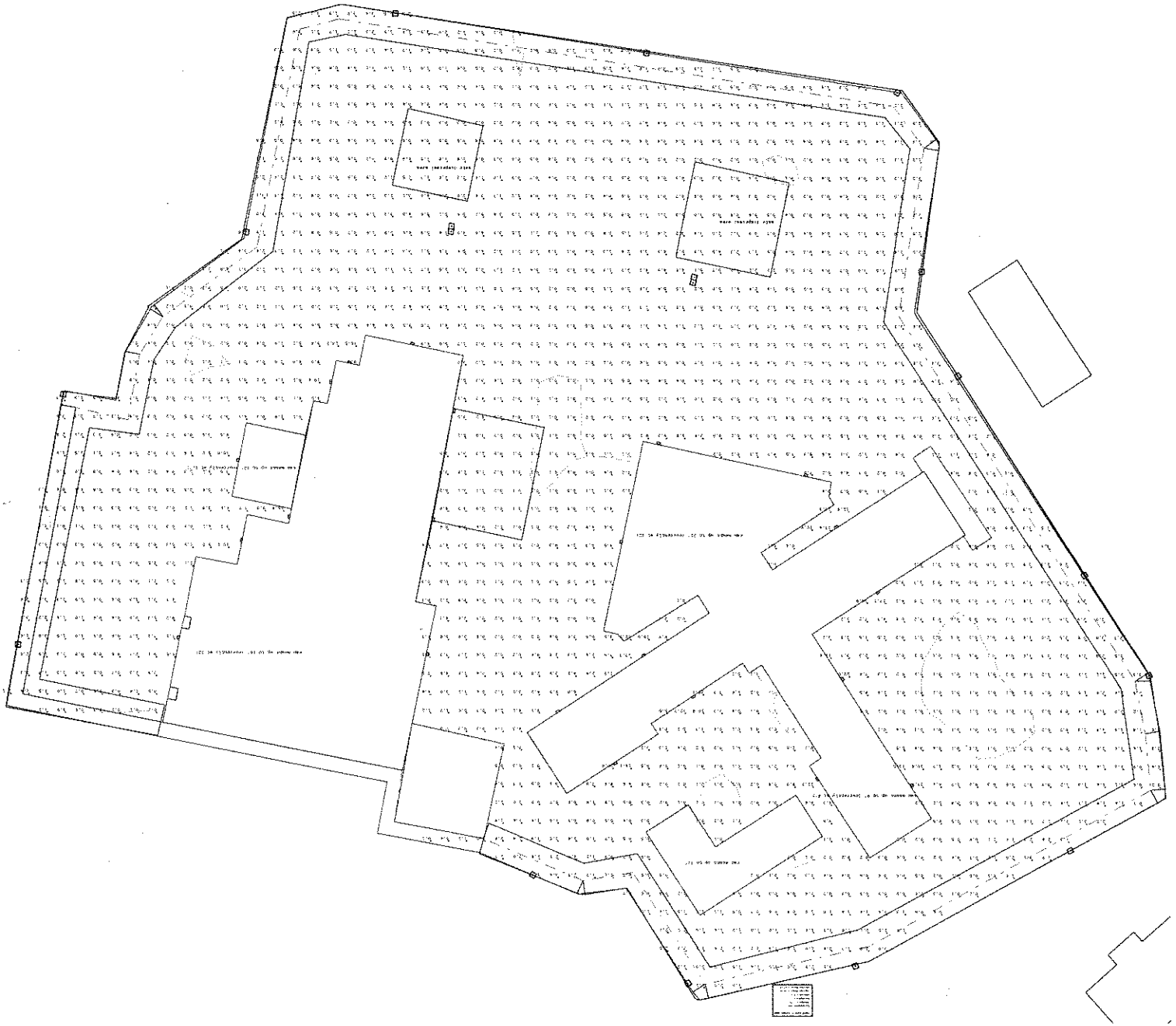
IV. Climbing Techniques

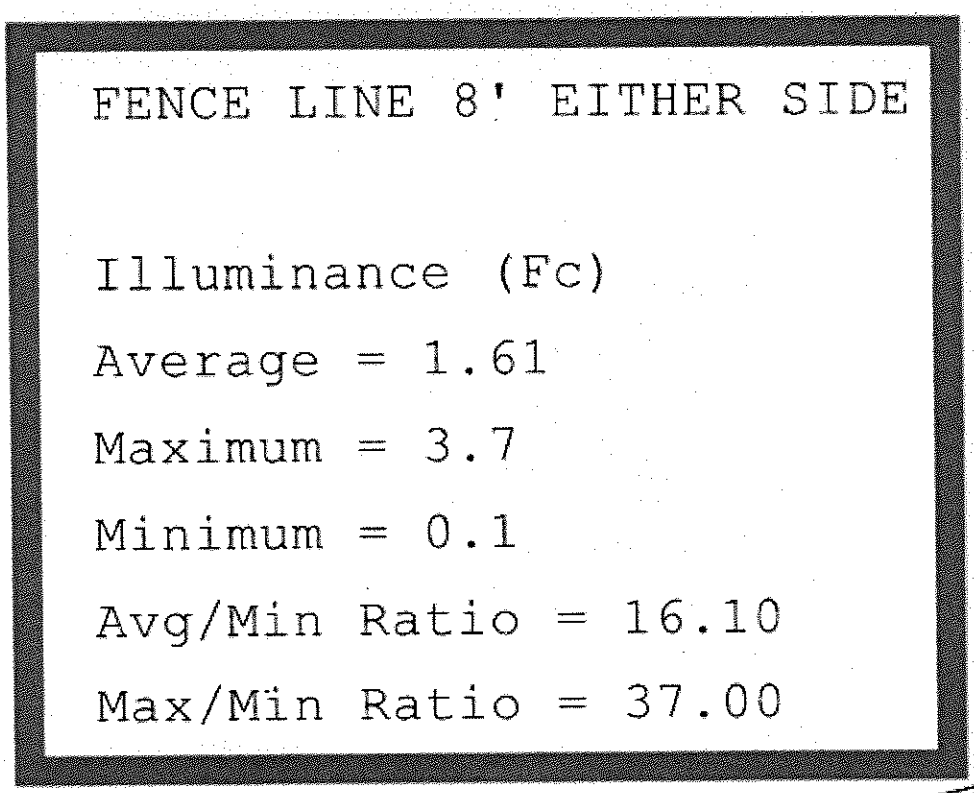
A. Climbing and pruning practices should not injure the tree except for the pruning cuts.

B. Climbing spurs or gaffs should not be used when pruning a tree, unless the branches are more than throw-line distance apart. In such cases, the spurs should be removed once the climber is tied in.

C. Spurs may be used to reach an injured climber and when removing a tree.

D. Rope injury to thin barked trees from loading out heavy limbs should be avoided by installing a block in the tree to carry the load. This technique may also be used to reduce injury to a crotch from the climber's line.





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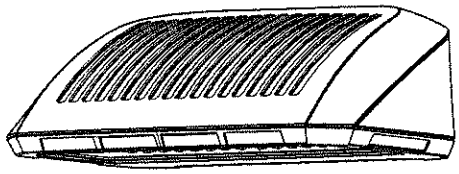
LED Wall Sconce 161

High performance and integrated style, all in one luminaire



DESIGNLIGHTS CONSORTIUM

c UL us

Project:

Location:

Catalog No:

Fixture Type:

Mfg: Qty:

Notes:

PHILIPS GARDCO, LED WALL SCONCE 161

The Philips Gardco LED Wall Sconce 161 is an enlarged and enhanced version of the 121, providing performance capability up to that of a 400W metal halide luminaire, while using considerably less energy.

Ordering guide

example: 161-CWL-2-70LA-6435-CW-UNIV-BRP

Prefix		Distribution	Wattage	LED Type	Voltage	Finish	Options
161-CWL	Sconce 161 LED	**2** IES Type 2 distribution	**350mA**	**CW** 5700°K 70 CRI	**120**	**BRP** Bronze	**F**[2] Fusing
161-MR	161 with motion response (120V or 277V only)	**3** IES Type 3 distribution	**70LA-6435** 2 LED arrays, 70W	**NW** 4000°K 70 CRI	**208**	**BLP** Black	**PCB**[2] Button photocell (not available with 161-DCC)
161-DCC[1]	161 with dual circuit control	**4** IES Type 4 distribution	**110LA-9635** 2 LED arrays, 110W	**WW** 3000°K 70 CRI	**240**	**NP** Natural	
161-DIM	161 with 0-10V dimming controlled by others		**530mA**		**277**	**WP** White	**DL** Diffusing lens
161-APD	161 with automatic profile dimming (120V thru 277V ONLY)		**110LA-6453** 2 LED arrays, 110W		**347**	**OC** Optional color (specify optional color or RAL ex: OC-LGP or RAL7024)	**WS** Surface mount conduit feed junction box
161-APD-MRI	161 with automatic profile dimming and motion response override – integrated motion sensor (120V or 277V ONLY)		**170LA-9653** 2 LED arrays, 170W		**480**		
			700mA		**UNIV** 120-277V AC		
			150LA-6470 2 LED arrays, 150W		**HVU** 347-480V AC		
			220LA-9670 2 LED arrays, 220W			**SC** Special color (specify, must supply color chip)	

Footnotes:

[1] For luminaires with input voltages above 277V (347, 480 or HVU) the 161-DCC is available with 110LA-9635, 170LA-9653 and 220LA-9670 LED wattages only.

[2] Available 120-277V only. Provide specific input voltage.

Accessories (order separarately)

- **FS1R-100** – MR hand held programmer (For use with 'MR' motion response when field programming is required). If desired, only one is needed per job.

Features

- Complements the 121 wall sconce
- Perfect companion to Philips Gardco PureForm site and area luminaires
- Type 2, 3, and 4 optical distributions available
- Full cutoff performance minimizes glare and light trespass
- 10kA surge protection provided standard, meeting ANSI C62.41.2

Benefits

- Exceptional performance can reduce pole requirements on a site
- Motion response and control options available for additional energy savings
- Performance equivalent to 400W HID while utilizing less energy

Description

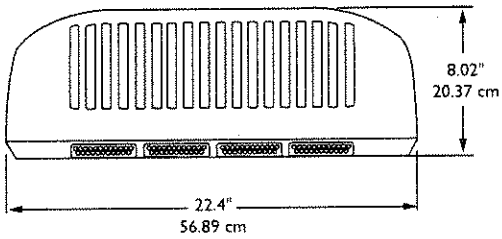
- **Housing:** Die cast housing
- **Finish:** Painted finish only
- **Lens:** Light engines will be sealed IP66 (in downlight application only). Tempered flat glass and diffuse glass lens option
- **Mounting:** Wall mounted only
- **Supply connection:** 90°C supply wire minimum (supplied by others)
- **Driver:** 120-277VAC and 347-480VAC non-class 2, constant current driver 350mA and 530mA, 700mA 0-10VDC dimming
- **Light engine:** LEDgine 32, 48 LEDs. LEDgine optics - acrylic. IES distributions - 2, 3, and 4. 0% uplight (full cut-off).
- **Agency approvals:** UL/CUL listed for wet locations when mounted in the downlight position. All 161 luminaires equipped with NW or CW are DesignLights Consortium® qualified.

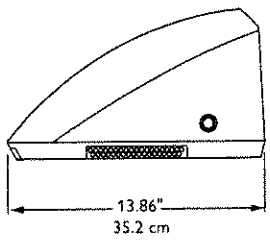
PHILIPS GARDCO

LED Wattage and Lumen Values

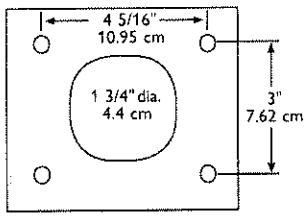
Ordering Code	Average System Watts[1]	LED Current (mA)	LED Quantity - Dual LED Arrays		LED Selection	Luminaire Initial Absolute Lumens		
			Per LED Array	Total LEDs		TYPE 2	TYPE 3	TYPE 4
70LA-6435	74.4	350	32	64	NW	6,815	7,105	6,890
110LA-9635	110.0	350	48	96	NW	10,029	10,469	10,171
110LA-6453	106.8	530	32	64	NW	9,565	9,972	9,670
170LA-9653	158.0	530	48	96	NW	14,061	14,532	14,181
150LA-6470	142.0	700	32	64	NW	11,957	12,466	12,087
220LA-9670	210.0	700	48	96	NW	17,509	18,103	17,822

Dimensions





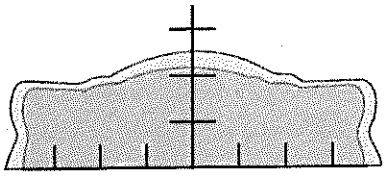
Approximate luminaire weight – 40lbs (18.15kg)



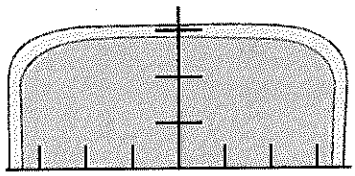
Mounting plate and bolt pattern

Note: Mounting plate center is located in the center of the luminaire width and 3.5" (8.89cm) above the luminaire bottom (lens down position). Splices must be made in the J-box (by others). Mounting plate must be secured by max. 5/16" (.79cm) diameter bolts (by others) structurally to the wall.

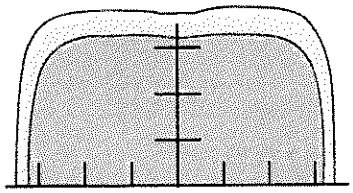
Distribution Options



Type 2



Type 3



Type 4

LED Performance

Predicted Lumen Depreciation Data[4]		
Ambient Temperature °C	Driver mA	L_{70} Hours[5]
25 °C	350 mA	180,000
	530 mA	150,000
	700 mA	120,000
40 °C	350 mA	170,000
	530 mA	130,000
	700 mA	100,000

Footnotes:

[3] Wattage may vary by +/- 8% due to LED manufacturer forward volt specification and ambient temperature. Wattage shown is average for 120V through 277V input. Actual wattage may vary by an additional +/- 10% due to actual input voltage.

[4] Predicted performance derived from LED manufacturer's data and engineering design estimates.

[5] L_{70} is the predicted time when LED performance depreciates to 70% of initial lumen output.

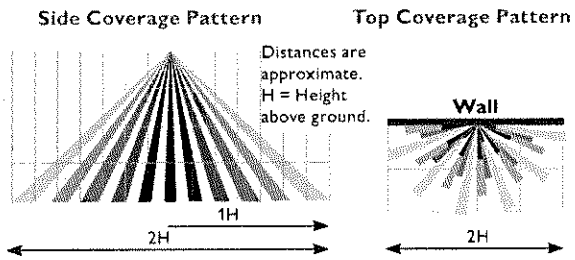
Luminaire Configuration Information

- **161-CWL:** 161 LED sconce providing constant wattage and constant light output when power to the luminaire is energized.

- **161-MR:** Luminaires include a passive infrared (PIR) motion sensor, WattStopper® FSP-211 equipped with an FS-L3W lens, capable of detecting motion within 20 feet of the sensor, 180° around the luminaire, when placed at a 20 foot mounting height, and mounted on a wall. Available in 120V or 277V input only. Motion sensor off state power is 0.0 watts.

  In Motion Response (MR) luminaires, when no motion is detected for 10 minutes, the Motion Response system reduces the wattage by 90%, to 10% of the normal constant wattage, reducing the light level accordingly. When motion is detected by the PIR, the luminaire returns to full wattage and full light output. Dimming on low is factory set to 10% with duration set at 10 minutes.

  The approximate motion sensor coverage pattern is as shown below.



- **FS1R-100 Wireless Remote Programming Tool:**
  The FS1R-100 Remote Programming Tool accessory permits adjustment of 161-MR sensor settings, including duration and dimming level on low, without the need to connect any wires to the luminaire.

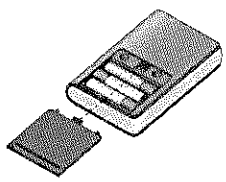
  The FS1R-100 Wireless IR Programming Tool is a handheld tool for setup and testing of WattStopper FSP-211. It provides wireless access to the FSP-211 sensors for setup and parameter changes.

  The FS1R-100 display shows menus and prompts to lead you through each process. The navigation pad provides a familiar way to navigate through the customization fields.

  Within a certain mounting height of the sensor, the FS1R-100 allows modification of the system without requiring ladders or tools simply with a touch of a few buttons.

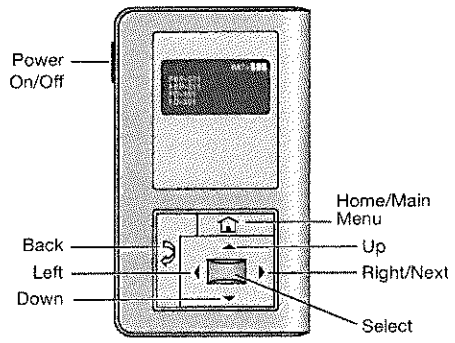
  The FS1R-100 IR transceiver allows bi-directional communication between the FSP-211 and the FS1R-100 programming tool . Simple menu screens let you see the current status of the system and make changes. It can change FSP-211 sensor parameters such as high/low mode, sensitivity, time delay, cut off and more. With the FS1R-100 you can also establish and store FSP-211 parameter profiles.

  The FS1R-100 operates on three standard 1.5V AAA Alkaline batteries or three rechargeable AAA NiMH batteries. The battery status displays in the upper right corner of the display. Three bars next to BAT= indicates a full battery charge. A warning appears on the display when the battery level falls below a minimum acceptable level. To conserve battery power, the FS1R-100 automatically shuts off 10 minutes after the last key press.



You navigate from one field to another using (up) or (down) arrow keys. The active field is indicated by flashing (alternates between yellow text on black background and black text on yellow background.)

Once active, use the Select button to move to a menu or function within the active field. Value fields are used to adjust parameter settings. They are shown in "less-than/greater-than" symbols: <value>. Once active, change them using (left) and (right) arrow keys. In general the up key increments and the down key decrements a value. Selections wrap-around if you continue to press the key beyond maximum or minimum values. Moving away from the value field overwrites the original value. The Home button takes you to the main menu. The Back button can be thought of as an undo function. It takes you back one screen. Changes that were in process prior to pressing the key are lost.



More information on the FS1R-100 Remote Programming Tool is available at wattstopper.com.

The FS1R-100 Wireless Remote Programming Tool can be used to adjust sensor settings on 161-MR luminaires ONLY. It cannot be used to adjust sensor settings on the 161-APD-MRI.

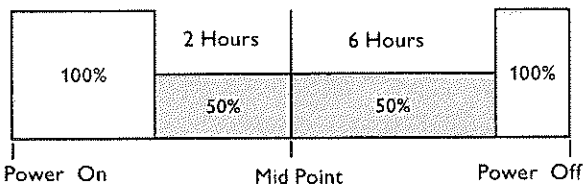
- **161-DCC:** 161 LED sconce provided with dual circuiting, permitting separate switching of each LED array. Note, for luminaires with input voltages above 277V (347, 480 or HVU) the 161-DCC is available with 110LA-9635, 170LA-9653 and 220LA-9670 LED wattages only.

- **161-DIM:** 161 LED sconce provided with 0-10V dimming for connection to a control system provided by others.

- **161-APD:** 161 LED sconces with Automatic Profile Dimming, are provided with a programmable driver, programmed to go to 50% power, 50% light output two (2) hours prior to night time mid-point and remain at 50% for six (6) hours after night time mid-point. Mid-point is continuously recalculated by the programmable driver based on the average mid-point of the last two full night cycles. Short duration cycles, and power interruptions are ignored and do not affect the determination of mid-point.

  161-APD is available in 120V through 277V input only.

APD Dimming Profile:



Luminaire Configuration Information

- **161 - APD- MRI:** 161 wall sconce with Automatic Profile Dimming and Motion Response Override (with integral motion sensor) combines the benefits of both automatic profile dimming and motion response. The luminaire will dim to 50% power, 50% light output, per the dimming profile shown for the 161-APD. If motion is detected during the time that the luminaire is operating at 50%, the luminaire returns to 100% power and light output. The luminaire remains on high until no motion is detected for the duration period, after which the luminaire returns to low. Duration period is factory set at 10 minutes.
  APD-MRI luminaires are available with 120V or 277V input voltages only.
  APD-MRI luminaires use the identical motion sensor as MR luminaires.

Additional Specifications

General Description

The Philips Gardco LED Wall Sconce 161 is an enlarged and enhanced version of the 121, providing performance capability up to that of a 400W metal halide luminaire, while using considerably less energy.

Housing

Housing constructed of die-cast aluminum.

IP Rating

LED light engine rated IP66 (in downlight application only).

Optical Systems

IES Type 2, 3 and 4 distributions available. 0% uplight (full cut-off).

Listings

UL/CUL listed for wet locations when mounted in the downlight position. All 161 luminaires equipped with NW or CW are DesignLights Consortium® qualified.

Finish

Each luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) textured polyester powdercoat finish. Standard colors are as listed. Consult factory for specs on custom colors.

Warranty

161 Luminaires feature a 5 year limited warranty. LED luminaires with LED arrays feature a 5 year limited warranty covering the LED arrays. LED drivers are covered by a 5 year limited warranty. PIR sensors carry a 5 year limited warranty from the sensor manufacturer.

Philips Lighting Company
200 Franklin Square Drive
Somerset, NJ 08873
Phone: 855-486-2216

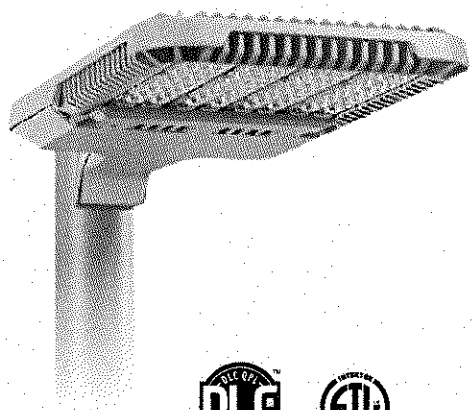
Philips Lighting Company
281 Hillmount Road
Markham ON, Canada L6C 2S3
Phone: 800-668-9008

PHILIPS

GARDCO

Site & Area

EcoForm



Project:

Location:

Cat.No.

Type:

City:

Notes:

EcoForm combines economy with performance in an LED area luminaire. Capable of delivering up to 20,000 lumens or more in a compact, low profile housing, EcoForm offers a new level of customer value. EcoForm features an innovative retrofit arm kit, simplifying site conversions to LED by eliminating the need to drill additional holes in most existing poles. Integral control systems, including motion response and wireless controls are available for further energy savings during off peak hours.

Ordering guide

example: ECF-APD-MRO-1-4-75LA-NW-120-NP-LF

Prefix	Controls	Mounting	Optics	LED Wattage	Color Temp	Voltage	Finish	Options
ECF EcoForm	**—** Standard luminaire (leave blank) **DIM** 0-10V Dimming **APD**[1] Auto Profile Dimming **APD-MRO**[2] Auto Profile Dimming and Motion Response Override pole mounted motion sensor **APD-MRI**[2,3] APD with Motion Response Override luminaire sensor **MRI**[2,3] Motion Response at 50% low luminaire sensor **MR50**[2] Motion Response at 50% low, pole mounted sensor LimeLight Wireless Controls **LLC2**[1,5] #2 lens for 8-15' mounted heights **LLC3**[1,5] #3 lens for 15-25' mounted heights **LLC4**[1,5] #4 lens for 25-40' mounted heights	**1** Standard **2** 2@180 **2@90** 2@90 **3** 3@90 **3@120** 3@120 **4** 4@90 **WS** Wall mount including surface conduit rear entry permitted **MA** Mast Arm Fitter (requires 2-3/8" O.D. Mast Arm)	**2** Type 2 **3** Type 3 **4** Type 4 **5** Type 5	530 mA **55LA-3253**[1] **75LA-4853** **100LA-6453** 700mA **70LA-3270** **105LA-4870** **135LA-6470** 1050mA **105LA-321A**[1] **160LA-481A** **215LA-641A**	**CW** Cool White 5,700K 70CRI (nominal) **NW** Neutral White 4,000K 70CRI (nominal) **WW**[4] Warm White 3,000K 70CRI (nominal)	**120** 120V **208** 208V **240** 240V **277** 277V **347** 347V **480** 480V **UNV** 120-277V 50hz/60hz **HVU** 347-480V 50hz/60hz	**BRP** Bronze Paint **BLP** Black Paint **WP** White Paint **NP** Natural Paint **OC** Optional Color Specify optional color or RAL (ex: OC-LGP or OC-RAL7024) **SC** Special color Specify, must supply color chip Requires factory quote.	**TL** Tool-Less entry and driver removal hardware **TB**[3] Terminal Block **IS**[6] Internal Shield **LF**[7] Line Fusing **LFC**[7] Line Fusing for Canada **PC**[5,7,8] Receptacle with Photocell (Includes PCR5) **PCB**[5,7,8] Photocell Button **PCR5**[5,11,13] Photocell Receptacle only with 2 dimming connections **PCR7**[5,12,13] Photocell Receptacle only with 2 dimming and 2 auxiliary connections **RAM** Retrofit Arm Mount kit **PTF2**[9] Pole Top Fitter for 2 3/8"- 3" Tenon **PTF3**[9] Pole Top Fitter for 3"- 3 1/2" Tenon **PTF4**[9] Pole Top Fitter for 3 1/2"- 4" Tenon **RPA**[10] Round Pole Adapter for 3"- 3.9" O.D. **BD** Bird Deterrent (field installed only)

1. Available in 120V–277V Voltages only (UNV, 120, 208, 240 & 277).
2. MR50 and APD-MRO luminaires require one motion sensor per pole, ordered separately. See page 2 for Accessories. Available in 120V or 277V only.
3. ECF-MRI requires outboarded sensor when used with Terminal Block (TB) Option.
4. Contact factory for lead times on warm white.
5. LLC2/LLC3/LLC4 Wireless Controls are not configurable with PC/PCB/PCR5/PCR7 Options See page 7-8 for more info.
6. Not configurable with Type 5 (5) Optics.
7. Not configurable with 120-277V (UNV) Voltage. Voltage must be specified.
8. Not configurable with 480V (480) Voltage.
9. Not configurable with 3@120 (3@120) Mounting
10. No adaptor required for 4" round poles. RPAs provided with Black Paint standard.
11. Works with 3-pin or 5-pin NEMA photocell/dimming device.
12. Works with 3-pin or 5-pin NEMA photocell/dimming device and auxiliary connections are not connected (for future use only).
13. If ordered with DIM, APD, MRI, MR50, APD-MRI, APD-MRO, dimming will not be connected to NEMA receptacle.

ECF EcoForm

Site & Area

EcoForm Accessories (order separately)

FS1R-100

MR hand held programmer

For use with 'MRI' motion response when field programming is required. If desired, only one is needed per job.

MS-A-120V

120V Input Area Motion Sensor

For MR50 (Motion Response) or APD-MRO (Automatic Profile Dimming with Motion Response Override)

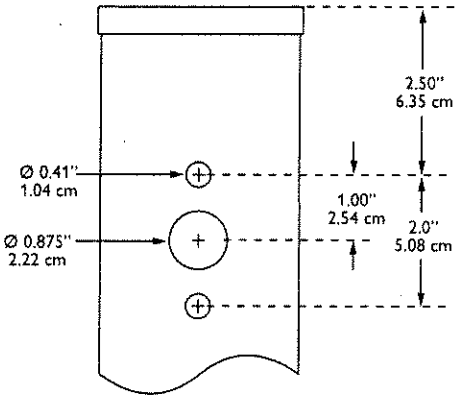
MS-A-277V

277V Input Area Motion Sensor

For MR50 (Motion Response) or APD-MRO (Automatic Profile Dimming with Motion Response Override)

Note: Motion Sensors are ordered separately, with one (1) motion sensor required per pole location for MR50 or APD-MRO luminaires. See Luminaire Configuration Information on page 5 for more details. Area motion sensor color is Arctic White. MRI and APD-MRI luminaires include an integral motion sensor.

EcoForm Drill Template (standard arm mount)



LED Wattage and Lumen Values (standard EcoForm luminaire)

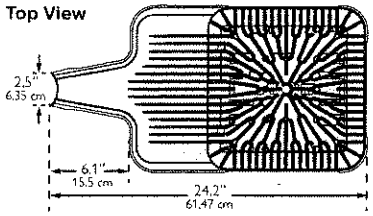
Order Code (standard units)	Array Quantity	Total LEDs	LED Current (mA)	Average System Watts[1]	LED Selection	Initial Lumens[2]			
						2 Type 2	3 Type 3	4 Type 4	5 Type 5
55LA-3253	2	32	530	52	NW	5,994 (s)	5,895 (s)	5,823 (s)	5,588 (s)
75LA-4853	3	48	530	77	NW	8,899 (s)	8,753 (s)	8,646 (s)	8,297 (s)
100LA-6453	4	64	530	103	NW	11,896 (s)	11,700	11,558	11,091
70LA-3270	2	32	700	69	NW	7,385 (s)	7,576 (s)	7,293 (s)	7,068 (s)
105LA-4870	3	48	700	104	NW	10,965 (s)	11,249 (s)	10,828 (s)	10,494 (s)
135LA-6470	4	64	700	139	NW	14,657 (s)	15,037	14,475 (s)	14,028
105LA-321A	2	32	1050	107	NW	10,199 (s)	10,458	10,072 (s)	9,767
160LA-481A	3	48	1050	158	NW	15,144 (s)	15,565	14,955 (s)	14,465
215LA-641A	4	64	1050	211	NW	20,243	20,252	19,991	19,880

1. System input wattage may vary based on input voltage, by up to +/- 10% , and based on manufacturer forward voltage, by up to +/- 8%.
2. Lumen values based on photometric tests performed in compliance with IESNA LM-79.

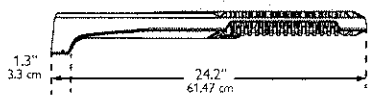
(s). Data is scaled based on tests of similar, but not identical, luminaires.

Dimensions – Standard EcoForm luminaire

Top View



Side View



EPA (ft^2/m^2)

Single	Twin (2@180)	3/4@90
0.2 / 0.019	0.5 / 0.046	0.5 / 0.046

End View

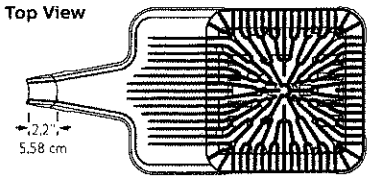
Approximate Luminaire Weight:
20 Lbs (9.07 Kg)

ECF EcoForm

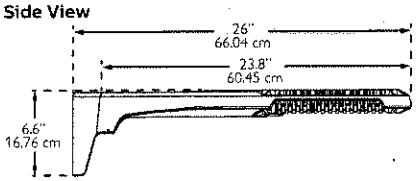
Site & Area

Dimensions – EcoForm with Retrofit Arm Mount (RAM)

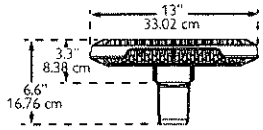
Top View



Side View



End View



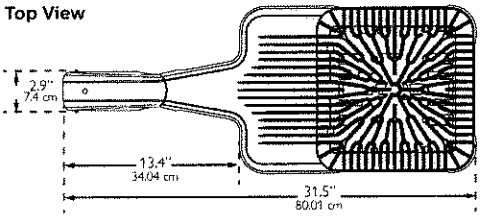
EPA (ft²/m²)

Single	Twin (2@180)	3/4@90
0.3 / 0.028	0.6 / 0.056	0.7 / 0.065

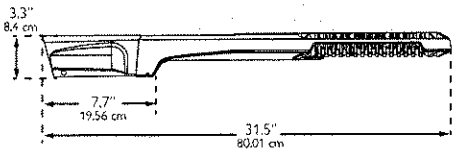
Approximate Luminaire Weight:
21 Lbs (9.53 Kg)

Dimensions – EcoForm with Mast Arm Fitter (MA)

Top View



Side View



End View

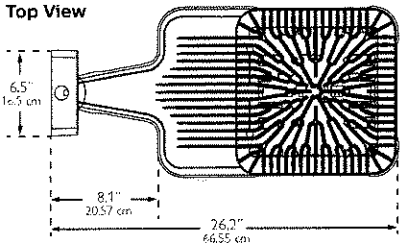
EPA (ft²/m²)

Single
0.51 / 0.047

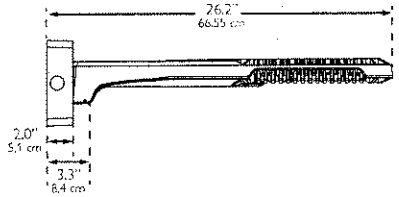
Approximate Luminaire Weight:
21.5 Lbs (9.77 Kg)

Dimensions – EcoForm with Wall Mount (WS)

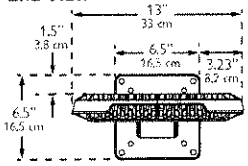
Top View



Side View



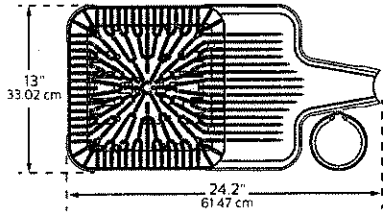
End View



Approximate Luminaire Weight:
23.36 Lbs (10.6 Kg)

Dimensions – EcoForm with LimeLight Luminaire mounted controller

Top View



Side View

End View

ECF EcoForm

Site & Area

Luminaire Configuration Information

ECF

Philips Gardco EcoForm LED standard luminaire providing constant wattage and constant light output when power to the luminaire is energized.

ECF-DIM

Philips Gardco EcoForm LED luminaire provided with 0-10V dimming for connection to a control system provided by others.

ECF-APD

Philips Gardco EcoForm LED luminaire with Automatic Profile Dimming. Luminaire is provided with a Philips DynaDimmer module, programmed to go to 50% power, 50% light output two (2) hours prior to night time mid-point and remain at 50% for six (6) hours after night time mid-point. Mid-point is continuously recalculated by the Philips DynaDimmer module based on the average mid-point of the last two full night cycles. Short duration cycles, and power interruptions are ignored and do not affect the determination of mid-point.

ECF-APD is available in 120V–277V input only.

ECF-APD Dimming Profile:

100%	2 hours	6 hours	100%
	50%	50%	

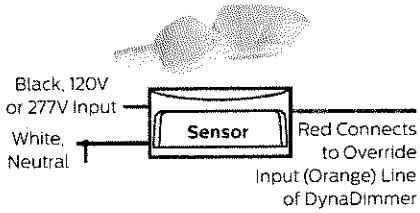
Power On **Mid Point** **Power Off**

ECF-MR50

Philips Gardco EcoForm LED luminaire with motion response, providing a 50% power reduction on low and a commensurate reduction in light output. The power and light output reduction is accomplished utilizing the Philips DynaDimmer module, programmed for a constant 50% power. Power supplied by the motion sensor connected to the override line on the DynaDimmer takes the luminaire to high setting, 100% power and light output, when motion is detected. The luminaire remains on high until no motion is detected for the motion sensor duration period, after which the luminaire returns to low. Duration period is factory set at 15 minutes, and is field adjustable from 5 minutes up to 15 minutes.

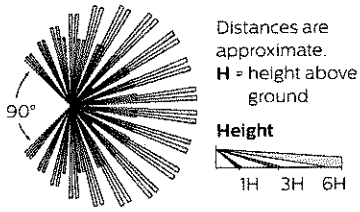
ECF-MR50 is available in 120V–277V input only to the luminaire. Motion sensors require single voltage 120V or 277V input.

The Area PIR motion sensor is the WattStopper EW-200-120-W (120V Input - MSA-120V) or the WattStopper EW-200-277-W (277V Input - MSA-277V.) One motion sensor per pole is required and is ordered separately. Area sensors require single voltage 120V or 277V input.



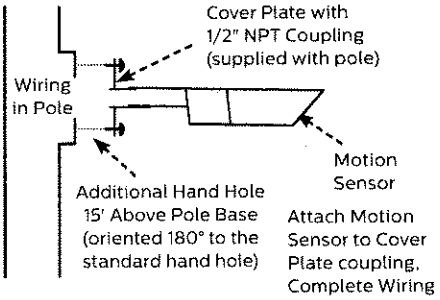
The area motion detector provides coverage equal to up to 6 times the sensor height above ground, 270° from the front-center of the sensor.

Area PIR Motion Sensor Coverage Pattern:



Motion response requires that the pole include an additional hand hole 15 feet above the pole base, normally oriented 180° to the standard hand hole. For Philips Gardco poles, order the pole with the Motion Sensor Mounting (MSM) option which includes the hand hole and a special hand hole cover plate for the sensor with a 1/2" NPT receptacle centered on the hand hole cover plate into which the motion sensor mounts. Once the motion sensor is connected to the hand hole cover plate, then wiring connections are completed in the pole. The plate (complete with motion sensor attached and wired) is then mounted to the hand hole. If poles are supplied by others, the customer is responsible for providing suitable mounting accommodations for the motion sensor in the pole.

Mounting to a Philips Gardco Pole:



ECF-APD-MRO

Philips Gardco EcoForm LED luminaire with Automatic Profile Dimming, with Motion Response Override. The ECF-APD-MRO combines the benefits of both automatic profile dimming and motion response, using the Philips DynaDimmer module. The luminaire will dim to 50% power, 50% light output, per the dimming profile shown for the ECF-APD. If motion is detected during the time that the luminaire is operating at 50%, the luminaire returns to 100% power and light output. The luminaire remains on high until no motion is detected for the duration period, after which the luminaire returns to low. Duration period is factory set at 15 minutes, and is field adjustable from 5 minutes up to 15 minutes.

Notes:

ECF-APD-MRO is available in 120V through 277V input only to luminaire. The motion sensor requires either 120V or 277V input to the motion sensor.

The ECF-APD-MRO has the same pole requirements and utilizes the same motion sensors as the ECF-MR50. The motion sensor mounts and wires identically as well. The ECF-APD-MRO utilizes the identical dimming profile as shown for the ECF-APD.

By combining the benefits of automatic profile dimming and motion response, the ECF-APD-MRO assures maximum energy savings, and insures that adequate light is present if motion is detected.

All motion sensors utilized consume 0.0 watts in the off state.

Luminaire Configuration Information (Continued)

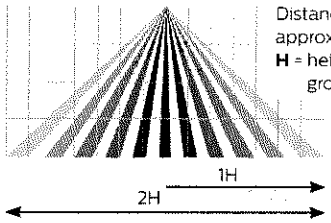
ECF-MRI

Luminaires with Motion Response include a LED driver and an integral programmable motion sensor. The motion sensor is set to a constant 50%. When motion is detected, the luminaire goes to 100%. The luminaire remains on high until no motion is detected for the motion sensor duration period, after which the luminaire returns to low. Duration period is factory set at 5 minutes. Available with 120V or 277V only.

Luminaires include a passive infrared (PIR) motion sensor, WattStopper® FSP-211 equipped with an FSP-L3 lens, capable of detecting motion within 20 feet of the sensor, 180° around the luminaire, when placed at a 20 foot mounting height, or mounted on a wall. Available in 120V or 277V input only. Motion sensor off state power is 0.0 watts.

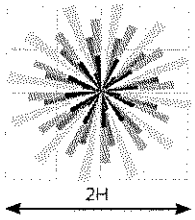
The approximate motion sensor coverage pattern is as shown below.

Side Coverage Pattern

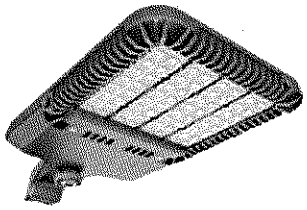


Distances are approximate.
H = height above ground

Top Coverage Pattern



ECF-APD-MRI



Luminaires with Automatic Profile Dimming and Motion Response Override combine the benefits of both automatic profile dimming and motion response. APD-MRI luminaires utilize Philips DynaDimmer. The luminaire will dim to 50% power, 50% light output, per the dimming profile shown for APD luminaires (see page 4). If motion is detected during the time that the luminaire is operating at 50%, the luminaire goes to 100% power and light output. The luminaire remains on high until no motion is detected for the duration period, after which the luminaire returns to low. Duration period is factory set at 5 minutes.

APD-MRI luminaires are available with 120V or 277V input voltages only.

APD-MRI luminaires use the identical motion sensor as MRI luminaires. See motion sensor details for ECF-MRI.

FS1R-100 Wireless Remote Programming Tool

The FS1R-100 Remote Programming Tool accessory permits adjustment of ECF-MRI and ECF-APD-MRI sensor settings, including duration and dimming level on low, without the need to connect any wires to the luminaire.

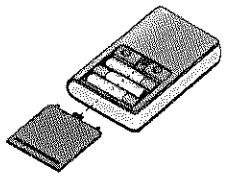
The FS1R-100 Wireless IR Programming Tool is a handheld tool for setup and testing of WattStopper FSP-211. It provides wireless access to the FSP-211 sensors for setup and parameter changes.

The FS1R-100 display shows menus and prompts to lead you through each process. The navigation pad provides a familiar way to navigate through the customization fields.

Within a certain mounting height of the sensor, the FS1R-100 allows modification of the system without requiring ladders or tools simply with a touch of a few buttons.

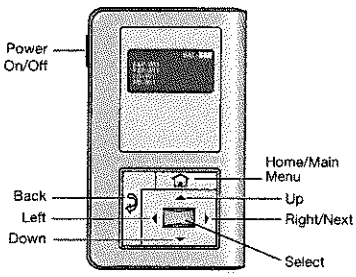
The FS1R-100 IR transceiver allows bi-directional communication between the FSP-211 and the FS1R-100 programming tool. Simple menu screens let you see the current status of the system and make changes. It can change FSP-211 sensor parameters such as high/low mode, sensitivity, time delay, cut off and more. With the FS1R-100 you can also establish and store FSP-211 parameter profiles.

The FS1R-100 operates on three standard 1.5V AAA Alkaline batteries or three rechargeable AAA NiMH batteries. The battery status displays in the upper right corner of the display. Three bars next to BAT= indicates a full battery charge. A warning appears on the display when the battery level falls below a minimum acceptable level. To conserve battery power, the FS1R-100 automatically shuts off 10 minutes after the last key press.



You navigate from one field to another using (up) or (down) arrow keys. The active field is indicated by flashing (alternates between yellow text on black background and black text on yellow background.)

Once active, use the Select button to move to a menu or function within the active field. Value fields are used to adjust parameter settings. They are shown in "less-than/greater-than" symbols: <value>. Once active, change them using (left) and (right) arrow keys. In general the up key increments and the down key decrements a value. Selections wrap-around if you continue to press the key beyond maximum or minimum values. Moving away from the value field overwrites the original value. The Home button takes you to the main menu. The Back button can be thought of as an undo function. It takes you back one screen. Changes that were in process prior to pressing the key are lost.More information on the FS1R-100 Remote Programming Tool is available at wattstopper.com.



ECF EcoForm

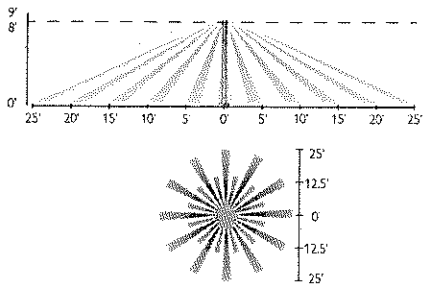
Site & Area

Luminaire Configuration Information – EcoForm with LimeLight

ECF-LLC2

EcoForm with Limelight wireless technology

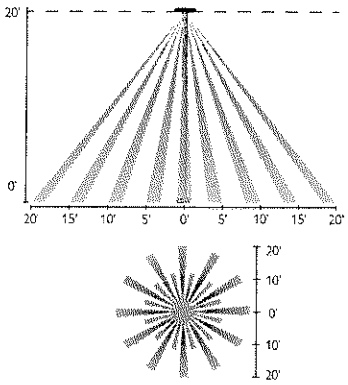
Controller pod attached to luminaire arm and includes radio, photocell and motion sensor with #2 lens for 8-15' mounting heights.



ECF-LLC3

EcoForm with Limelight wireless technology

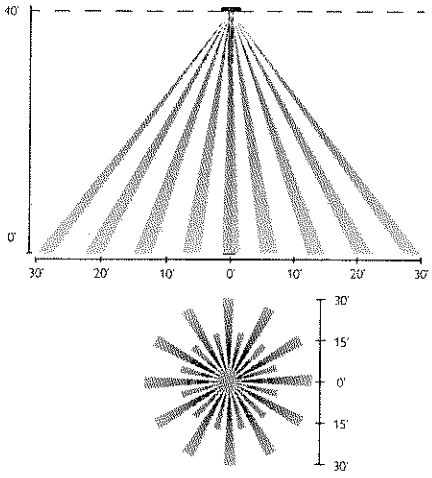
Controller pod attached to luminaire arm and includes radio, photocell and motion sensor with #3 lens for 15-25' mounting heights.



ECF-LLC4

EcoForm with Limelight wireless technology

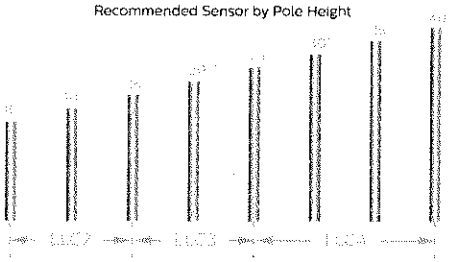
Controller pod attached to luminaire arm and includes radio, photocell and motion sensor with #4 lens for 25-40' mounting heights.



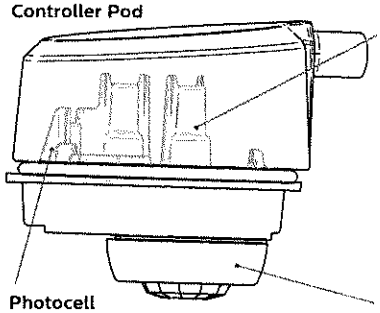
Luminaire Configuration Information – EcoForm with LimeLight

ECF-LLC(#)

With this configuration, the controller pod is mounted to the luminaire arm. One controller is required per luminaire. There are three different motion sensor configurations available. Each one corresponds to the desired mounting height that for your specific application. See motion response detection ranges below.



Controller Pod



Photocell

- Ambient light photocell on every wireless radio that averages the light levels of up to 5 controllers for an accurate reading and optimal light harvesting activity.
- Reports ambient light readings to 1500 Fc.

Wireless Radio

- 1.8 Watts max (no load draw)
- Operating voltage 102-277V RMS
- Communicates using the ZigBee protocol
- Carries out dimming commands from gateway
- Reports internal PCB temperature
- Transmission Systems Operating within the band 2400-2483.5Mhz. IEEE 802.15.4
- ROHS Compliant

Motion Response

- Three different lens configurations
- Detects motion through passive InfraRed sensing technology
- Connects directly to radio through modular jack
- Three different mounting heights and detecion ranges available

Luminaire Configuration Information – EcoForm with LimeLight (Continued)

Gateway

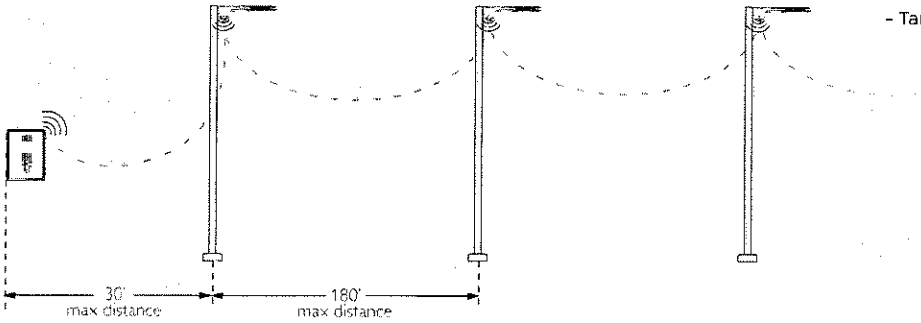
Overview: One gateway is included with the wireless controls system. The gateway opens up communication with the wireless radios installed with the EcoForm luminaires (or pole), allowing you to control your fixtures straight from the web. One LimeLight gateway can communicate with up to 800 fixtures. Typically one unit is required per parking lot.

Installation: Gateway has 4 blind threaded holes on the back side that accept 10-32 screws. Mount spacing is 10.41" across and 14.19" vertical.

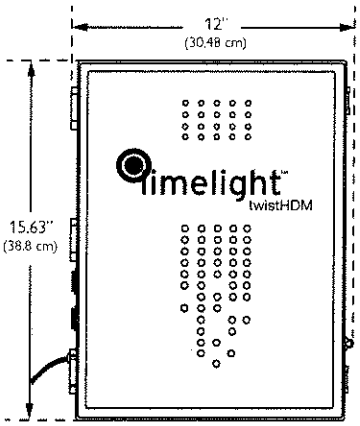
Requirements: The gateway must be mounted in a secure on-site location. The gateway requires 120V. Distance of gateway to the first radio varies upon application; contact factory. Strong internet connection required.

Specifications:

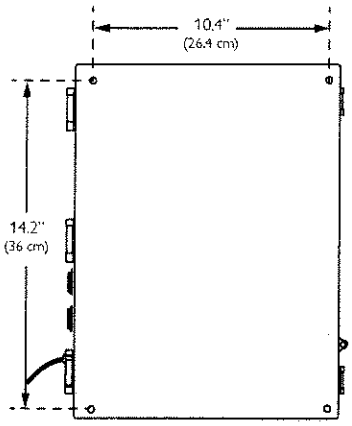
- High density RF Mesh coordinator
- Ethernet or wireless internet connection to LimeLight server
- Proprietor of software "rules of operation"
- Watertight Ethernet connections
- Highly protected, long life ac/dc power supply
- Single board, ARM compliant 520Mhz Intel computer.
- Operating Temperature -20°C to 55°C
- Tamper proof housing



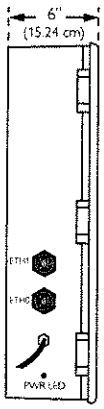
Front View



Back View



Side View



ECF EcoForm

Site & Area

Specifications

Housing

One piece die cast aluminum housing with integral arm and separate,self retained hinged, one piece die cast door frame.

IP Rating

LED light engine rated IP66.

Vibration Resistance

EcoForm with Standard Arm carries a 3G vibration rating that conforms to standards set forth by ANSI C136.31. Testing includes vibration to 3G acceleration in three axes, all performed on the same luminaire.

Electrical

Driver efficiency (>90% standard). 120-480V available (restrictions apply). Open/short circuit protection. Optional 0-10V dimming to 10% power. RoHS compliant. Surge protector standard. 10KA per ANSI/IEEE C62.41.2.

LED Board and Array

32, 48, or 64 LEDs. Color temperatures: 3000K, 4000K, 5700K +/- 250K. Minimum CRI of 70. Aluminum metal clad board. RoHS compliant.

LED Thermal Management

The housing design allows the one piece housing to provide excellent thermal management critical to long LED system life.

Energy Saving Benefits

System efficacy up to 95 lms/W with significant energy savings over Pulse Start Metal Halide luminaires. Optional control options provide added energy savings during unoccupied periods.

Wireless Controls

The LimeLight wireless Controls System includes: gateway, controller pod (with wireless radio, motion response, and photocell), and commissioning/training. LimeLight is an intelligent web-based system that operates through a high density mesh (HDM) wireless technology. Wireless radios with motion response and photocell sensors are integrated with PureForm luminaires, and enable the fixtures to communicate via the ZigBee protocol. The gateway is a mini computer that connects to the internet, and is located in a secure location. The central LimeLight database channels communication to and from the gateway, allowing data to be viewed or managed through the web-based graphical user interface (GUI). See LimeLight pages for details and technical information.

Motion Sensors

ECF-MR50, ECF-APD-MRO, ECF-MRI, ECF-APD-MRI luminaires may be specified for additional energy savings during unoccupied periods. See pages 4-6 for complete details.

Optical Systems

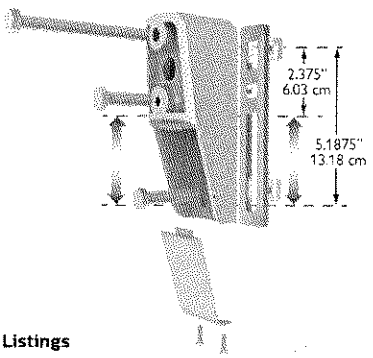
Type 2, 3, 4, and 5 distributions available. Internal Shield option mounts to LED optics and is available with Type 2, 3, and 4 distributions to control backlight.

Mounting

Standard luminaire arm mounts to 4" round poles. Square pole adapter included with every luminaire. Round Pole Adapter (RPA) required for 3-3.9" poles.

Retrofit Arm Mount

EcoForm features an innovative retrofit arm kit. When specified with the retrofit arm (RAM) option, EcoForm seamlessly simplifies site conversions to LED by eliminating the need for additional pole drilling on most existing poles. RAM will be boxed separately.



Listings

ETL/cETL listed to the UL 1598 standard, suitable for Wet Locations. Suitable for use in ambients from -40° to 40°C (-40° to 104°F). The quality systems of this facility have been registered by UL to the ISO 9001 series standards. All EcoForm luminaires equipped with NW and CW are DesignLights Consortium® qualified.

Finish

Each standard color luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) textured polyester powdercoat finish. Standard colors include bronze (BRP), black (BLP), white (WP), and natural aluminum (NP). Consult factory for specs on optional or custom colors.

Warranty

EcoForm luminaires feature a 5 year limited warranty. Philips Gardco LED luminaires with LED arrays feature a 5 year limited warranty covering the LED arrays. LED Drivers also carry a 5 year limited warranty. Motion sensors are covered by warranty for 5 years by the motion sensor manufacturer.

LED Performance

Predicted Lumen Depreciation Data[1]				
Ambient Temperature °C	**Driver** (mA)	**Calculated L_{70} Hours[1,2]**	**L_{70} Per TM-21[2,3]**	**Lumen Maintenance % @ 60,000 hours**
Up to 40 °C	Up to 1050 mA	> 350,000 hours	> 60,000 hours	97%

1. Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions.
2. L70 is the predicted time when LED performance depreciates to 70% of initial lumen output.
3. Calculated per IESNA TM21-11. Published L70 hours limited to 6 times actual LED test hours.

Philips Lighting, North America Corporation
200 Franklin Square Drive, Somerset, NJ 08873
Tel. 855-486-2216

Imported by: Philips Lighting,
A division of Philips Electronics Ltd.
281 Hillmount Rd, Markham, ON, Canada L6C 2S3
Tel. 800-668-9008

ProTech
Consulting & Engineering

1208 Main Street, Redwood City, CA 94063
P: (650) 569-4020 • F: (650) 569-4023 • E: info@protech-cal.com

Asbestos & Lead (Pb) Report

Partial Pre-Demo/Renovation Survey & Evaluation

Date:	June 4, 2015	Project No.:	338-MA15

Requested By: (Client)	Moss & Associates 100 Wonsan Drive Ocean Side, California 92058
Project:	Santa Cruz Rountree SB1022 90 Roundtree Lane Watsonville, California
Project Description:	Minimum Security Jail Modification
Service Area(s):	1. X-building (Minimum Security Building) including: • Wing A Renovation • Wing B Renovation • Wing C Demolition • Wing D Renovation 2. Ancillary Building (Medium Security Building): limited to parts of the building labeled as "areas of work" on Attachment A(7) of the bid set. 3. Classroom Building (Scheduled for demolition)

On April 22, 2015 ***ProTech Consulting & Engineering, Inc.*** performed a building survey to identify asbestos-containing materials (ACM) and presence of Lead based paint (Pb) at the subject project. The survey was conducted in an effort to comply with pre-demolition/renovation regulatory requirements.

Environmental consulting services were conducted by ProTech's licensed and accredited staff as follows:

Consultant	Discipline	Issuing Agency	Certification No.
Glen Koutz	Asbestos Lead	Cal OSHA CDPH	11-4830 2204
Emanuel Dounias	Asbestos Lead	Cal OSHA CDPH	00-2766 13059

Services Requested by Client

Asbestos Survey

Consulting services were limited by the client to the following scope of services:

- Performed a visual survey of the project to identify, document, and assess suspect asbestos-containing materials (ACM).
- Collected representative samples to confirm or rebut the presence of ACM.
- Submitted necessary samples to a certified laboratory for analysis by standard polarized light microscopy (PLM) to determine asbestos content.
- Assess the friability and abatement classification of identified ACM;
- Prepared this written report presenting an evaluation and assessment of the data.

ProTech is only responsible for the specific scope of work as stated. No other services are intended or implied.

LBP Survey

- Performed a visual survey of the project to identify, document, and assess suspect lead-based paint (LBP).
- Tested painted/coated surfaces using a calibrated X-ray fluorescence analyzer (XRF).
- Collected representative confirmational paint chip samples to confirm or rebut the presence of lead. Submitted paint chip samples to a certified laboratory for analysis.
- Prepared this written report presenting an evaluation and assessment of the data.

Results & Regulatory Assessment

Asbestos types are abbreviated as follows: Chr = Chrysotile; Amo = Amosite; Cro = Crocidolite; Tre = Tremolite; Act = Actinolite.

Confirmed Less Than 1% Asbestos Materials

	Material Description	Material, System, Location	Smpl Nos.	Approx. Quant.	Lab Result	Regulatory Assessment	
						Cal OSHA	EPA/ AQMD
X-Bldg.							
1.	White drywall, joint tape and compound	Some walls and ceilings in various areas throughout most walls and ceilings with concrete and wood	**01*, 02, 03, 04*, 05*, 06, 07**	Approximat ely 12,000 sq ft.	**Confirmed <1% Chr**	Class II Abatement	Non-Friable
2	Brown/gray window glazing	Exterior windows	**32*, 33*. 34, 35**	3500 ln ft.	**Confirmed <1% Chr**	Class II Abatement	Non-Friable

*** No asbestos detected in sample**

Non-Asbestos Materials			
No asbestos was detected in the following materials.			
	MATERIAL DESCRIPTION	MATERIAL LOCATION(S)	SAMPLE NUMBERS
		X-Bldg.	
1.	Yellow carpet mastic	Probation office	08
2	Yellow carpet mastic	Officers office	09
3	Smooth 1 x 1 ceiling tiles with brown mastic	Upper module area	10
4	Perforated 1 x 1 ceiling tile with tan mastic	Lower module area	11
5	Gray concrete pad	Upper module floor	12
6	Gray ceramic tile mortar	Kitchen splash and urinal area	13, 14
7	Brown cemticious coating	On concrete and CMU in the exterior maintenance closet, kitchen slop sink and the shower toilet area.	15, 16, 17, 18
8	Brown baseboard mastic	Dorn, recreation room/library area, module	19, 20, 21
9	Interior window glazing	Interior partician walls for class and wood panels	22,23, 24, 25, 26
10	Yellow wall panel mastic	Exterior restrooms	27
11	Brown Window caulking	Exterior rough openings of windows	28, 29, 30, 31
12	White pipe jacket	Hot water pipes throughout	36, 37
13	White take jacket	Hot water heater tank in mechanical room	38
14	Gray roof caulking	Flashing and penetrations	39, 40
15	Gray roof mastic	Small out patches throughout	41, 42
16	Brown composite shingle roof	Main roof field	43, 44, 45, 46, 47
		Ancillary Building	
17	Drywall, joint tape and compound	Most walls in kitchen area	01, 02, 03
18	Smooth 2 x 4 ceiling panels	Kitchen dish wash area	04
19	Yellow wall panel mastic	Kitchen dish wash area	05
20	Gray HVAC joint mastic	Above ceiling on ducts	06
21	Gray epoxy floor	Kitchen area	07
22	White tank insulation(foam)	Mechanical room	08
23	Drywall, joint tape and compound	Most some ceiling reception office area	09, 10, 11
24	2 x 4 ceiling panels	Most ceilings reception office area	12, 13
25	Tan baseboard mastic	Most walls reception office area	14
26	White 12 x 12 vinyl floor tile with yellow mastic	Storage closet and copy room	15
27	Gray sheet flooring	Restroom	16
28	Yellow carpet mastic	Office and hall	17, 18
29	Gray concrete caulking	At seams and all rough openings	19, 20
30	White pipe jacket	most water pipes	21, 22
31	Gray monocoat fireproofing	Throughout above ceiling areas	23, 24, 25, 26, 27,
32	Green 12 x 12 vinyl floor tile with yellow mastic	Housing corridor	28
33	Stucco	Exterior south soffit	29
		Classroom building	
34	Drywall, joint tape and compound	Walls of center build outs	01, 02, 03
35	Topping texture	Storeroom and office	04, 05
36	Fibrous wall panels with mastic	Classrooms	06, 07
37	2 x 4 ceiling panels	Throughout	08, 09
38	Yellow carpet mastic	Throughout most	10, 11
39	Gray pebble pattern sheet flooring	Kitchenette and restroom	12
40	Gray composite shingle roof	Roof field	13, 14

ACM Note: Conflicting Laboratory Results

The EPA has a specific protocol for sampling suspect asbestos building materials. In general, it recommends collecting multiple samples (often a minimum of three) of each suspect asbestos material. Multiple samples are recommended by the EPA to increase the statistical reliability of the results and to minimize the potential for field or laboratory error.

Sometimes, multiple samples representing a particular material will yield both positive and negative results. When this happens, the negative sample result(s) are superseded by the positive results. **Once a single positive sample is identified, the material represented by the sampling is treated as an asbestos-containing material.**

However, if additional sampling data, as-built plans, or other reliable data can adequately explain or confirm that area(s) that tested positive are different (not homogeneous) from areas that tested negative, this information can be used to more accurately quantify ACM and define the scope of an asbestos abatement job.

LEAD

Painted/coated surfaces were tested in the field using an X-Ray fluorescence (XRF) spectrum analyzer and/or sampled (paint chips) and submitted to a certified laboratory for analysis by atomic absorption spectroscopy (AAS). Lead paint samples fell in to 1 of 3 types - as follows:

Types of Lead Materials

LEAD TYPES	DEFINITION	LEAD CONTENT STANDARD
LBP	Lead-based paint (or material)	By XRF: 1 mg/cm² or greater By Paint Chip: 0.5 weight % or 5,000 mg/kg (at or above)
LCM	Lead containing material (or paint)	By XRF: <1 mg/cm² By Paint Chip: Below 0.5 wt % of 5,000 mg/kg
ND	No lead detected	By XRF: Requires paint chip confirmation By Paint Chip: No lead Detected or <0.006 wt %

Lead-Based Paint (LBP) – By XRF

XRF READINGS	• **14 (fourteen)** XRF readings tested positive for lead-based paint/coating (see XRF report).	
SUMMARY OF LBP COMPONENTS	INTERIOR COMPONENTS	**X Building:** metal door components, Vinyl window components (Interior build outs and perimeter walls) **Ancillary Building:** Metal door components, Metal/concrete bumper posts, metal pantry cage, Structure Steel (beams, columns, etc)
	EXTERIOR COMPONENTS	**X Building:** Vinyl window components, metal railings **Classroom building:** Metal railings

Lead-Containing Material (LCM) – By XRF

XRF READINGS	• **34 (thirty-four)** XRF readings tested positive for low levels of lead (see XRF) report.	
SUMMARY OF LCM COMPONENTS	INTERIOR COMPONENTS	• SEE XRF REPORT
	EXTERIOR COMPONENTS	• SEE XRF REPORT

Non-Lead – By XRF

XRF READINGS	• **70 (seventy)** XRF readings tested negative (no lead detected) for the presence of lead (see XRF report). (Note: Cal OSAH does not accept XRF to prove "non-lead" – paint-chip lab analysis is required)

Paint-Chip – By Laboratory Analysis

Representative paint-chip samples were collected to confirm (or rebut) the presence of lead in materials the showed very low (or no) lead content by XRF analysis.

	COMPONENT TYPE / DESCRIPTION	SUBSTRATE	SAMPLE NO(S)	RESULTS WT%	TYPE
	X-Building				
1	Gray concrete paint in weight room area- 150 sq ft loose and peeling paint	Concrete	LP-01	<0.006	ND
2	White drywall paint	Drywall	LP-02	<0.006	ND
3	Gray wood wall paint	Wood	LP-03	<0.006	ND
4	Blue wood door paint	Wood	LP-04	<0.006	ND
	Ancillary Building				
5	Gray drywall paint	Drywall	LP-05	<0.006	ND
6	Interior white concrete paint	Concrete	LP-06	<0.006	ND
7	Exterior white concrete paint	Concrete	LP-07	<0.006	ND
	Classroom Building				
8	Exterior blue wood deck/railing paint	Deck	LP-08	<0.006	ND
9	Exterior brown wood siding paint	Wood	LP-09	<0.006	ND

ASBESTOS REGULATORY NOTES

Cal OSHA (DOSH)

Asbestos-Containing Material (ACM): A material is an asbestos containing material (ACM) when the sample aggregate or any one of its layers (analyzed individually) contains greater than 1% asbestos. Cal OSHA does **not** allow composite analysis (mixing layers of materials together).

Less than 1% Asbestos: Materials containing less than 1% asbestos are not regulated by most governmental agencies. However, Cal OSHA is not one of those agencies. The Cal OSHA asbestos standard must be followed for work involving materials that contain a concentration of asbestos as low as **0.1%.**

If a material can be shown to contain less than 1% asbestos by PLM point count (or other approved method), it can be treated as an asbestos-containing construction material (ACCM). ACCM is a term Cal OSHA uses to describe materials containing **less than 1%** (but greater than 0.1%) asbestos. In certain situations, there may be some economic advantages to making this characterization. The decision to do so is evaluated on a case-by-case basis at the client's request.

Less than 0.1% Asbestos: If a material can be shown to contain less than **0.1%** asbestos by an approved method, it can be treated as a non-asbestos material. In certain situations, there may be

some economic advantages to making this characterization. The decision to do so is evaluated on a case-by-case basis at the client's request.

Class I Asbestos Work: Cal OSHA prescribes specific work practices involving the removal of asbestos-containing insulation and surfacing (i.e. sprayed-on) materials.

Class II Asbestos Work: Cal OSHA prescribes specific work practices involving the removal of ACM which is not insulation or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing, cement products, and construction mastics.

EPA/AQMD

Asbestos-Containing Material (ACM): Any building material which contains commercial asbestos in an amount greater than 1%.

Less than 1% Asbestos: Materials that are found to contain less than 1% asbestos by standard polarized light microscopy (PLM) may be considered non-asbestos (by EPA/AQMD) if confirmation analysis is performed. To be treated as a non-asbestos material, the EPA and AQMD require analytical verification by PLM Point Count (or better). This verification is required because the standard PLM analysis is not sensitive enough to accurately determine asbestos content at or below 1%. In certain situations, there may be some cost advantages to making this characterization. The decision to do so is evaluated on a case-by-case basis at the client's request.

Regulated Asbestos-Containing Material (RACM): RACM includes friable (easily crumbled) ACM, or Category I nonfriable ACM that has or will become friable or that has been subjected to sanding, drilling, grinding, cutting, or abrading, or Category II nonfriable ACM that may become or has become crumbled, pulverized, or reduced to powder.

Friable: Materials that can be crumbled, pulverized, or reduced to powder, when dry, by hand pressure.

Non-Friable: Materials that **cannot** be easily crumbled, pulverized, or reduced to powder, when dry, by hand pressure. Non-friable materials are categorized by EPA/AQMD as follows:

- *Category I Nonfriable ACM:* Asbestos-containing packings, gaskets, resilient floor coverings, mastics and asphalt roofing products.

- *Category II Nonfriable ACM:* Asbestos-containing material, excluding Category I nonfriable asbestos-containing material, that, when dry, and in its present form, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

LEAD REGULATORY NOTES

Lead-Based Paint (LBP)

	MATERIAL DESCRIPTION	REGULATORY ASSESSMENT GOVERNING REGULATIONS
1.	Lead-based paint components (LBP)	• Cal OSHA standards apply if LBP will be disturbed by employees/workers • CDPH standards apply of lead "abatement" is performed • DTSC requires characterization of waste and proper disposal • US EPA standards apply if LBP is disturbed in a children occupied site
2.	Lead containing materials (LCM)	• Cal OSHA standards apply if LCM will be disturbed by employees • CDPH standards apply if worker exposure standards are exceeded • DTSC requires characterization of waste and proper disposal
3.	No Lead Detected by XRF	• Cal OSHA standards apply unless paint chip laboratory analysis confirms non-lead
4.	No Lead Detected by Paint-chip	• No regulations apply

Regulatory Assessment Notes

California Occupational Safety & Health Administration (Cal OSHA):
- Regulates any detectable amount of lead (does not have to be LBP) when trigger tasks are performed
- Requires worker training
- Regulates employee safety during lead-related work
- Enforces proper work practices
- Requires notification when 100 sq ft (or more) of LBP is disturbed.

California Department of Public Health (CDPH):
- Regulates "abatement" of Lead-based paint
- Requires *accredited* training for workers and supervisors
- Provides certification of workers and supervisors performing abatement
- Mandates lead abatement be performed in accordance with US HUD guidelines
- Defines "abatement" as an action performed for the purpose and intent of reducing or eliminating a lead "hazard"
- Requires notification when abatement is performed

California Department of Toxic Substance Control (DTSC):
- Regulates disposal of lead waste
- Requires testing of waste stream to characterize hazard level

US Environmental Protection Agency (US EPA):
- Regulates Lead-based paint in child occupied facilities
- Regulates work involving the disturbance of as little as 6 sq ft of interior & 20 sq ft exterior LBP
- Requires *accredited* training for workers and supervisors
- Requires certification of companies performing LBP work
- Mandates minimal work practices

LEAD DISCUSSION

Lead-Based Paint & Lead Containing Materials

Lead-based paint (LBP) is defined as a material/coating/paint which contains a lead content at or in excess of 5,000 parts per million (PPM), 0.5% by weight, or 1 mg/cm^2 (by XRF). Materials containing a lead content below these levels are not considered LBP and are not considered a hazard by most regulatory agencies. However, the dust from materials containing low levels of lead can produce a lead hazard if enough lead dust accumulates.

Cal OSHA Trigger Tasks

Cal OSHA defines lead paint at the Consumer Product Safety Commission's (CPAC) level of 600 ppm for non-trigger tasks. However, Cal OSHA regulates **any detectable amount of lead** when trigger tasks are conducted.

The following table lists the Cal OSHA trigger tasks, presumed exposure and the type of respiratory protection that is required while performing those tasks:

CAL OSHA TRIGGER TASK	PRESUMED EXPOSURE	REQUIRED RESPIRATORY PROTECTION
• Manual demolition • Manual scraping and sanding • Heat gun use • Use of power tools with dust collection systems • Spray painting with lead paint • Any other activity that the employer has any reason to believe that an employee may be exposed in excess of the PEL.	50-100 $\mu m/m^3$	Half-mask, air purifying
• Using lead containing mortar • Lead burning • Rivet busting • Power tool cleaning without dust collection system • Clean-up of dry abrasive blast residue.	500-2500 $\mu m/m^3$	Full-face, air purifying, or Tight fitting PAPR, or Supplied air, contiguous flow
• Abrasive blasting • Welding • Cutting • Torch burning.	>2500 $\mu m/m^3$	Supplied air, pressure demand

SURVEY & REPORT LIMITATIONS

- Scope of work limitations were established by the Client to include items of interest and concern to the Client. *ProTech* is only responsible for the specific scope of work performed. No other services are intended or implied.

- This report has been prepared for the exclusive use of ProTech's client and is not intended for use by any other party. The scope of work and results presented in this report may not be appropriate for uses by any other party. Any use by a third party of this report shall be at their own risk and shall constitute a release and an agreement to defend and indemnify ProTech from any and all liability in connection therewith whether arising out of *ProTech's* negligence or otherwise.

- This project may contain undiscovered asbestos in areas that were not accessible or identified during ProTech's survey. Suspect asbestos may be discovered during demolition, renovation, or maintenance. If suspect asbestos is discovered, stop all work that could impact asbestos to allow properly trained personnel to perform sampling and or removal.

- This report and it's evaluations/conclusions are based on the current condition of the project. This report does not assess or anticipate future events that may impact or damage asbestos materials. Future changes in the condition of asbestos materials will require a new assessment by a certified asbestos consultant/technician.

- The quantities of asbestos stated in this report are approximations. This report is not a work plan or project specification. Contractors should not rely on this document for bidding purposes.

- Reasonable efforts were made to examine below **carpeted areas and resilient floor coverings** to determine and quantify the presence of suspect asbestos materials. ProTech accepts no liability for additional materials or under-reporting of asbestos materials which exist below other floor coverings.

- **Glass fiber insulated mechanical systems** were inspected as completely as possibly without destroying the integrity of the glass fiber insulation. The condition and presence or absence of asbestos associated with mechanical systems is assumed to be consistent with those areas exposed and examined during our inspection. However, ProTech does not guarantee that this is the case.

- ProTech does not represent this **limited survey** as a comprehensive inspection or evaluation. ProTech recommends that an expanded, comprehensive asbestos survey be conducted at this site if renovation or demolition activities are expected to impact any building materials other then those specifically addressed in this report.

- Because this survey was conducted in an **occupied building,** intrusive inspection methods were limited. Specific care and caution were observed to:

  1. Avoid significant aesthetic impact to architectural finishes.
  2. Avoid disturbing tenants and patrons.
  3. Avoid disturbing tenant spaces.

SURVEY APPROACH

Inspection & Sample Collection

ProTech performed a survey of the project to identify and document accessible suspect asbestos. Identified suspect asbestos materials categorized by homogenous area and sampled. Samples were collected by misting small areas with water, then cutting or scraping the sample from the substrate with an appropriate sampling tool. Whenever possible, samples were collected from areas previously damaged or deteriorating. No building systems, components, or structures were demolished to obtain samples of potentially hidden ACM.

Each suspect bulk sample was sealed in its own Zip-lock plastic container and labeled with a unique identification number. Sampling tools were individually cleaned before and after each sample was collected to avoid sample cross contamination. Decontamination was accomplished using single-use, pre-moistened cloths.

Sample information was recorded on ProTech's chain-of-custody form. This form accompanied the samples to a laboratory possessing accreditation from the National Voluntary Laboratory Accreditation Program (NVLAP). Samples were submitted to Forensic Analytical Services, Inc. of Hayward, California.

Sample Analysis

Bulk sample analysis was conducted in accordance with the EPA interim method for determination of asbestos in bulk materials. Samples were first examined by a stereoscopic microscope for determination of homogeneity and preliminary evaluation of composition and presence of fibers. Fibers observed during this examination were then mounted in various refractive index oils and examined in polarized light. During this examination, all minerals and/or man-made materials were identified and the percentages of each were estimated and/or counted.

Evaluation of Asbestos-Containing Materials

In evaluating each asbestos material, the adhesion of the asbestos material to the underlying substrate, deterioration, and damage from vandalism or any other cause was assessed. Evidence of debris on horizontal surfaces, hanging material, dislodged chunks, scraping, indentations, cracking, etc. would be indicators of poor material condition.

Accidental or deliberate physical contact with asbestos materials can result in damage. Inspectors looked for any evidence that asbestos-containing materials had been disturbed. Indicators such as: finger marks in the material, graffiti, pieces dislodged or missing, scraping marks from movable equipment, or furniture, or an accumulation of suspect asbestos dust or debris on floors, shelves, or other horizontal surfaces indicate poor material condition.

Asbestos-containing materials may deteriorate as a result of either the quality of the installation or environmental factors which affect the cohesive strength of the asbestos-containing material or the strength of the adhesion to the substrate. Deterioration can result in an accumulation of dust on the surface of the asbestos-containing material, delamination of the material, or an adhesive failure of the material where it pulls away from the substrate and either hangs loosely or falls to the floor and exposes the substrate. Inspectors touch the asbestos-containing material to determine if dust is released when the material is lightly brushed or rubbed.

CONCLUSIONS & RECOMMENDATIONS

Asbestos Removal

ACM should be removed prior to activity that may disturb it. Prior to ACM disturbance/removal, the following should be performed:

	Task	Task Description	Fee
1.	**Prepare Project Specification**	Prepare a written scope of work & instructions to bidders (site plans not included).	$800.00 - $1,200.00
2.	**Bid Review and Contractor Selection**	Select qualified contractors (prospective bidders), review bids and award contract.	$680.00
3.	**Project Monitoring & Oversight**	Monitoring asbestos abatement work and document contractor compliance.	Pricing upon request
4.	**Project Clearance**	Perform final inspection and collect air samples to certify work area clearance.	Pricing upon request

LEAD

- Cal OSHA worker protection rules, CDPH certification requirements, US EPA standards, and DTSC disposal requirements need to be assessed by each contractor/employer who performs work on this project.

- Contractors, whose employees work at this site, are required to assess if their work will be subject to the requirements of the Cal OSHA lead construction standard (CCR Title 8 § 1532). Cal OSHA standards are designed to regulate and enforce on-the-job worker safety. Employers are required by law to ensure that employees are <u>not</u> exposed to airborne lead levels which exceed the permissible exposure limit (PEL). The standard requires worker exposure monitoring, medical surveillance, training, special work practices, etc.

- Each contractor/employer who bids and/or performs work at the site will need to assess potential lead exposure to employees performing their particular scope of work. Contractors who perform work at this site may need to obtain additional data (beyond the data presented in this report) during their assessment and Cal OSHA compliance planning. Individual contractors/sub-contractors should be allowed access to the project to obtain any needed data (samples, consultation, etc.) to complete their employee exposure assessment.

- ProTech recommends that the building owner and/or general contractor disseminate this report as well as any other lead-related information to all prospective contractors bidding work at the subject site.

- Contractors, whose employees disturbs more that 100 sq ft of lead-based paint (LBP), are required to submit written notification to Cal OHSA (per Health and Safety Code, Title 17 CCR Section 36000 (c)). The Cal OSHA LBP notification rule requires 24-hour advance notice prior to LBP disturbance.

- Any work performed at the site where LBP or LCP is likely to be disturbed should be performed by a contractor trained and qualified to perform lead-related construction work. Any work that exceeds Cal OSHA's permissible exposure limit or is performed to remediate a lead hazard must be conducted by CDPH certified personnel. All lead related work should be conducted employing lead work practices in accordance with HUD guidelines.

LEGEND

HOW TO READ THE REPORT

Wall A, is the front wall of the building.
Walls B, C and D go clockwise around the building or room

REPORTS

Summary-- Gives only those readings at or above the action level of 1.0mg/cm2.

Detailed Report—Gives all reading by room and component.
Readings are not in numerical order. This report also gives comments

PAINT CONDITION

I=Intact

F=Fair

P=Poor

Comments

There were 124 readings taken, including calibrations, using the RMD XRF instrument. 14 of the readings registered at or above the action level of 1.0mg/cm2. A contractor practicing Lead Safe Practices should do any repairs or repainting of the actionable areas.

" A copy of this summary report must be provided to new lessees and purchasers of this property under Federal Law (24 CFR part 35 and 40 CFR part 745) before they become obligated under lease or sales contract. The complete report must also be provided to new purchasers and it must be made available to new tenants. Landlords and sellers are also required to distribute an educational pamphlet and include standard warning language in their leases or sales contracts to ensure that parents have the information they need to protect their children from lead-based paint hazards."

Emanuel Dounias
DPH 13095

_____
Date

Comments

There were 124 readings taken, including calibrations, using the RMD XRF instrument. 14 of the readings registered at or above the action level of 1.0mg/cm2. A contractor practicing Lead Safe Practices should do any repairs or repainting of the actionable areas.

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Emanuel Dounias
DPH 13095

_____
Date

LEAD PAINT INSPECTION REPORT

REPORT NUMBER: S#01369 - 04/22/15 12:26

INSPECTION FOR: Moss & Associates
100 Wonsan Drive.
Ocean Side, CA

PERFORMED AT: Santa Cruz Roundtree SB10022
90 Roundtree Lane
Watsonville, CA
Limited Areas

INSPECTION DATE: 04/22/15

INSTRUMENT TYPE: R M D
MODEL LPA-1
XRF TYPE ANALYZER
Serial Number: 01369

ACTION LEVEL: 1.0 mg/cm**2

OPERATOR LICENSE: California General

STATEMENT: Lead paint survey as agreed.
No representations are made for any areas not tested.

SIGNED _____ DATE _____

ProTech Consulting & Engineering
1208 Main Street
Redwood City, Ca. 94063
Phone: 650-569-4020
Fax: 650-569-4023

SEQUENTIAL REPORT OF LEAD PAINT INSPECTION FOR: Moss & Associates

Inspection Date: 04/22/15
Report Date: 4/29/2015
Abatement Level: 1.0
Report No. S#01369 - 04/22/15 12:26
Total Readings: 124
Job Started: 04/22/15 12:26
Job Finished: 04/23/15 18:05

Santa Cruz Roundtree SB10022
90 Roundtree Lane
Watsonville, CA
Limited Areas

Read No.	Rm	Room Name	Wall	Structure	Location	Member	Paint Cond	Substrate	Paint Color	Lead (mg/cm²)	Mode
1		CALIBRATION								0.9	TC
2		CALIBRATION								0.9	TC
3		CALIBRATION								1.0	TC
4	001	X Module	A	Wall	L	Ctr	I	Wood	White	0.0	QM
5	001	X Module	B	Wall	L	Ctr	I	Wood	White	0.2	QM
6	001	X Module	D	Wall	L	Ctr	I	Drywall	White	0.0	QM
7	001	X Module	B	Window		Ctr Rgt casing	I	Wood	Blue	0.2	QM
8	001	X Module	A	Door		Ctr Rgt casing	I	Wood	Blue	0.1	QM
9	001	X Module	A	Window		Ctr Rgt casing	I	Wood	Brown	0.0	QM
10	001	X Module	B	Wall	L	Lft	I	Wood	Blue	0.0	QM
11	002	X Dorm	A	Beam		Ctr	I	Wood	Black	0.0	QM
12	002	X Dorm	A	Beam		Ctr	I	Wood	Brown	0.0	QM
13	002	X Dorm	A	Wall	L	Ctr	I	Concrete	White	0.0	QM
14	002	X Dorm	C	Wall	U	Ctr	I	Concrete	White	0.3	QM
15	002	X Dorm	B	Door		Rgt U Ctr	I	Metal	Blue	0.3	QM
16	002	X Dorm	B	Door		Rgt Rgt casing	I	Metal	Blue	1.0	QM
17	003	X Wash Area	C	Door		Rgt Rgt casing	I	Metal	Blue	1.0	QM
18	003	X Wash Area	C	Door		Rgt U Ctr	I	Metal	Blue	0.0	QM
19	003	X Wash Area	D	Wall	L	Ctr	I	Concrete	White	-0.1	QM
20	003	X Wash Area	A	Wall	L	Ctr	I	Concrete	White	0.0	QM
21	003	X Wash Area	B	Wall	L	Ctr	I	Concrete	White	-0.2	QM
22	003	X Wash Area	B	Wall	L	Rgt	I	Ceramic	White	-0.1	QM
23	003	X Wash Area	A	Floor			I	Concrete	Gray	-0.1	QM
24	003	X Wash Area	B	Window		Rgt Sash	I	Vinyl	Blue	4.9	QM
25	003	X Wash Area	B	Beam		Rgt	I	Wood	Black	0.1	QM
26	003	X Wash Area	B	Beam		Rgt	I	Wood	Brown	0.0	QM
27	004	X Din. Area	C	Beam		Rgt	I	Wood	Brown	0.0	QM
28	004	X Din. Area	C	Beam		Rgt	I	Wood	Black	0.0	QM
29	004	X Din. Area	B	Wall	U	Rgt	I	Concrete	White	0.0	QM
30	004	X Din. Area	D	Chair rail		Ctr	I	Concrete	White	0.0	QM
31	004	X Din. Area	C	Floor			I	Concrete	Gray	-0.1	QM
32	004	X Din. Area	B	Wall	L	Rgt	I	Ceramic	Tan	-0.1	QM
33	004	X Din. Area	C	Wall	U	Ctr	I	Drywall	White	0.0	QM
34	004	X Din. Area	C	Ceiling			I	Wood	White	0.1	QM
35	004	X Din. Area	D	Door		Ctr U Ctr	I	Wood	Blue	0.1	QM
36	004	X Din. Area	C	Window		Ctr Sash	I	Vinyl	Blue	4.9	QM
37	004	X Din. Area	B	Window		Ctr Rgt casing	I	Vinyl	Blue	5.7	QM
38	004	X Din. Area	C	Window		Ctr Rgt casing	I	Vinyl	Blue	3.8	QM
39	004	X Din. Area	B	Window		Ctr Rgt casing	I	Vinyl	Blue	6.3	QM
40	004	X Din. Area	B	Window		Ctr Apron	I	Wood	Blue	0.0	QM
41	004	X Din. Area	B	Door		Lft Header	I	Wood	Blue	0.0	QM
42	004	X Din. Area	B	Beam		Lft	I	Wood	Black	0.0	QM
43	004	X Din. Area	B	Beam		Lft	I	Wood	Brown	0.0	QM
44	004	X Din. Area	B	Bench		Lft	I	Wood	Brown	0.0	QM
45	004	X Din. Area	D	Wall	L	Ctr	I	Drywall	White	0.0	QM
46	004	X Din. Area	B	Wall	L	Ctr	I	Drywall	White	0.0	QM
47	004	X Din. Area	D	Wall	U	Rgt	I	Concrete	Blue	0.0	QM
48	004	X Din. Area	B	Wall	U	Rgt	I	Concrete	White	-0.1	QM
49	004	X Din. Area	B	Door		Lft U Ctr	I	Metal	Blue	0.1	QM
50	001	X Bldg Ext	A	Beam		Rgt	I	Wood	Brown	0.0	QM
51	001	X Bldg Ext	A	Soffit			I	Wood	Brown	0.1	QM

52	001 X Bldg Ext	A	Fascia				I	Metal	Brown	0.1 QM
53	001 X Bldg Ext	A	Wall	U	Lft		I	Wood	Blue	0.1 QM
54	001 X Bldg Ext	D	Beam		Ctr		I	Wood	Brown	0.0 QM
55	001 X Bldg Ext	D	Soffit				I	Wood	Brown	0.1 QM
56	001 X Bldg Ext	C	Door		Lft	U Ctr	I	Metal	Blue	0.0 QM
57	001 X Bldg Ext	C	Window		Ctr	Rgt casing	I	Vinyl	Brown	3.0 QM
58	001 X Bldg Ext	C	Railing		Lft	Railing	I	Wood	Brown	0.0 QM
59	001 X Bldg Ext	D	Door		Lft	U Ctr	I	Metal	Blue	0.3 QM
60	001 X Bldg Ext	C	Railing		Ctr	Railing	I	Metal	Yellow	4.6 QM
61	001 X Bldg Ext	C	Dock		Ctr		I	Concrete	Yellow	0.0 QM
62	001 X Bldg Ext	C	Rollup Door		Ctr		I	Metal	Blue	0.0 QM
63	001 X Bldg Ext	B	Beam		Rgt		I	Wood	Brown	0.0 QM
64	005 Ans. Kitch	B	Wall	L	Ctr		I	Concrete	Gray	0.1 QM
65	005 Ans. Kitch	C	Wall	L	Ctr		I	Concrete	Gray	-0.1 QM
66	005 Ans. Kitch	C	Cage		Ctr		I	Metal	Gray	1.0 QM
67	005 Ans. Kitch	B	Post		Rgt		I	Metal	Gray	1.0 QM
68	005 Ans. Kitch	B	Door		Rgt	U Ctr	I	Metal	Green	0.2 QM
69	005 Ans. Kitch	B	Door		Rgt	Lft casing	I	Metal	Green	0.3 QM
70	005 Ans. Kitch	B	Door		Ctr	U Ctr	I	Metal	Blue	1.0 QM
71	005 Ans. Kitch	B	Door		Ctr	Lft casing	I	Metal	Blue	0.3 QM
72	005 Ans. Kitch	D	Window		Ctr	Rgt casing	I	Metal	Green	0.0 QM
73	005 Ans. Kitch	D	Window		Ctr	Rgt casing	I	Metal	Blue	-0.1 QM
74	005 Ans. Kitch	B	Wall	L	Lft		I	Drywall	Gray	0.3 QM
75	005 Ans. Kitch	C	Beam		Ctr		I	Metal	Red	2.1 QM
76	006 Ans. Office	D	Wall	L	Rgt		I	Concrete	Tan	0.0 QM
77	006 Ans. Office	A	Wall	L	Ctr		I	Concrete	Gray	-0.2 QM
78	006 Ans. Office	B	Wall	L	Lft		I	Drywall	Gray	0.0 QM
79	006 Ans. Office	D	Wall	L	Ctr		I	Drywall	Gray	0.0 QM
80	006 Ans. Office	D	Wall	U	Rgt		I	Drywall	Tan	0.0 QM
81	006 Ans. Office	C	Wall	L	Rgt		I	Concrete	Green	0.0 QM
82	006 Ans. Office	C	Door		Rgt	U Ctr	I	Wood	Beige	0.0 QM
83	006 Ans. Office	C	Door		Rgt	Rgt casing	I	Metal	Beige	0.2 QM
84	006 Ans. Office	D	Window		Rgt	Rgt casing	I	Wood	White	0.0 QM
85	002 Ans. Ext	A	Wall	L	Rgt		I	Concrete	White	0.0 QM
86	002 Ans. Ext	A	Wall	L	Ctr		I	Concrete	White	0.0 QM
87	002 Ans. Ext	A	Window		Ctr	Rgt casing	I	Vinyl	Blue	0.0 QM
88	002 Ans. Ext	B	Window		Ctr	Rgt casing	I	Vinyl	Blue	0.0 QM
89	002 Ans. Ext	B	Door		Lft	U Ctr	I	Metal	Blue	0.2 QM
90	002 Ans. Ext	B	Door		Lft	Rgt jamb	I	Metal	Blue	0.1 QM
91	002 Ans. Ext	B	Post		Ctr		I	Metal	White	0.2 QM
92	002 Ans. Ext	B	Wall	L	Rgt		I	Concrete	White	-0.1 QM
93	002 Ans. Ext	B	Wall	L	Lft		I	Concrete	White	-0.1 QM
94	002 Ans. Ext	B	Soffit				I	Stucco	White	0.1 QM
95	008 Number Only	C	Wall	U	Ctr		I	Drywall	White	0.0 QM
96	008 Number Only	A	Wall	L	Ctr		I	Drywall	White	0.0 QM
97	008 Number Only	A	Wall	U	Ctr		I	Drywall	White	0.0 QM
98	008 Number Only	C	Shelves		Ctr		I	Wood	White	0.1 QM
99	008 Number Only	C	Cabinet		Ctr		I	Wood	White	0.0 QM
100	008 Number Only	A	Window		Lft	Sill	I	Wood	White	0.0 QM
101	008 Number Only	B	Window		Ctr	Sill	I	Wood	White	-0.1 QM
102	008 Number Only	B	Door		Ctr	U Ctr	I	Wood	White	0.0 QM
103	008 Number Only	B	Door		Ctr	Rgt casing	I	Wood	White	0.1 QM
104	008 Number Only	A	Door		Rgt	Rgt casing	I	Wood	White	0.3 QM
105	008 Number Only	A	Door		Rgt	U Ctr	I	Metal	White	0.0 QM
106	003 Classrm Ext	A	Door		Ctr	U Ctr	I	Metal	Blue	0.6 QM
107	003 Classrm Ext	A	Door		Ctr	Rgt casing	I	Wood	Blue	0.0 QM
108	003 Classrm Ext	A	Deck		Ctr		I	Wood	Blue	0.0 QM
109	003 Classrm Ext	A	Railing		Ctr	Railing	I	Wood	Blue	0.0 QM
110	003 Classrm Ext	A	Column		Ctr	U column	I	Wood	Blue	0.1 QM
111	003 Classrm Ext	A	Railing		Ctr	Railing	I	Metal	Blue	1.0 QM
112	003 Classrm Ext	A	Down Spout		Ctr		I	Metal	Brown	0.3 QM
113	003 Classrm Ext	A	Pipe		Ctr		I	Metal	Brown	0.3 QM
114	003 Classrm Ext	A	Gutter				I	Metal	Blue	0.6 QM
115	003 Classrm Ext	A	Soffit				I	Wood	Brown	0.3 QM
116	003 Classrm Ext	A	Fascia				I	Wood	Brown	0.0 QM

117	003	Classrm Ext	A	Wall	L	Ctr		I Wood	Brown	0.0	QM
118	003	Classrm Ext	D	Wall	L	Ctr		I Wood	Brown	0.1	QM
119	003	Classrm Ext	C	Wall	L	Ctr		I Wood	Brown	0.0	QM
120	003	Classrm Ext	D	Window		Ctr	Rgt casing	I Wood	Blue	0.0	QM
121	003	Classrm Ext	C	Foundation		Ctr		I Concrete	Brown	0.0	QM
122		CALIBRATION								0.8	TC
123		CALIBRATION								1.0	TC
124		CALIBRATION								1.0	TC

---- End of Readings ----

SUMMARY REPORT OF LEAD PAINT INSPECTION FOR: Moss & Associates

Inspection Date: 04/22/15
Report Date: 4/29/2015
Abatement Level: 1.0
Report No. S#01369 - 04/22/15 12:26
Total Readings: 124 Actionable: 14
Job Started: 04/22/15 12:26
Job Finished: 04/23/15 18:05

Santa Cruz Roundtree SB10022
90 Roundtree Lane
Watsonville, CA
Limited Areas

Read No.	Wall	Structure	Location	Member	Paint Cond	Substrate	Paint Color	Lead (mg/cm)	Mode
Exterior Room 001 X Bldg Ext									
057	C	Window	Ctr	Rgt casing	I	Vinyl	Brown	3.0	QM
060	C	Railing	Ctr	Railing	I	Metal	Yellow	4.6	QM
Exterior Room 003 Classrm Ext									
111	A	Railing	Ctr	Railing	I	Metal	Blue	1.0	QM
Interior Room 002 X Dorm									
016	B	Door	Rgt	Rgt casing	I	Metal	Blue	1.0	QM
Interior Room 003 X Wash Area									
024	B	Window	Rgt	Sash	I	Vinyl	Blue	4.9	QM
017	C	Door	Rgt	Rgt casing	I	Metal	Blue	1.0	QM
Interior Room 004 X Din. Area									
037	B	Window	Ctr	Rgt casing	I	Vinyl	Blue	5.7	QM
039	B	Window	Ctr	Rgt casing	I	Vinyl	Blue	6.3	QM
038	C	Window	Ctr	Rgt casing	I	Vinyl	Blue	3.8	QM
036	C	Window	Ctr	Sash	I	Vinyl	Blue	4.9	QM
Interior Room 005 Ans. Kitch									
070	B	Door	Ctr	U Ctr	I	Metal	Blue	1.0	QM
067	B	Post	Rgt		I	Metal	Gray	1.0	QM
066	C	Cage	Ctr		I	Metal	Gray	1.0	QM
075	C	Beam	Ctr		I	Metal	Red	2.1	QM
Calibration Readings									

---- End of Readings ----

DETAILED REPORT OF LEAD PAINT INSPECTION FOR: Moss & Associates

Inspection Date: 04/22/15
Report Date: 4/29/2015
Abatement Level: 1.0
Report No. S#01369 - 04/22/15 12:26
Total Readings: 124
Job Started: 04/22/15 12:26
Job Finished: 04/23/15 18:05

Santa Cruz Roundtree SB10022
90 Roundtree Lane
Watsonville, CA
Limited Areas

Read No.	Wall	Structure	Location	Member	Paint Cond	Substrate	Paint Color	Lead (mg/cm[redacted])	Mode
Exterior Room 001 X Bldg Ext									
053	A	Wall	U Lft		I	Wood	Blue	0.1	QM
052	A	Fascia			I	Metal	Brown	0.1	QM
051	A	Soffit			I	Wood	Brown	0.1	QM
050	A	Beam	Rgt		I	Wood	Brown	0.0	QM
063	B	Beam	Rgt		I	Wood	Brown	0.0	QM
057	C	Window	Ctr	Rgt casing	I	Vinyl	Brown	3.0	QM
056	C	Door	Lft	U Ctr	I	Metal	Blue	0.0	QM
058	C	Railing	Lft	Railing	I	Wood	Brown	0.0	QM
060	C	Railing	Ctr	Railing	I	Metal	Yellow	4.6	QM
061	C	Dock	Ctr		I	Concrete	Yellow	0.0	QM
062	C	Rollup Door	Ctr		I	Metal	Blue	0.0	QM
055	D	Soffit			I	Wood	Brown	0.1	QM
059	D	Door	Lft	U Ctr	I	Metal	Blue	0.3	QM
054	D	Beam	Ctr		I	Wood	Brown	0.0	QM
Exterior Room 002 Ans. Ext									
086	A	Wall	L Ctr		I	Concrete	White	0.0	QM
085	A	Wall	L Rgt		I	Concrete	White	0.0	QM
087	A	Window	Ctr	Rgt casing	I	Vinyl	Blue	0.0	QM
093	B	Wall	L Lft		I	Concrete	White	-0.1	QM
092	B	Wall	L Rgt		I	Concrete	White	-0.1	QM
094	B	Soffit			I	Stucco	White	0.1	QM
088	B	Window	Ctr	Rgt casing	I	Vinyl	Blue	0.0	QM
090	B	Door	Lft	Rgt jamb	I	Metal	Blue	0.1	QM
089	B	Door	Lft	U Ctr	I	Metal	Blue	0.2	QM
091	B	Post	Ctr		I	Metal	White	0.2	QM
Exterior Room 003 Classrm Ext									
117	A	Wall	L Ctr		I	Wood	Brown	0.0	QM
116	A	Fascia			I	Wood	Brown	0.0	QM
114	A	Gutter			I	Metal	Blue	0.6	QM
115	A	Soffit			I	Wood	Brown	0.3	QM
107	A	Door	Ctr	Rgt casing	I	Wood	Blue	0.0	QM
106	A	Door	Ctr	U Ctr	I	Metal	Blue	0.6	QM
109	A	Railing	Ctr	Railing	I	Wood	Blue	0.0	QM
111	A	Railing	Ctr	Railing	I	Metal	Blue	1.0	QM
110	A	Column	Ctr	U column	I	Wood	Blue	0.1	QM
108	A	Deck	Ctr		I	Wood	Blue	0.0	QM
112	A	Down Spout	Ctr		I	Metal	Brown	0.3	QM
113	A	Pipe	Ctr		I	Metal	Brown	0.3	QM
119	C	Wall	L Ctr		I	Wood	Brown	0.0	QM
121	C	Foundation	Ctr		I	Concrete	Brown	0.0	QM
118	D	Wall	L Ctr		I	Wood	Brown	0.1	QM
120	D	Window	Ctr	Rgt casing	I	Wood	Blue	0.0	QM
Interior Room 001 X Module									
004	A	Wall	L Ctr		I	Wood	White	0.0	QM
009	A	Window	Ctr	Rgt casing	I	Wood	Brown	0.0	QM
008	A	Door	Ctr	Rgt casing	I	Wood	Blue	0.1	QM
010	B	Wall	L Lft		I	Wood	Blue	0.0	QM

005	B	Wall	L Ctr		I	Wood	White	0.2	QM
007	B	Window	Ctr	Rgt casing	I	Wood	Blue	0.2	QM
006	D	Wall	L Ctr		I	Drywall	White	0.0	QM
Interior Room 002 X Dorm									
013	A	Wall	L Ctr		I	Concrete	White	0.0	QM
011	A	Beam	Ctr		I	Wood	Black	0.0	QM
012	A	Beam	Ctr		I	Wood	Brown	0.0	QM
016	B	Door	Rgt	Rgt casing	I	Metal	Blue	1.0	QM
015	B	Door	Rgt	U Ctr	I	Metal	Blue	0.3	QM
014	C	Wall	U Ctr		I	Concrete	White	0.3	QM
Interior Room 003 X Wash Area									
020	A	Wall	L Ctr		I	Concrete	White	0.0	QM
023	A	Floor			I	Concrete	Gray	-0.1	QM
021	B	Wall	L Ctr		I	Concrete	White	-0.2	QM
022	B	Wall	L Rgt		I	Ceramic	White	-0.1	QM
024	B	Window	Rgt	Sash	I	Vinyl	Blue	4.9	QM
025	B	Beam	Rgt		I	Wood	Black	0.1	QM
026	B	Beam	Rgt		I	Wood	Brown	0.0	QM
017	C	Door	Rgt	Rgt casing	I	Metal	Blue	1.0	QM
018	C	Door	Rgt	U Ctr	I	Metal	Blue	0.0	QM
019	D	Wall	L Ctr		I	Concrete	White	-0.1	QM
Interior Room 004 X Din. Area									
046	B	Wall	L Ctr		I	Drywall	White	0.0	QM
032	B	Wall	L Rgt		I	Ceramic	Tan	-0.1	QM
029	B	Wall	U Rgt		I	Concrete	White	0.0	QM
048	B	Wall	U Rgt		I	Concrete	White	-0.1	QM
037	B	Window	Ctr	Rgt casing	I	Vinyl	Blue	5.7	QM
039	B	Window	Ctr	Rgt casing	I	Vinyl	Blue	6.3	QM
040	B	Window	Ctr	Apron	I	Wood	Blue	0.0	QM
041	B	Door	Lft	Header	I	Wood	Blue	0.0	QM
049	B	Door	Lft	U Ctr	I	Metal	Blue	0.1	QM
042	B	Beam	Lft		I	Wood	Black	0.0	QM
043	B	Beam	Lft		I	Wood	Brown	0.0	QM
044	B	Bench	Lft		I	Wood	Brown	0.0	QM
033	C	Wall	U Ctr		I	Drywall	White	0.0	QM
031	C	Floor			I	Concrete	Gray	-0.1	QM
034	C	Ceiling			I	Wood	White	0.1	QM
038	C	Window	Ctr	Rgt casing	I	Vinyl	Blue	3.8	QM
036	C	Window	Ctr	Sash	I	Vinyl	Blue	4.9	QM
027	C	Beam	Rgt		I	Wood	Brown	0.0	QM
028	C	Beam	Rgt		I	Wood	Black	0.0	QM
045	D	Wall	L Ctr		I	Drywall	White	0.0	QM
047	D	Wall	U Rgt		I	Concrete	Blue	0.0	QM
030	D	Chair rail	Ctr		I	Concrete	White	0.0	QM
035	D	Door	Ctr	U Ctr	I	Wood	Blue	0.1	QM
Interior Room 005 Ans. Kitch									
074	B	Wall	L Lft		I	Drywall	Gray	0.3	QM
064	B	Wall	L Ctr		I	Concrete	Gray	0.1	QM
071	B	Door	Ctr	Lft casing	I	Metal	Blue	0.3	QM
070	B	Door	Ctr	U Ctr	I	Metal	Blue	1.0	QM
069	B	Door	Rgt	Lft casing	I	Metal	Green	0.3	QM
068	B	Door	Rgt	U Ctr	I	Metal	Green	0.2	QM
067	B	Post	Rgt		I	Metal	Gray	1.0	QM
065	C	Wall	L Ctr		I	Concrete	Gray	-0.1	QM
066	C	Cage	Ctr		I	Metal	Gray	1.0	QM
075	C	Beam	Ctr		I	Metal	Red	2.1	QM
072	D	Window	Ctr	Rgt casing	I	Metal	Green	0.0	QM
073	D	Window	Ctr	Rgt casing	I	Metal	Blue	-0.1	QM
Interior Room 006 Ans. Office									
077	A	Wall	L Ctr		I	Concrete	Gray	-0.2	QM

078	B	Wall	L	Lft		I	Drywall	Gray	0.0	QM
081	C	Wall	L	Rgt		I	Concrete	Green	0.0	QM
083	C	Door		Rgt	Rgt casing	I	Metal	Beige	0.2	QM
082	C	Door		Rgt	U Ctr	I	Wood	Beige	0.0	QM
079	D	Wall	L	Ctr		I	Drywall	Gray	0.0	QM
076	D	Wall	L	Rgt		I	Concrete	Tan	0.0	QM
080	D	Wall	U	Rgt		I	Drywall	Tan	0.0	QM
084	D	Window		Rgt	Rgt casing	I	Wood	White	0.0	QM

Interior Room 008 Number Only

096	A	Wall	L	Ctr		I	Drywall	White	0.0	QM
097	A	Wall	U	Ctr		I	Drywall	White	0.0	QM
100	A	Window		Lft	Sill	I	Wood	White	0.0	QM
104	A	Door		Rgt	Rgt casing	I	Wood	White	0.3	QM
105	A	Door		Rgt	U Ctr	I	Metal	White	0.0	QM
101	B	Window		Ctr	Sill	I	Wood	White	-0.1	QM
103	B	Door		Ctr	Rgt casing	I	Wood	White	0.1	QM
102	B	Door		Ctr	U Ctr	I	Wood	White	0.0	QM
095	C	Wall	U	Ctr		I	Drywall	White	0.0	QM
098	C	Shelves		Ctr		I	Wood	White	0.1	QM
099	C	Cabinet		Ctr		I	Wood	White	0.0	QM

Calibration Readings

001	0.9	TC
002	0.9	TC
003	1.0	TC
122	0.8	TC
123	1.0	TC
124	1.0	TC

---- End of Readings ----

DISTRIBUTION REPORT OF LEAD PAINT INSPECTION FOR: Moss & Associates

Inspection Date: 04/22/15
Report Date: 4/29/2015
Abatement Level: 1.0
Report No. S#01369 - 04/22/15 12:26
Total Reading Sets: 118
Job Started: 04/22/15 12:26
Job Finished: 04/23/15 18:05

Santa Cruz Roundtree SB10022
90 Roundtree Lane
Watsonville, CA
Limited Areas

Structure	Total	Positive	Negative	Inconclusive
Beam	12	1 <8%>	11 <92%>	0 <0%>
Bench	1	0 <0%>	1 <100%>	0 <0%>
Cabinet	1	0 <0%>	1 <100%>	0 <0%>
Cage	1	1 <100%>	0 <0%>	0 <0%>
Ceiling	1	0 <0%>	1 <100%>	0 <0%>
Chair rail	1	0 <0%>	1 <100%>	0 <0%>
Column U column	1	0 <0%>	1 <100%>	0 <0%>
Deck	1	0 <0%>	1 <100%>	0 <0%>
Dock	1	0 <0%>	1 <100%>	0 <0%>
Door Header	1	0 <0%>	1 <100%>	0 <0%>
Door Lft casing	2	0 <0%>	2 <100%>	0 <0%>
Door Rgt casing	7	2 <29%>	5 <71%>	0 <0%>
Door Rgt jamb	1	0 <0%>	1 <100%>	0 <0%>
Door U Ctr	13	1 <8%>	12 <92%>	0 <0%>
Down Spout	1	0 <0%>	1 <100%>	0 <0%>
Fascia	2	0 <0%>	2 <100%>	0 <0%>
Floor	2	0 <0%>	2 <100%>	0 <0%>
Foundation	1	0 <0%>	1 <100%>	0 <0%>
Gutter	1	0 <0%>	1 <100%>	0 <0%>
Pipe	1	0 <0%>	1 <100%>	0 <0%>
Post	2	1 <50%>	1 <50%>	0 <0%>
Railing Railing	4	2 <50%>	2 <50%>	0 <0%>
Rollup Door	1	0 <0%>	1 <100%>	0 <0%>
Shelves	1	0 <0%>	1 <100%>	0 <0%>
Soffit	4	0 <0%>	4 <100%>	0 <0%>
Wall	37	0 <0%>	37 <100%>	0 <0%>
Window Apron	1	0 <0%>	1 <100%>	0 <0%>
Window Rgt casing	12	4 <33%>	8 <67%>	0 <0%>
Window Sash	2	2 <100%>	0 <0%>	0 <0%>
Window Sill	2	0 <0%>	2 <100%>	0 <0%>
Inspection Totals:	118	14 < 12%>	104 < 88%>	0 < 0%>

Bulk Asbestos Point Count Analysis

(NESHAP Final Rule, 40 CFR, Part 61)

Protech Consulting & Engineers Inc.
Project Manager

1208 Main St.
Redwood City, CA 94063

Client ID: 1454
Report Number: N007153
Date Received: 04/24/15
Date Analyzed: 05/19/15
Date Printed: 05/19/15

Job ID/Site: 338-MA15, 423-338-47 - Santa Cruz Roundtree SB1022, X Building

FALI Job ID: 1454
Total Samples Submitted: 6
Total Samples Analyzed: 6

PLM Report Number: B204709

Sample Preparation and Analysis:

The NESHAP Final Rule does not define the preparation method for multi-layered samples. In order to determine the composite quantity of asbestos, the volume percent of each layer is determined, the asbestos containing layers are analyzed by point counting and the composite quantity of asbestos is calculated. The NESHAP Final Rule can not be applied to matrices that dissolve in refractive index liquid. This includes tar, mastic or adhesive typically found on the back of floor tiles. According to the NESHAP Final Rule, point count data is only necessary when the visual estimate of asbestos is below 10%.

Sample ID	Lab Number	Layer Description
02	11635715	**Composite of ALL Layers** White Drywall Off-White Skimcoat/Joint Compound Paint

Point Count Results:

Number of asbestos points counted:	0
Number of non-empty points:	400
Layer percentage of entire sample:	100
Percent asbestos in layer:	**< 1**

Asbestos type(s) detected: Chrysotile

Comment: Asbestos was detected but no points were counted due to counting criteria. Therefore quantitation deemed to be < 1%.

03	11635716	**Composite of ALL Layers** White Drywall White Skimcoat/Joint Compound White Tape Off-White Skimcoat/Joint Compound Paint

Point Count Results:

Number of asbestos points counted:	0
Number of non-empty points:	400
Layer percentage of entire sample:	100
Percent asbestos in layer:	**< 1**

Asbestos type(s) detected: Chrysotile

Comment: Asbestos was detected but no points were counted due to counting criteria. Therefore quantitation deemed to be < 1%.

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Bulk Asbestos Point Count Analysis

(NESHAP Final Rule, 40 CFR, Part 61)

Protech Consulting & Engineers Inc.
Project Manager

1208 Main St.
Redwood City, CA 94063

Client ID: 1454
Report Number: N007153
Date Received: 04/24/15
Date Analyzed: 05/19/15
Date Printed: 05/19/15

Job ID/Site: 338-MA15, 423-338-47 - Santa Cruz Roundtree SB1022, X Building

FALI Job ID: 1454
Total Samples Submitted: 6
Total Samples Analyzed: 6

PLM Report Number: B204709

Sample Preparation and Analysis:

The NESHAP Final Rule does not define the preparation method for multi-layered samples. In order to determine the composite quantity of asbestos, the volume percent of each layer is determined, the asbestos containing layers are analyzed by point counting and the composite quantity of asbestos is calculated. The NESHAP Final Rule can not be applied to matrices that dissolve in refractive index liquid. This includes tar, mastic or adhesive typically found on the back of floor tiles. According to the NESHAP Final Rule, point count data is only necessary when the visual estimate of asbestos is below 10%.

Sample ID	Lab Number	Layer Description
06	11635719	**Composite of ALL Layers** White Drywall White Skimcoat/Joint Compound White Tape Off-White Skimcoat/Joint Compound Paint

Point Count Results:

Number of asbestos points counted:	0
Number of non-empty points:	400
Layer percentage of entire sample:	100
Percent asbestos in layer:	**< 1**

Asbestos type(s) detected: Chrysotile

Comment: Asbestos was detected but no points were counted due to counting criteria. Therefore quantitation deemed to be < 1%.

Sample ID	Lab Number	Layer Description
07	11635720	**Composite of ALL Layers** White Drywall Off-White Skimcoat/Joint Compound Paint

Point Count Results:

Number of asbestos points counted:	0
Number of non-empty points:	400
Layer percentage of entire sample:	100
Percent asbestos in layer:	**< 1**

Asbestos type(s) detected: Chrysotile

Comment: Asbestos was detected but no points were counted due to counting criteria. Therefore quantitation deemed to be < 1%.

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Bulk Asbestos Point Count Analysis

(NESHAP Final Rule, 40 CFR, Part 61)

Protech Consulting & Engineers Inc.
Project Manager

1208 Main St.
Redwood City, CA 94063

Client ID: 1454
Report Number: N007153
Date Received: 04/24/15
Date Analyzed: 05/19/15
Date Printed: 05/19/15

Job ID/Site: 338-MA15, 423-338-47 - Santa Cruz Roundtree SB1022, X Building

PLM Report Number: B204709

FALI Job ID: 1454
Total Samples Submitted: 6
Total Samples Analyzed: 6

Sample Preparation and Analysis:

The NESHAP Final Rule does not define the preparation method for multi-layered samples. In order to determine the composite quantity of asbestos, the volume percent of each layer is determined, the asbestos containing layers are analyzed by point counting and the composite quantity of asbestos is calculated. The NESHAP Final Rule can not be applied to matrices that dissolve in refractive index liquid. This includes tar, mastic or adhesive typically found on the back of floor tiles. According to the NESHAP Final Rule, point count data is only necessary when the visual estimate of asbestos is below 10%.

Sample ID	Lab Number	Layer Description
34	11635747	**Brown Non-Fibrous Material**

Point Count Results:

Number of asbestos points counted:	2
Number of non-empty points:	400
Layer percentage of entire sample:	100
Percent asbestos in layer:	**< 1**

Asbestos type(s) detected: Chrysotile

Comment:

Sample ID	Lab Number	Layer Description
35	11635748	**Brown Non-Fibrous Material**

Point Count Results:

Number of asbestos points counted:	1
Number of non-empty points:	400
Layer percentage of entire sample:	15
Percent asbestos in layer:	**< 1**

Asbestos type(s) detected: Chrysotile

Comment:

Note: Point count results are reported to the nearest percent per EPA method.

Tad Thrower, Laboratory Supervisor, Hayward Laboratory

Note: Limit of Quantification (LOQ) = 1%. Trace denotes the presence of asbestos below the LOQ. ND = None Detected.

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Environmental Services

Page 1 of 1
Job # 338 - MAIS
P.O. # 423-338-47

General Information

Date: 04-23-15
Job ID: Santa Cruz Roadhouse
SB1022
X-Building
Collected By: ENV
Lab: EASI

Analysis Requested

- ☐ PCM NIOSH 7400
- ☐ TEM
  - ○ AHERA
  - ○ Level 2
  - ○ Bulk Quantitative
  - ○ Bulk Qualitative
- ☒ PLM BULK - EPA/600/R/116
- ☐ Lead
  - ○ AA
  - ○ TTLC
  - ○ STLC
  - ○ TCLP
- ☐ Mold
- ☐ Other

Turn Around Time

- ☐ Rush
- ☐ 12 hours
- ☐ 24 hours
- ☒ 48 hours
- ☐ 3-5 days
- ☐ _____

Special Instructions

☐ Prior Positive

Filter Type: ☐ MCE, 0.8 µm, 25mm ☐ MCE, 0.45µm, 25mm ☐ MCE, 0.8µm, 37mm ☐ Other _____

Sample # / Date	Sample Type	Sample Protocol	Location / Activity / Material Description	Time On/Off	LPM	Total Min. / Total Vol. / Fibers/Fields	Results
# 01-07 08-09	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	D.W. Mastic	on off pump#	on end Ave Roto#		
# 10-11 12	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	1X1 CT w/Mastic Concrete	on off pump#	on end Ave Roto#		
# 13-14 15-18	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Mortar Coating	on off pump#	on end Ave Roto#		
# 19-21 22-26	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Mastic Glazing	on off pump#	on end Ave Roto#		
# 27 28-31	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Mastic Caulk	on off pump#	on end Ave Roto#		
# 32-35 36-37	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Glazing Jacket	on off pump#	on end Ave Roto#		
# 38 39-40	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	↓ Caulk	on off pump#	on end Ave Roto#		
# 41-42 43-47	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Mastic Roofing	on off pump#	on end Ave Roto#		
#	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.		on off pump#	on end Ave Roto#		

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Relinquished By:	Date/Time	Received By:	Date/Time
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Forensic Analytical Laboratories

Final Report

Metals Analysis of Paints

Protech Consulting & Engineers Inc.
Project Manager

1208 Main St.
Redwood City, CA 94063

Client ID: 1454
Report Number: M160416
Date Received: 04/24/15
Date Analyzed: 04/27/15
Date Printed: 04/27/15
First Reported: 04/27/15

Job ID / Site: 338-MA15, 423-338-09 - Santa Cruz Roundtree SB1022, Paints
Date(s) Collected: 4/23/15

FALI Job ID: 1454
Total Samples Submitted: 9
Total Samples Analyzed: 9

Sample Number	Lab Number	Analyte	Result	Result Units	Reporting Limit*	Method Reference
LP-01	30711151	Pb	< 0.006	wt%	0.006	EPA 3050B/7420
LP-02	30711152	Pb	< 0.006	wt%	0.006	EPA 3050B/7420
LP-03	30711153	Pb	< 0.006	wt%	0.006	EPA 3050B/7420
LP-04	30711154	Pb	< 0.006	wt%	0.006	EPA 3050B/7420
LP-05	30711155	Pb	< 0.006	wt%	0.006	EPA 3050B/7420
LP-06	30711156	Pb	< 0.006	wt%	0.006	EPA 3050B/7420
LP-07	30711157	Pb	< 0.006	wt%	0.006	EPA 3050B/7420
LP-08	30711158	Pb	< 0.006	wt%	0.006	EPA 3050B/7420
LP-09	30711159	Pb	< 0.006	wt%	0.006	EPA 3050B/7420

* The Reporting Limit represents the lowest amount of analyte that the laboratory can confidently detect in the sample, and is not a regulatory level. The Units for the Reporting Limit are the same as the Units for the Final Results.

Daniele Siu

Daniele Siu, Laboratory Supervisor, Hayward Laboratory

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Phone: (650) 569-4020 Fax: (650) 569-4023
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Environmental Services

Job # 338-MA15

P.O. # 423-338-09

General Information

Date: 04-23-15

Job ID: Santa Cruz Roundtree
SB1022
Paints

Collected By: EHO

Lab: FASI

Analysis Requested

- ☐ PCM NIOSH 7400
- ☐ TEM
  - ○ AHERA
  - ○ Level 2
  - ○ Bulk Quantitative
  - ○ Bulk Qualitative
- ☐ PLM BULK - EPA/600/R/116
- ☒ Lead
  - ☒ AA
  - ○ TTLC
  - ○ STLC
  - ○ TCLP
- ☐ Mold _____
- ☐ Other _____

Turn Around Time

- ☐ Rush
- ☐ 12 hours
- ☒ 24 hours
- ☐ 48 hours
- ☐ 3-5 days
- ☐

Special Instructions

☐ Prior Positive

Filter Type: ☐ MCE, 0.8 µm, 25mm ☐ MCE, 0.45µm, 25mm ☐ MCE, 0.8µm, 37mm ☐ Other _____

Sample # / Date	Sample Type	Sample Protocol	Location / Activity / Material Description	Time On/Off	LPM	Total Vin. / Total Vol. Fibers/Fields	Results
# LP-01	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	X-Bldg. Gray Concrete Paint in weight Room area 150 sf loosed Paint	on off pump#	on end Ave Roto#		
# LP-02	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	White drywall Paint	on off pump#	on end Ave Roto#		
# LP-03	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Gray wood wall Paint	on off pump#	on end Ave Roto#		
# LP-04	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Blue wood Door Paint	on off pump#	on end Ave Roto#		
# LP-05	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Ancillary Bldg. Gray Drywall Paint	on off pump#	on end Ave Roto#		
# LP-06	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Interior white Concrete Paint	on off pump#	on end Ave Roto#		
# LP-07	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Exterior white Concrete Paint	on off pump#	on end Ave Roto#		
# LP-09	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Classroom Bldg. Ext. Blue wood Deck/Railing Paint	on off pump#	on end Ave Roto#		
# LP-09	☐ Post ☐ Area ☒ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Ext. Brown wood Siding Paint	on off pump#	on end Ave Roto#		

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Bulk Asbestos Analysis

(EPA Method 600/R-93-116, Visual Area Estimation)

Protech Consulting & Engineers Inc.
Project Manager

1208 Main St.
Redwood City, CA 94063

Client ID: 1454
Report Number: B204709
Date Received: 04/24/15
Date Analyzed: 04/28/15
Date Printed: 04/28/15
First Reported: 04/28/15

Job ID/Site: 338-MA15, 423-338-47 - Santa Cruz Roundtree SB1022, X Building

Date(s) Collected: 04/23/2015

FALI Job ID: 1454
Total Samples Submitted: 47
Total Samples Analyzed: 47

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
01	11635714						
Layer: White Drywall			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							
02	11635715						
Layer: White Drywall			**ND**				
Layer: Off-White Skimcoat/Joint Compound		Chrysotile	**2 %**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (Trace)**					
Cellulose (20 %) Fibrous Glass (10 %)							
03	11635716						
Layer: White Drywall			**ND**				
Layer: White Skimcoat/Joint Compound		Chrysotile	**2 %**				
Layer: White Tape			**ND**				
Layer: Off-White Skimcoat/Joint Compound		Chrysotile	**2 %**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (Trace)**					
Cellulose (20 %) Fibrous Glass (10 %)							
04	11635717						
Layer: White Drywall			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: White Tape			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							
05	11635718						
Layer: White Drywall			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							

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Client Name: Protech Consulting & Engineers Inc.

Report Number: B204709
Date Printed: 04/28/15

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
06	11635719						
Layer: White Drywall			**ND**				
Layer: White Skimcoat/Joint Compound		Chrysotile	**2 %**				
Layer: White Tape			**ND**				
Layer: Off-White Skimcoat/Joint Compound		Chrysotile	**2 %**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (Trace)**					
Cellulose (20 %) Fibrous Glass (10 %)							
07	11635720						
Layer: White Drywall			**ND**				
Layer: Off-White Skimcoat/Joint Compound		Chrysotile	**2 %**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (Trace)**					
Cellulose (20 %) Fibrous Glass (10 %)							
08	11635721						
Layer: Tan Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							
09	11635722						
Layer: Tan Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							
10	11635723						
Layer: Brown Mastic			**ND**				
Layer: Yellow Fibrous Tile			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (2 %) Fibrous Glass (90 %)							
11	11635724						
Layer: Tan Mastic			**ND**				
Layer: Tan Fibrous Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (95 %)							
12	11635725						
Layer: Grey Mortar			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							
13	11635726						
Layer: Grey Mortar			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							

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Client Name: Protech Consulting & Engineers Inc.

Report Number: B204709
Date Printed: 04/28/15

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
14	11635727						
Layer: Tan Coating			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							
15	11635728						
Layer: Tan Coating			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							
16	11635729						
Layer: Tan Coating			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							
17	11635730						
Layer: Tan Coating			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							
18	11635731						
Layer: Tan Coating			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							
19	11635732						
Layer: Brown Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							
20	11635733						
Layer: Brown Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							
21	11635734						
Layer: Brown Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							
22	11635735						
Layer: Grey Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							

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Client Name: Protech Consulting & Engineers Inc.

Report Number: B204709
Date Printed: 04/28/15

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
23	11635736						
Layer: Grey Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
24	11635737						
Layer: Grey Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
25	11635738						
Layer: Grey Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
26	11635739						
Layer: Grey Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
27	11635740						
Layer: Yellow Mastic			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
28	11635741						
Layer: Dark Brown Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace) Fibrous Glass (5 %)		**Asbestos (ND)**					
29	11635742						
Layer: Dark Brown Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace) Fibrous Glass (5 %)		**Asbestos (ND)**					
30	11635743						
Layer: Dark Brown Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace) Fibrous Glass (5 %)		**Asbestos (ND)**					
31	11635744						
Layer: Dark Brown Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace) Fibrous Glass (5 %)		**Asbestos (ND)**					
32	11635745						
Layer: Brown Non-Fibrous Material			**ND**				
Layer: Grey Non-Fibrous Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					

3777 Depot Road, Suite 409, Hayward, CA 94545 / Telephone: (510) 887-8828 (800) 827-FASI / Fax: (510) 887-4218

Client Name: Protech Consulting & Engineers Inc.

Report Number: B204709
Date Printed: 04/28/15

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
33	11635746						
Layer: Brown Non-Fibrous Material			**ND**				
Layer: Grey Non-Fibrous Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							
34	11635747						
Layer: Brown Non-Fibrous Material		Chrysotile	**Trace**				
Total Composite Values of Fibrous Components:		**Asbestos (Trace)**					
Cellulose (Trace)							
35	11635748						
Layer: Brown Non-Fibrous Material		Chrysotile	**Trace**				
Layer: Grey Non-Fibrous Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (Trace)**					
Cellulose (Trace)							
36	11635749						
Layer: Yellow Fibrous Material			**ND**				
Layer: Tan Woven Material			**ND**				
Layer: White Coating			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (75 %) Fibrous Glass (25 %)							
37	11635750						
Layer: Yellow Fibrous Material			**ND**				
Layer: White Woven Material			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (75 %) Fibrous Glass (25 %)							
38	11635751						
Layer: Yellow Fibrous Material			**ND**				
Layer: White Woven Material			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (75 %) Fibrous Glass (25 %)							
39	11635752						
Layer: Dark Brown Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							
40	11635753						
Layer: Dark Brown Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							
41	11635754						
Layer: Black Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							

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Client Name: Protech Consulting & Engineers Inc.

Report Number: B204709
Date Printed: 04/28/15

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
42	11635755						
Layer: Black Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							
43	11635756						
Layer: Black Roof Shingle			**ND**				
Layer: Black Roof Shingle			**ND**				
Layer: Black Felt			**ND**				
Layer: Black Felt			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (35 %)							
Comment: Bulk complex sample.							
44	11635757						
Layer: Black Roof Shingle			**ND**				
Layer: Black Roof Shingle			**ND**				
Layer: Black Felt			**ND**				
Layer: Black Felt			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (35 %)							
Comment: Bulk complex sample.							
45	11635758						
Layer: Black Roof Shingle			**ND**				
Layer: Black Roof Shingle			**ND**				
Layer: Black Felt			**ND**				
Layer: Black Felt			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (35 %)							
Comment: Bulk complex sample.							
46	11635759						
Layer: Black Roof Shingle			**ND**				
Layer: Black Roof Shingle			**ND**				
Layer: Black Felt			**ND**				
Layer: Black Felt			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (35 %)							
Comment: Bulk complex sample.							
47	11635760						
Layer: Black Roof Shingle			**ND**				
Layer: Black Roof Shingle			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (35 %)							
Comment: Bulk complex sample.							

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Report Number: B204709

Client Name: Protech Consulting & Engineers Inc. **Date Printed:** 04/28/15

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer

Tad Thrower

Tad Thrower, Laboratory Supervisor, Hayward Laboratory

Note: Limit of Quantification ('LOQ') = 1%. 'Trace' denotes the presence of asbestos below the LOQ. 'ND' = 'None Detected'.

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Environmental Services

Page 1 of 1
Job # 338 - MAIS
P.O. # 423-338-47

General Information

Date: 04-23-15
Job ID: Santa Cruz Roundtree
SB1022
X - Building
Collected By: EMT
Lab: EASI

Analysis Requested

- ☐ PCM NIOSH 7400
- ☐ TEM
  - ○ AHERA
  - ○ Level 2
  - ○ Bulk Quantitative
  - ○ Bulk Qualitative
- ☒ PLM BULK - EPA/600/R/116
- ☐ Lead
  - ○ AA
  - ○ TTLC
  - ○ STLC
  - ○ TCLP
- ☐ Mold
- ☐ Other

Turn Around Time

- ☐ Rush
- ☐ 12 hours
- ☐ 24 hours
- ☒ 48 hours
- ☐ 3-5 days
- ☐

Special Instructions

☐ Prior Positive

Filter Type: ☐ MCE, 0.8 µm, 25mm ☐ MCE, 0.45µm, 25mm ☐ MCE, 0.8µm, 37mm ☐ Other

Sample # / Date	Sample Type	Sample Protocol	Location / Activity / Material Description	Time On/Off	LPM	Total Min. / Total Vol. / Fibers/Fields	Results
# 01-07 08-09	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	D.W. Mastic	on off pump#	on end Ave Roto#		
# 10-11 12	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	1X1 C.T. w/mastic Concrete	on off pump#	on end Ave Roto#		
# 13-14 15-18	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Mortar Coating	on off pump#	on end Ave Roto#		
# 19-21 22-26	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Mastic Glazing	on off pump#	on end Ave Roto#		
# 27 28-31	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Mastic Caulk	on off pump#	on end Ave Roto#		
# 32-35 36-37	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Glazing Jacket	on off pump#	on end Ave Roto#		
# 38 39-40	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	↓ Caulk	on off pump#	on end Ave Roto#		
# 41-42 43-47	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Mastic Roofing	on off pump#	on end Ave Roto#		
#	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.		on off pump#	on end Ave Roto#		

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Bulk Asbestos Analysis

(EPA Method 600/R-93-116, Visual Area Estimation)

Protech Consulting & Engineers Inc.
Project Manager

1208 Main St.
Redwood City, CA 94063

Client ID: 1454
Report Number: B204707
Date Received: 04/24/15
Date Analyzed: 04/27/15
Date Printed: 04/27/15
First Reported: 04/27/15

Job ID/Site: 338-MA15, 423-338-14 - Santa Cruz Roundtree SB1022, Classroom Building

FALI Job ID: 1454
Total Samples Submitted: 14
Total Samples Analyzed: 14

Date(s) Collected: 04/23/2015

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
01	11635700						
Layer: White Drywall			**ND**				
Layer: White Woven Material			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							
02	11635701						
Layer: White Drywall			**ND**				
Layer: Yellow Woven Material			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							
03	11635702						
Layer: Brown Drywall			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							
04	11635703						
Layer: White Drywall			**ND**				
Layer: White Texture			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							
05	11635704						
Layer: White Drywall			**ND**				
Layer: White Texture			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							

Client Name: Protech Consulting & Engineers Inc.

Report Number: B204707
Date Printed: 04/27/15

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
06	11635705						
Layer: Tan Fibrous Material			**ND**				
Layer: Paint			**ND**				
Layer: Yellow Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (90 %)							
07	11635706						
Layer: White Non-Fibrous Material			**ND**				
Layer: Tan Fibrous Material			**ND**				
Layer: Paint			**ND**				
Layer: Yellow Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (80 %)							
08	11635707						
Layer: Beige Fibrous Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (35 %) Fibrous Glass (45 %)							
09	11635708						
Layer: Beige Fibrous Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (35 %) Fibrous Glass (45 %)							
10	11635709						
Layer: Yellow Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
11	11635710						
Layer: Yellow Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
12	11635711						
Layer: Grey Sheet Flooring			**ND**				
Layer: Fibrous Backing			**ND**				
Layer: Off-White Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (5 %) Synthetic (10 %)							
13	11635712						
Layer: Grey Roof Shingle			**ND**				
Layer: Black Felt			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (30 %) Fibrous Glass (15 %)							

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Client Name: Protech Consulting & Engineers Inc.

Report Number: B204707
Date Printed: 04/27/15

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
14	11635713						
Layer: Grey Roof Shingle			**ND**				
Layer: Black Felt			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (30 %) Fibrous Glass (15 %)							

Tad Thrower

Tad Thrower, Laboratory Supervisor, Hayward Laboratory

Note: Limit of Quantification ('LOQ') = 1%. 'Trace' denotes the presence of asbestos below the LOQ. 'ND' = 'None Detected'.

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Environmental Services

Page 1 of 1
Job # 338-MA15
P.O. # 4/23 338-14

General Information

Date: 04-23-15
Job ID: Santa Cruz Roundtree
SB1022
Classroom Bridg.
Collected By: ED
Lab: EAST

Analysis Requested

- ☐ PCM NIOSH 7400
- ☐ TEM
  - ○ AHERA
  - ○ Level 2
  - ○ Bulk Quantitative
  - ○ Bulk Qualitative
- ☒ PLM BULK - EPA/600/R/116
- ☐ Lead
  - ○ AA
  - ○ TTLC
  - ○ STLC
  - ○ TCLP
- ☐ Mold ______
- ☐ Other ______

Turn Around Time

- ☐ Rush
- ☐ 12 hours
- ☒ 24 hours
- ☐ 48 hours
- ☐ 3-5 days
- ☐ ______

Special Instructions

☐ Prior Positive

Filter Type: ☐ MCE, 0.8 µm, 25mm ☐ MCE, 0.45µm, 25mm ☐ MCE, 0.8µm, 37mm ☐ Other ______

Sample # Date	Sample Type	Sample Protocol	Location / Activity / Material Description	Time On/Off	LPM	Total Min. Total Vol. Fibers/Fields	Results
# 01-03 04-05	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	D.W. T.Text.	on off pump#	on end Ave Roto#		
# 06-07 08-09	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Panels w/mastic 2x4 C.Pad	on off pump#	on end Ave Roto#		
# 10-11 12	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Mastic S.F.	on off pump#	on end Ave Roto#		
# 13-14	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	C.S. Roof	on off pump#	on end Ave Roto#		
#	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.		on off pump#	on end Ave Roto#		
#	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.		on off pump#	on end Ave Roto#		
#	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.		on off pump#	on end Ave Roto#		
#	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.		on off pump#	on end Ave Roto#		
#	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.		on off pump#	on end Ave Roto#		

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Bulk Asbestos Analysis

(EPA Method 600/R-93-116, Visual Area Estimation)

Protech Consulting & Engineers Inc.
Project Manager

1208 Main St.
Redwood City, CA 94063

Client ID: 1454
Report Number: B204703
Date Received: 04/24/15
Date Analyzed: 04/27/15
Date Printed: 04/27/15
First Reported: 04/27/15

Job ID/Site: 338-MA15, 423-338-29 - Santa Cruz Roundtree SB1022, Ancillary Bldg.

Date(s) Collected: 04/23/2015

FALI Job ID: 1454
Total Samples Submitted: 29
Total Samples Analyzed: 29

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
01	11635652						
Layer: White Drywall			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: White Tape			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							
02	11635653						
Layer: White Drywall			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							
03	11635654						
Layer: White Drywall			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: White Tape			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							
04	11635655						
Layer: Beige Fibrous Material			**ND**				
Layer: Yellow Mastic			**ND**				
Layer: White Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (35 %) Fibrous Glass (45 %)							
05	11635656						
Layer: Yellow Mastic			**ND**				
Layer: Tan Fibrous Material			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (50 %)							
06	11635657						
Layer: Grey Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					

Client Name: Protech Consulting & Engineers Inc.

Report Number: B204703
Date Printed: 04/27/15

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
07	11635658						
Layer: Grey Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
08	11635659						
Layer: White Foam			**ND**				
Layer: White Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
09	11635660						
Layer: White Drywall			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: White Tape			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							
10	11635661						
Layer: Brown Drywall			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: White Tape			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							
11	11635662						
Layer: White Drywall			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: White Tape			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							
12	11635663						
Layer: Beige Fibrous Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (45 %) Fibrous Glass (35 %)							
13	11635664						
Layer: Beige Fibrous Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (45 %) Fibrous Glass (35 %)							

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Client Name: Protech Consulting & Engineers Inc.

Report Number: B204703
Date Printed: 04/27/15

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
14	11635665						
Layer: Off-White Mastic			**ND**				
Layer: White Fibrous Material			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (5 %)							
15	11635666						
Layer: White Tile			**ND**				
Layer: Yellow Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							
16	11635667						
Layer: Grey Sheet Flooring			**ND**				
Layer: Fibrous Backing			**ND**				
Layer: White Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (5 %) Synthetic (10 %)							
17	11635668						
Layer: Grey Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (2 %)							
18	11635669						
Layer: Clear Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
19	11635670						
Layer: Grey Non-Fibrous Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							
20	11635671						
Layer: Grey Non-Fibrous Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							
21	11635672						
Layer: White Fibrous Material			**ND**				
Layer: Foil			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (80 %) Fibrous Glass (10 %)							

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Client Name: Protech Consulting & Engineers Inc.

Report Number: B204703
Date Printed: 04/27/15

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
22	11635673						
Layer: Yellow Fibrous Material			**ND**				
Layer: Foil			**ND**				
Layer: White Fibrous Material			**ND**				
Layer: Foil			**ND**				
Layer: White Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (15 %) Fibrous Glass (75 %)		**Asbestos (ND)**					
23	11635674						
Layer: Grey Semi-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (20 %)		**Asbestos (ND)**					
24	11635675						
Layer: Grey Semi-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (20 %)		**Asbestos (ND)**					
25	11635676						
Layer: Grey Semi-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (20 %)		**Asbestos (ND)**					
26	11635677						
Layer: Grey Semi-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (20 %)		**Asbestos (ND)**					
27	11635678						
Layer: Grey Semi-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (20 %)		**Asbestos (ND)**					
28	11635679						
Layer: White Mastic			**ND**				
Layer: Blue Tile			**ND**				
Layer: Yellow Mastic			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
29	11635680						
Layer: Grey Cementitious Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					

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Report Number: B204703

Client Name: Protech Consulting & Engineers Inc. **Date Printed:** 04/27/15

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer

Tad Thrower, Laboratory Supervisor, Hayward Laboratory

Note: Limit of Quantification ('LOQ') = 1%. 'Trace' denotes the presence of asbestos below the LOQ. 'ND' = 'None Detected'.

3777 Depot Road, Suite 409, Hayward, CA 94545 / Telephone: (510) 887-8828 (800) 827-FASI / Fax: (510) 887-4218

ProTech
Consulting & Engineering

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Environmental Services

Page 1 of 1
Job # 338-MA15
P.O. # 423 336.29

General Information

Date: 04-23-15
Job ID: Santa Cruz Roundtree SB1022
Ancillary Bldg.
Collected By: EO
Lab: FAST

Analysis Requested

- ☐ PCM NIOSH 7400
- ☐ TEM
  - ○ AHERA
  - ○ Level 2
  - ○ Bulk Quantitative
  - ○ Bulk Qualitative
- ☒ PLM BULK - EPA/600/R/116
- ☐ Lead
  - ○ AA
  - ○ TTLC
  - ○ STLC
  - ○ TCLP
- ☐ Mold
- ☐ Other

Turn Around Time

- ☐ Rush
- ☐ 12 hours
- ☒ 24 hours
- ☐ 48 hours
- ☐ 3-5 days
- ☐

Special Instructions

☐ Prior Positive

Filter Type: ☐ MCE, 0.8 µm, 25mm ☐ MCE, 0.45µm, 25mm ☐ MCE, 0.8µm, 37mm ☐ Other

Sample # / Date	Sample Type	Sample Protocol	Location / Activity / Material Description	Time On/Off	LPM	Total Min. / Total Vol. / Fibers/Fields	Results
# 01-03 / 04	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	D.W. / 2x4 C.P.	on / off / pump#	on / end / Ave / Roto#		
# 05 / 06	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	w.p. mastic / Mastic	on / off / pump#	on / end / Ave / Roto#		
# 07 / 08	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Epoxy / Insulation	on / off / pump#	on / end / Ave / Roto#		
# 09-11 / 12-13	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	D.W. / 2x4 Gilg Paint	on / off / pump#	on / end / Ave / Roto#		
# 14 / 15	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	/ B.B. Mastic	on / off / pump#	on / end / Ave / Roto#		
# 16 / 17-18	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	12X12 VFT w/m. / Mastic	on / off / pump#	on / end / Ave / Roto#		
# 19-20 / 21-22	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Caulk. / Jacket	on / off / pump#	on / end / Ave / Roto#		
# 23-27 / 28	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Fireproofing / 12X12 VFT w/m	on / off / pump#	on / end / Ave / Roto#		
# 29	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Stucco	on / off / pump#	on / end / Ave / Roto#		

CHAIN OF CUSTODY

Relinquished By:	Date/Time	Received By:	Date/Time
EO			APR 24 2015

RECEIVED

WHITE - RETAIN WITH SAMPLES CANARY - FILE COPY

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Asbestos & Lead (Pb) Report

Partial Pre-Demo/Renovation Survey & Evaluation

Date:	June 4, 2015
Project No.:	338-MA15
Requested By: (Client)	Moss & Associates 100 Wonsan Drive Ocean Side, California 92058
Project:	Santa Cruz Rountree SB1022 90 Roundtree Lane Watsonville, California
Project Description:	Minimum Security Jail Modification
Service Area(s):	1. X-building (Minimum Security Building) including: • Wing A Renovation • Wing B Renovation • Wing C Demolition • Wing D Renovation 2. Ancillary Building (Medium Security Building): limited to parts of the building labeled as "areas of work" on Attachment A(7) of the bid set. 3. Classroom Building (Scheduled for demolition)

On April 22, 2015 ***ProTech Consulting & Engineering, Inc.*** performed a building survey to identify asbestos-containing materials (ACM) and presence of Lead based paint (Pb) at the subject project. The survey was conducted in an effort to comply with pre-demolition/renovation regulatory requirements.

Environmental consulting services were conducted by ProTech's licensed and accredited staff as follows:

Consultant	Discipline	Issuing Agency	Certification No.
Glen Koutz	Asbestos Lead	Cal OSHA CDPH	11-4830 2204
Emanuel Dounias	Asbestos Lead	Cal OSHA CDPH	00-2766 13059

Services Requested by Client

Asbestos Survey

Consulting services were limited by the client to the following scope of services:

- Performed a visual survey of the project to identify, document, and assess suspect asbestos-containing materials (ACM).
- Collected representative samples to confirm or rebut the presence of ACM.
- Submitted necessary samples to a certified laboratory for analysis by standard polarized light microscopy (PLM) to determine asbestos content.
- Assess the friability and abatement classification of identified ACM;
- Prepared this written report presenting an evaluation and assessment of the data.

ProTech is only responsible for the specific scope of work as stated. No other services are intended or implied.

LBP Survey

- Performed a visual survey of the project to identify, document, and assess suspect lead-based paint (LBP).
- Tested painted/coated surfaces using a calibrated X-ray fluorescence analyzer (XRF).
- Collected representative confirmational paint chip samples to confirm or rebut the presence of lead. Submitted paint chip samples to a certified laboratory for analysis.
- Prepared this written report presenting an evaluation and assessment of the data.

Results & Regulatory Assessment

Asbestos types are abbreviated as follows: Chr = Chrysotile; Amo = Amosite; Cro = Crocidolite; Tre = Tremolite; Act = Actinolite.

Confirmed Less Than 1% Asbestos Materials

	Material Description	Material, System, Location	Smpl Nos.	Approx. Quant.	Lab Result	Regulatory Assessment	
						Cal. OSHA	EPA/ AQMD
X-Bldg.							
1.	White drywall, joint tape and compound	Some walls and ceilings in various areas throughout most walls and ceilings with concrete and wood	**01*, 02, 03, 04*, 05*, 06, 07**	Approximately 12,000 sq ft.	**Confirmed <1% Chr**	Class II Abatement	Non-Friable
2	Brown/gray window glazing	Exterior windows	**32*, 33*. 34, 35**	3500 ln ft.	**Confirmed <1% Chr**	Class II Abatement	Non-Friable

*** No asbestos detected in sample**

Non-Asbestos Materials

No asbestos was detected in the following materials.

	MATERIAL DESCRIPTION	MATERIAL LOCATION(S)	SAMPLE NUMBERS
	X-Bldg.		
1.	Yellow carpet mastic	Probation office	08
2	Yellow carpet mastic	Officers office	09
3	Smooth 1 x 1 ceiling tiles with brown mastic	Upper module area	10
4	Perforated 1 x 1 ceiling tile with tan mastic	Lower module area	11
5	Gray concrete pad	Upper module floor	12
6	Gray ceramic tile mortar	Kitchen splash and urinal area	13, 14
7	Brown cemticious coating	On concrete and CMU in the exterior maintenance closet, kitchen slop sink and the shower toilet area.	15, 16, 17, 18
8	Brown baseboard mastic	Dorm, recreation room/library area, module	19, 20, 21
9	Interior window glazing	Interior partician walls for class and wood panels	22,23, 24, 25, 26
10	Yellow wall panel mastic	Exterior restrooms	27
11	Brown Window caulking	Exterior rough openings of windows	28, 29, 30, 31
12	White pipe jacket	Hot water pipes throughout	36, 37
13	White take jacket	Hot water heater tank in mechanical room	38
14	Gray roof caulking	Flashing and penetrations	39, 40
15	Gray roof mastic	Small out patches throughout	41, 42
16	Brown composite shingle roof	Main roof field	43, 44, 45, 46, 47
	Ancillary Building		
17	Drywall, joint tape and compound	Most walls in kitchen area	01, 02, 03
18	Smooth 2 x 4 ceiling panels	Kitchen dish wash area	04
19	Yellow wall panel mastic	Kitchen dish wash area	05
20	Gray HVAC joint mastic	Above ceiling on ducts	06
21	Gray epoxy floor	Kitchen area	07
22	White tank insulation(foam)	Mechanical room	08
23	Drywall, joint tape and compound	Most some ceiling reception office area	09, 10, 11
24	2 x 4 ceiling panels	Most ceilings reception office area	12, 13
25	Tan baseboard mastic	Most walls reception office area	14
26	White 12 x 12 vinyl floor tile with yellow mastic	Storage closet and copy room	15
27	Gray sheet flooring	Restroom	16
28	Yellow carpet mastic	Office and hall	17, 18
29	Gray concrete caulking	At seams and all rough openings	19, 20
30	White pipe jacket	most water pipes	21, 22
31	Gray monocoat fireproofing	Throughout above ceiling areas	23, 24, 25, 26, 27,
32	Green 12 x 12 vinyl floor tile with yellow mastic	Housing corridor	28
33	Stucco	Exterior south soffit	29
	Classroom building		
34	Drywall, joint tape and compound	Walls of center build outs	01, 02, 03
35	Topping texture	Storeroom and office	04, 05
36	Fibrous wall panels with mastic	Classrooms	06, 07
37	2 x 4 ceiling panels	Throughout	08, 09
38	Yellow carpet mastic	Throughout most	10, 11
39	Gray pebble pattern sheet flooring	Kitchenette and restroom	12
40	Gray composite shingle roof	Roof field	13, 14

ACM Note: Conflicting Laboratory Results

The EPA has a specific protocol for sampling suspect asbestos building materials. In general, it recommends collecting multiple samples (often a minimum of three) of each suspect asbestos material. Multiple samples are recommended by the EPA to increase the statistical reliability of the results and to minimize the potential for field or laboratory error.

Sometimes, multiple samples representing a particular material will yield both positive and negative results. When this happens, the negative sample result(s) are superseded by the positive results. **Once a single positive sample is identified, the material represented by the sampling is treated as an asbestos-containing material.**

However, if additional sampling data, as-built plans, or other reliable data can adequately explain or confirm that area(s) that tested positive are different (not homogeneous) from areas that tested negative, this information can be used to more accurately quantify ACM and define the scope of an asbestos abatement job.

LEAD

Painted/coated surfaces were tested in the field using an X-Ray fluorescence (XRF) spectrum analyzer and/or sampled (paint chips) and submitted to a certified laboratory for analysis by atomic absorption spectroscopy (AAS). Lead paint samples fell in to 1 of 3 types - as follows:

Types of Lead Materials

LEAD TYPES	DEFINITION	LEAD CONTENT STANDARD
LBP	Lead-based paint (or material)	By XRF: 1 mg/cm² or greater By Paint Chip: 0.5 weight % or 5,000 mg/kg (at or above)
LCM	Lead containing material (or paint)	By XRF: <1 mg/cm² By Paint Chip: Below 0.5 wt % of 5,000 mg/kg
ND	No lead detected	By XRF: Requires paint chip confirmation By Paint Chip: No lead Detected or <0.006 wt %

Lead-Based Paint (LBP) – By XRF

XRF READINGS	• **14 (fourteen)** XRF readings tested positive for lead-based paint/coating (see XRF report).	
SUMMARY OF LBP COMPONENTS	INTERIOR COMPONENTS	**X Building:** metal door components, Vinyl window components (Interior build outs and perimeter walls) **Ancillary Building:** Metal door components, Metal/concrete bumper posts, metal pantry cage, Structure Steel (beams, columns, etc)
	EXTERIOR COMPONENTS	**X Building:** Vinyl window components, metal railings **Classroom building:** Metal railings

Lead-Containing Material (LCM) – By XRF

XRF READINGS	• **34 (thirty-four)** XRF readings tested positive for low levels of lead (see XRF) report.	
SUMMARY OF LCM COMPONENTS	INTERIOR COMPONENTS	• SEE XRF REPORT
	EXTERIOR COMPONENTS	• SEE XRF REPORT

Non-Lead – By XRF

XRF Readings	• **70 (seventy)** XRF readings tested negative (no lead detected) for the presence of lead (see XRF report). (Note: Cal OSAH does not accept XRF to prove "non-lead" – paint-chip lab analysis is required)

Paint-Chip – By Laboratory Analysis

Representative paint-chip samples were collected to confirm (or rebut) the presence of lead in materials the showed very low (or no) lead content by XRF analysis.

	Component Type/Description	Substrate	Sample No(s)	Results Wt%	Type
	X-Building				
1	Gray concrete paint in weight room area- 150 sq ft loose and peeling paint	Concrete	LP-01	<0.006	ND
2	White drywall paint	Drywall	LP-02	<0.006	ND
3	Gray wood wall paint	Wood	LP-03	<0.006	ND
4	Blue wood door paint	Wood	LP-04	<0.006	ND
	Ancillary Building				
5	Gray drywall paint	Drywall	LP-05	<0.006	ND
6	Interior white concrete paint	Concrete	LP-06	<0.006	ND
7	Exterior white concrete paint	Concrete	LP-07	<0.006	ND
	Classroom Building				
8	Exterior blue wood deck/railing paint	Deck	LP-08	<0.006	ND
9	Exterior brown wood siding paint	Wood	LP-09	<0.006	ND

Asbestos Regulatory Notes

Cal OSHA (DOSH)

Asbestos-Containing Material (ACM): A material is an asbestos containing material (ACM) when the sample aggregate or any one of its layers (analyzed individually) contains greater than 1% asbestos. Cal OSHA does **not** allow composite analysis (mixing layers of materials together).

Less than 1% Asbestos: Materials containing less than 1% asbestos are not regulated by most governmental agencies. However, Cal OSHA is not one of those agencies. The Cal OSHA asbestos standard must be followed for work involving materials that contain a concentration of asbestos as low as **0.1%.**

If a material can be shown to contain less than 1% asbestos by PLM point count (or other approved method), it can be treated as an asbestos-containing construction material (ACCM). ACCM is a term Cal OSHA uses to describe materials containing **less than 1%** (but greater than 0.1%) asbestos. In certain situations, there may be some economic advantages to making this characterization. The decision to do so is evaluated on a case-by-case basis at the client's request.

Less than 0.1% Asbestos: If a material can be shown to contain less than **0.1%** asbestos by an approved method, it can be treated as a non-asbestos material. In certain situations, there may be

some economic advantages to making this characterization. The decision to do so is evaluated on a case-by-case basis at the client's request.

Class I Asbestos Work: Cal OSHA prescribes specific work practices involving the removal of asbestos-containing insulation and surfacing (i.e. sprayed-on) materials.

Class II Asbestos Work: Cal OSHA prescribes specific work practices involving the removal of ACM which is not insulation or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing, cement products, and construction mastics.

EPA/AQMD

Asbestos-Containing Material (ACM): Any building material which contains commercial asbestos in an amount greater than 1%.

Less than 1% Asbestos: Materials that are found to contain less than 1% asbestos by standard polarized light microscopy (PLM) may be considered non-asbestos (by EPA/AQMD) if confirmation analysis is performed. To be treated as a non-asbestos material, the EPA and AQMD require analytical verification by PLM Point Count (or better). This verification is required because the standard PLM analysis is not sensitive enough to accurately determine asbestos content at or below 1%. In certain situations, there may be some cost advantages to making this characterization. The decision to do so is evaluated on a case-by-case basis at the client's request.

Regulated Asbestos-Containing Material (RACM): RACM includes friable (easily crumbled) ACM, or Category I nonfriable ACM that has or will become friable or that has been subjected to sanding, drilling, grinding, cutting, or abrading, or Category II nonfriable ACM that may become or has become crumbled, pulverized, or reduced to powder.

Friable: Materials that can be crumbled, pulverized, or reduced to powder, when dry, by hand pressure.

Non-Friable: Materials that **cannot** be easily crumbled, pulverized, or reduced to powder, when dry, by hand pressure. Non-friable materials are categorized by EPA/AQMD as follows:

- *Category I Nonfriable ACM:* Asbestos-containing packings, gaskets, resilient floor coverings, mastics and asphalt roofing products.

- *Category II Nonfriable ACM:* Asbestos-containing material, excluding Category I nonfriable asbestos-containing material, that, when dry, and in its present form, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

LEAD REGULATORY NOTES

Lead-Based Paint (LBP)

	Material Description	Regulatory Assessment Governing Regulations
1.	Lead-based paint components (LBP)	• Cal OSHA standards apply if LBP will be disturbed by employees/workers • CDPH standards apply of lead "abatement" is performed • DTSC requires characterization of waste and proper disposal • US EPA standards apply if LBP is disturbed in a children occupied site
2.	Lead containing materials (LCM)	• Cal OSHA standards apply if LCM will be disturbed by employees • CDPH standards apply if worker exposure standards are exceeded • DTSC requires characterization of waste and proper disposal
3.	No Lead Detected by XRF	• Cal OSHA standards apply unless paint chip laboratory analysis confirms non-lead
4.	No Lead Detected by Paint-chip	• No regulations apply

Regulatory Assessment Notes

California Occupational Safety & Health Administration (Cal OSHA):
- Regulates any detectable amount of lead (does not have to be LBP) when trigger tasks are performed
- Requires worker training
- Regulates employee safety during lead-related work
- Enforces proper work practices
- Requires notification when 100 sq ft (or more) of LBP is disturbed.

California Department of Public Health (CDPH):
- Regulates "abatement" of Lead-based paint
- Requires *accredited* training for workers and supervisors
- Provides certification of workers and supervisors performing abatement
- Mandates lead abatement be performed in accordance with US HUD guidelines
- Defines "abatement" as an action performed for the purpose and intent of reducing or eliminating a lead "hazard"
- Requires notification when abatement is performed

California Department of Toxic Substance Control (DTSC):
- Regulates disposal of lead waste
- Requires testing of waste stream to characterize hazard level

US Environmental Protection Agency (US EPA):
- Regulates Lead-based paint in child occupied facilities
- Regulates work involving the disturbance of as little as 6 sq ft of interior & 20 sq ft exterior LBP
- Requires *accredited* training for workers and supervisors
- Requires certification of companies performing LBP work
- Mandates minimal work practices

LEAD DISCUSSION

Lead-Based Paint & Lead Containing Materials

Lead-based paint (LBP) is defined as a material/coating/paint which contains a lead content at or in excess of 5,000 parts per million (PPM), 0.5% by weight, or 1 mg/cm^2 (by XRF). Materials containing a lead content below these levels are not considered LBP and are not considered a hazard by most regulatory agencies. However, the dust from materials containing low levels of lead can produce a lead hazard if enough lead dust accumulates.

Cal OSHA Trigger Tasks

Cal OSHA defines lead paint at the Consumer Product Safety Commission's (CPAC) level of 600 ppm for non-trigger tasks. However, Cal OSHA regulates **any detectable amount of lead** when trigger tasks are conducted.

The following table lists the Cal OSHA trigger tasks, presumed exposure and the type of respiratory protection that is required while performing those tasks:

Cal OSHA Trigger Task	Presumed Exposure	Required Respiratory Protection
• Manual demolition • Manual scraping and sanding • Heat gun use • Use of power tools with dust collection systems • Spray painting with lead paint • Any other activity that the employer has any reason to believe that an employee may be exposed in excess of the PEL.	50-100 µm/m^3	Half-mask, air purifying
• Using lead containing mortar • Lead burning • Rivet busting • Power tool cleaning without dust collection system • Clean-up of dry abrasive blast residue.	500-2500 µm/m^3	Full-face, air purifying, or Tight fitting PAPR, or Supplied air, contiguous flow
• Abrasive blasting • Welding • Cutting • Torch burning.	>2500 µm/m^3	Supplied air, pressure demand

Survey & Report Limitations

- Scope of work limitations were established by the Client to include items of interest and concern to the Client. *ProTech* is only responsible for the specific scope of work performed. No other services are intended or implied.

- This report has been prepared for the exclusive use of ProTech's client and is not intended for use by any other party. The scope of work and results presented in this report may not be appropriate for uses by any other party. Any use by a third party of this report shall be at their own risk and shall constitute a release and an agreement to defend and indemnify ProTech from any and all liability in connection therewith whether arising out of *ProTech's* negligence or otherwise.

- This project may contain undiscovered asbestos in areas that were not accessible or identified during ProTech's survey. Suspect asbestos may be discovered during demolition, renovation, or maintenance. If suspect asbestos is discovered, stop all work that could impact asbestos to allow properly trained personnel to perform sampling and or removal.

- This report and it's evaluations/conclusions are based on the current condition of the project. This report does not assess or anticipate future events that may impact or damage asbestos materials. Future changes in the condition of asbestos materials will require a new assessment by a certified asbestos consultant/technician.

- The quantities of asbestos stated in this report are approximations. This report is not a work plan or project specification. Contractors should not rely on this document for bidding purposes.

- Reasonable efforts were made to examine below **carpeted areas and resilient floor coverings** to determine and quantify the presence of suspect asbestos materials. ProTech accepts no liability for additional materials or under-reporting of asbestos materials which exist below other floor coverings.

- **Glass fiber insulated mechanical systems** were inspected as completely as possibly without destroying the integrity of the glass fiber insulation. The condition and presence or absence of asbestos associated with mechanical systems is assumed to be consistent with those areas exposed and examined during our inspection. However, ProTech does not guarantee that this is the case.

- ProTech does not represent this **limited survey** as a comprehensive inspection or evaluation. ProTech recommends that an expanded, comprehensive asbestos survey be conducted at this site if renovation or demolition activities are expected to impact any building materials other then those specifically addressed in this report.

- Because this survey was conducted in an **occupied building,** intrusive inspection methods were limited. Specific care and caution were observed to:

  1. Avoid significant aesthetic impact to architectural finishes.
  2. Avoid disturbing tenants and patrons.
  3. Avoid disturbing tenant spaces.

SURVEY APPROACH

Inspection & Sample Collection

ProTech performed a survey of the project to identify and document accessible suspect asbestos. Identified suspect asbestos materials categorized by homogenous area and sampled. Samples were collected by misting small areas with water, then cutting or scraping the sample from the substrate with an appropriate sampling tool. Whenever possible, samples were collected from areas previously damaged or deteriorating. No building systems, components, or structures were demolished to obtain samples of potentially hidden ACM.

Each suspect bulk sample was sealed in its own Zip-lock plastic container and labeled with a unique identification number. Sampling tools were individually cleaned before and after each sample was collected to avoid sample cross contamination. Decontamination was accomplished using single-use, pre-moistened cloths.

Sample information was recorded on ProTech's chain-of-custody form. This form accompanied the samples to a laboratory possessing accreditation from the National Voluntary Laboratory Accreditation Program (NVLAP). Samples were submitted to Forensic Analytical Services, Inc. of Hayward, California.

Sample Analysis

Bulk sample analysis was conducted in accordance with the EPA interim method for determination of asbestos in bulk materials. Samples were first examined by a stereoscopic microscope for determination of homogeneity and preliminary evaluation of composition and presence of fibers. Fibers observed during this examination were then mounted in various refractive index oils and examined in polarized light. During this examination, all minerals and/or man-made materials were identified and the percentages of each were estimated and/or counted.

Evaluation of Asbestos-Containing Materials

In evaluating each asbestos material, the adhesion of the asbestos material to the underlying substrate, deterioration, and damage from vandalism or any other cause was assessed. Evidence of debris on horizontal surfaces, hanging material, dislodged chunks, scraping, indentations, cracking, etc. would be indicators of poor material condition.

Accidental or deliberate physical contact with asbestos materials can result in damage. Inspectors looked for any evidence that asbestos-containing materials had been disturbed. Indicators such as: finger marks in the material, graffiti, pieces dislodged or missing, scraping marks from movable equipment, or furniture, or an accumulation of suspect asbestos dust or debris on floors, shelves, or other horizontal surfaces indicate poor material condition.

Asbestos-containing materials may deteriorate as a result of either the quality of the installation or environmental factors which affect the cohesive strength of the asbestos-containing material or the strength of the adhesion to the substrate. Deterioration can result in an accumulation of dust on the surface of the asbestos-containing material, delamination of the material, or an adhesive failure of the material where it pulls away from the substrate and either hangs loosely or falls to the floor and exposes the substrate. Inspectors touch the asbestos-containing material to determine if dust is released when the material is lightly brushed or rubbed.

CONCLUSIONS & RECOMMENDATIONS

Asbestos Removal

ACM should be removed prior to activity that may disturb it. Prior to ACM disturbance/removal, the following should be performed:

	Task	Task Description	Fee
1.	**Prepare Project Specification**	Prepare a written scope of work & instructions to bidders (site plans not included).	$800.00 - $1,200.00
2.	**Bid Review and Contractor Selection**	Select qualified contractors (prospective bidders), review bids and award contract.	$680.00
3.	**Project Monitoring & Oversight**	Monitoring asbestos abatement work and document contractor compliance.	Pricing upon request
4.	**Project Clearance**	Perform final inspection and collect air samples to certify work area clearance.	Pricing upon request

LEAD

- Cal OSHA worker protection rules, CDPH certification requirements, US EPA standards, and DTSC disposal requirements need to be assessed by each contractor/employer who performs work on this project.

- Contractors, whose employees work at this site, are required to assess if their work will be subject to the requirements of the Cal OSHA lead construction standard (CCR Title 8 § 1532). Cal OSHA standards are designed to regulate and enforce on-the-job worker safety. Employers are required by law to ensure that employees are <u>not</u> exposed to airborne lead levels which exceed the permissible exposure limit (PEL). The standard requires worker exposure monitoring, medical surveillance, training, special work practices, etc.

- Each contractor/employer who bids and/or performs work at the site will need to assess potential lead exposure to employees performing their particular scope of work. Contractors who perform work at this site may need to obtain additional data (beyond the data presented in this report) during their assessment and Cal OSHA compliance planning. Individual contractors/sub-contractors should be allowed access to the project to obtain any needed data (samples, consultation, etc.) to complete their employee exposure assessment.

- ProTech recommends that the building owner and/or general contractor disseminate this report as well as any other lead-related information to all prospective contractors bidding work at the subject site.

- Contractors, whose employees disturbs more that 100 sq ft of lead-based paint (LBP), are required to submit written notification to Cal OHSA (per Health and Safety Code, Title 17 CCR Section 36000 (c)). The Cal OSHA LBP notification rule requires 24-hour advance notice prior to LBP disturbance.

- Any work performed at the site where LBP or LCP is likely to be disturbed should be performed by a contractor trained and qualified to perform lead-related construction work. Any work that exceeds Cal OSHA's permissible exposure limit or is performed to remediate a lead hazard must be conducted by CDPH certified personnel. All lead related work should be conducted employing lead work practices in accordance with HUD guidelines.

LEGEND

HOW TO READ THE REPORT

Wall A, is the front wall of the building.
Walls B, C and D go clockwise around the building or room

REPORTS

Summary-- Gives only those readings at or above the action level of 1.0mg/cm2.

Detailed Report—Gives all reading by room and component.
Readings are not in numerical order. This report also gives comments

PAINT CONDITION

I=Intact

F=Fair

P=Poor

Comments

There were 124 readings taken, including calibrations, using the RMD XRF instrument. 14 of the readings registered at or above the action level of 1.0mg/cm2. A contractor practicing Lead Safe Practices should do any repairs or repainting of the actionable areas.

" A copy of this summary report must be provided to new lessees and purchasers of this property under Federal Law (24 CFR part 35 and 40 CFR part 745) before they become obligated under lease or sales contract. The complete report must also be provided to new purchasers and it must be made available to new tenants. Landlords and sellers are also required to distribute an educational pamphlet and include standard warning language in their leases or sales contracts to ensure that parents have the information they need to protect their children from lead-based paint hazards."

Emanuel Dounias
DPH 13095

_____
Date

LEAD PAINT INSPECTION REPORT

REPORT NUMBER: S#01369 - 04/22/15 12:26

INSPECTION FOR: Moss & Associates
100 Wonsan Drive.
Ocean Side, CA

PERFORMED AT: Santa Cruz Roundtree SB10022
90 Roundtree Lane
Watsonville, CA
Limited Areas

INSPECTION DATE: 04/22/15

INSTRUMENT TYPE: R M D
MODEL LPA-1
XRF TYPE ANALYZER
Serial Number: 01369

ACTION LEVEL: 1.0 mg/cm**2

OPERATOR LICENSE: California General

STATEMENT: Lead paint survey as agreed.
No representations are made for any areas not tested.

SIGNED _____ DATE _____

ProTech Consulting & Engineering
1208 Main Street
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SEQUENTIAL REPORT OF LEAD PAINT INSPECTION FOR: Moss & Associates

Inspection Date: 04/22/15
Report Date: 4/29/2015
Abatement Level: 1.0
Report No. S#01369 - 04/22/15 12:26
Total Readings: 124
Job Started: 04/22/15 12:26
Job Finished: 04/23/15 18:05

Santa Cruz Roundtree SB10022
90 Roundtree Lane
Watsonville, CA
Limited Areas

Read No.	Rm	Room Name	Wall	Structure	Location	Member	Paint Cond	Substrate	Paint Color	Lead (mg/cm²)	Mode
1		CALIBRATION								0.9	TC
2		CALIBRATION								0.9	TC
3		CALIBRATION								1.0	TC
4	001	X Module	A	Wall	L Ctr		I	Wood	White	0.0	QM
5	001	X Module	B	Wall	L Ctr		I	Wood	White	0.2	QM
6	001	X Module	D	Wall	L Ctr		I	Drywall	White	0.0	QM
7	001	X Module	B	Window	Ctr	Rgt casing	I	Wood	Blue	0.2	QM
8	001	X Module	A	Door	Ctr	Rgt casing	I	Wood	Blue	0.1	QM
9	001	X Module	A	Window	Ctr	Rgt casing	I	Wood	Brown	0.0	QM
10	001	X Module	B	Wall	L Lft		I	Wood	Blue	0.0	QM
11	002	X Dorm	A	Beam	Ctr		I	Wood	Black	0.0	QM
12	002	X Dorm	A	Beam	Ctr		I	Wood	Brown	0.0	QM
13	002	X Dorm	A	Wall	L Ctr		I	Concrete	White	0.0	QM
14	002	X Dorm	C	Wall	U Ctr		I	Concrete	White	0.3	QM
15	002	X Dorm	B	Door	Rgt	U Ctr	I	Metal	Blue	0.3	QM
16	002	X Dorm	B	Door	Rgt	Rgt casing	I	Metal	Blue	1.0	QM
17	003	X Wash Area	C	Door	Rgt	Rgt casing	I	Metal	Blue	1.0	QM
18	003	X Wash Area	C	Door	Rgt	U Ctr	I	Metal	Blue	0.0	QM
19	003	X Wash Area	D	Wall	L Ctr		I	Concrete	White	-0.1	QM
20	003	X Wash Area	A	Wall	L Ctr		I	Concrete	White	0.0	QM
21	003	X Wash Area	B	Wall	L Ctr		I	Concrete	White	-0.2	QM
22	003	X Wash Area	B	Wall	L Rgt		I	Ceramic	White	-0.1	QM
23	003	X Wash Area	A	Floor			I	Concrete	Gray	-0.1	QM
24	003	X Wash Area	B	Window	Rgt	Sash	I	Vinyl	Blue	4.9	QM
25	003	X Wash Area	B	Beam	Rgt		I	Wood	Black	0.1	QM
26	003	X Wash Area	B	Beam	Rgt		I	Wood	Brown	0.0	QM
27	004	X Din. Area	C	Beam	Rgt		I	Wood	Brown	0.0	QM
28	004	X Din. Area	C	Beam	Rgt		I	Wood	Black	0.0	QM
29	004	X Din. Area	B	Wall	U Rgt		I	Concrete	White	0.0	QM
30	004	X Din. Area	D	Chair rail	Ctr		I	Concrete	White	0.0	QM
31	004	X Din. Area	C	Floor			I	Concrete	Gray	-0.1	QM
32	004	X Din. Area	B	Wall	L Rgt		I	Ceramic	Tan	-0.1	QM
33	004	X Din. Area	C	Wall	U Ctr		I	Drywall	White	0.0	QM
34	004	X Din. Area	C	Ceiling			I	Wood	White	0.1	QM
35	004	X Din. Area	D	Door	Ctr	U Ctr	I	Wood	Blue	0.1	QM
36	004	X Din. Area	C	Window	Ctr	Sash	I	Vinyl	Blue	4.9	QM
37	004	X Din. Area	B	Window	Ctr	Rgt casing	I	Vinyl	Blue	5.7	QM
38	004	X Din. Area	C	Window	Ctr	Rgt casing	I	Vinyl	Blue	3.8	QM
39	004	X Din. Area	B	Window	Ctr	Rgt casing	I	Vinyl	Blue	6.3	QM
40	004	X Din. Area	B	Window	Ctr	Apron	I	Wood	Blue	0.0	QM
41	004	X Din. Area	B	Door	Lft	Header	I	Wood	Blue	0.0	QM
42	004	X Din. Area	B	Beam	Lft		I	Wood	Black	0.0	QM
43	004	X Din. Area	B	Beam	Lft		I	Wood	Brown	0.0	QM
44	004	X Din. Area	B	Bench	Lft		I	Wood	Brown	0.0	QM
45	004	X Din. Area	D	Wall	L Ctr		I	Drywall	White	0.0	QM
46	004	X Din. Area	B	Wall	L Ctr		I	Drywall	White	0.0	QM
47	004	X Din. Area	D	Wall	U Rgt		I	Concrete	Blue	0.0	QM
48	004	X Din. Area	B	Wall	U Rgt		I	Concrete	White	-0.1	QM
49	004	X Din. Area	B	Door	Lft	U Ctr	I	Metal	Blue	0.1	QM
50	001	X Bldg Ext	A	Beam	Rgt		I	Wood	Brown	0.0	QM
51	001	X Bldg Ext	A	Soffit			I	Wood	Brown	0.1	QM

52	001 X Bldg Ext	A	Fascia			I	Metal	Brown	0.1 QM
53	001 X Bldg Ext	A	Wall	U	Lft	I	Wood	Blue	0.1 QM
54	001 X Bldg Ext	D	Beam		Ctr	I	Wood	Brown	0.0 QM
55	001 X Bldg Ext	D	Soffit			I	Wood	Brown	0.1 QM
56	001 X Bldg Ext	C	Door		Lft U Ctr	I	Metal	Blue	0.0 QM
57	001 X Bldg Ext	C	Window		Ctr Rgt casing	I	Vinyl	Brown	3.0 QM
58	001 X Bldg Ext	C	Railing		Lft Railing	I	Wood	Brown	0.0 QM
59	001 X Bldg Ext	D	Door		Lft U Ctr	I	Metal	Blue	0.3 QM
60	001 X Bldg Ext	C	Railing		Ctr Railing	I	Metal	Yellow	4.6 QM
61	001 X Bldg Ext	C	Dock		Ctr	I	Concrete	Yellow	0.0 QM
62	001 X Bldg Ext	C	Rollup Door		Ctr	I	Metal	Blue	0.0 QM
63	001 X Bldg Ext	B	Beam		Rgt	I	Wood	Brown	0.0 QM
64	005 Ans. Kitch	B	Wall	L	Ctr	I	Concrete	Gray	0.1 QM
65	005 Ans. Kitch	C	Wall	L	Ctr	I	Concrete	Gray	-0.1 QM
66	005 Ans. Kitch	C	Cage		Ctr	I	Metal	Gray	1.0 QM
67	005 Ans. Kitch	B	Post		Rgt	I	Metal	Gray	1.0 QM
68	005 Ans. Kitch	B	Door		Rgt U Ctr	I	Metal	Green	0.2 QM
69	005 Ans. Kitch	B	Door		Rgt Lft casing	I	Metal	Green	0.3 QM
70	005 Ans. Kitch	B	Door		Ctr U Ctr	I	Metal	Blue	1.0 QM
71	005 Ans. Kitch	B	Door		Ctr Lft casing	I	Metal	Blue	0.3 QM
72	005 Ans. Kitch	D	Window		Ctr Rgt casing	I	Metal	Green	0.0 QM
73	005 Ans. Kitch	D	Window		Ctr Rgt casing	I	Metal	Blue	-0.1 QM
74	005 Ans. Kitch	B	Wall	L	Lft	I	Drywall	Gray	0.3 QM
75	005 Ans. Kitch	C	Beam		Ctr	I	Metal	Red	2.1 QM
76	006 Ans. Office	D	Wall	L	Rgt	I	Concrete	Tan	0.0 QM
77	006 Ans. Office	A	Wall	L	Ctr	I	Concrete	Gray	-0.2 QM
78	006 Ans. Office	B	Wall	L	Lft	I	Drywall	Gray	0.0 QM
79	006 Ans. Office	D	Wall	L	Ctr	I	Drywall	Gray	0.0 QM
80	006 Ans. Office	D	Wall	U	Rgt	I	Drywall	Tan	0.0 QM
81	006 Ans. Office	C	Wall	L	Rgt	I	Concrete	Green	0.0 QM
82	006 Ans. Office	C	Door		Rgt U Ctr	I	Wood	Beige	0.0 QM
83	006 Ans. Office	C	Door		Rgt Rgt casing	I	Metal	Beige	0.2 QM
84	006 Ans. Office	D	Window		Rgt Rgt casing	I	Wood	White	0.0 QM
85	002 Ans. Ext	A	Wall	L	Rgt	I	Concrete	White	0.0 QM
86	002 Ans. Ext	A	Wall	L	Ctr	I	Concrete	White	0.0 QM
87	002 Ans. Ext	A	Window		Ctr Rgt casing	I	Vinyl	Blue	0.0 QM
88	002 Ans. Ext	B	Window		Ctr Rgt casing	I	Vinyl	Blue	0.0 QM
89	002 Ans. Ext	B	Door		Lft U Ctr	I	Metal	Blue	0.2 QM
90	002 Ans. Ext	B	Door		Lft Rgt jamb	I	Metal	Blue	0.1 QM
91	002 Ans. Ext	B	Post		Ctr	I	Metal	White	0.2 QM
92	002 Ans. Ext	B	Wall	L	Rgt	I	Concrete	White	-0.1 QM
93	002 Ans. Ext	B	Wall	L	Lft	I	Concrete	White	-0.1 QM
94	002 Ans. Ext	B	Soffit			I	Stucco	White	0.1 QM
95	008 Number Only	C	Wall	U	Ctr	I	Drywall	White	0.0 QM
96	008 Number Only	A	Wall	L	Ctr	I	Drywall	White	0.0 QM
97	008 Number Only	A	Wall	U	Ctr	I	Drywall	White	0.0 QM
98	008 Number Only	C	Shelves		Ctr	I	Wood	White	0.1 QM
99	008 Number Only	C	Cabinet		Ctr	I	Wood	White	0.0 QM
100	008 Number Only	A	Window		Lft Sill	I	Wood	White	0.0 QM
101	008 Number Only	B	Window		Ctr Sill	I	Wood	White	-0.1 QM
102	008 Number Only	B	Door		Ctr U Ctr	I	Wood	White	0.0 QM
103	008 Number Only	B	Door		Ctr Rgt casing	I	Wood	White	0.1 QM
104	008 Number Only	A	Door		Rgt Rgt casing	I	Wood	White	0.3 QM
105	008 Number Only	A	Door		Rgt U Ctr	I	Metal	White	0.0 QM
106	003 Classrm Ext	A	Door		Ctr U Ctr	I	Metal	Blue	0.6 QM
107	003 Classrm Ext	A	Door		Ctr Rgt casing	I	Wood	Blue	0.0 QM
108	003 Classrm Ext	A	Deck		Ctr	I	Wood	Blue	0.0 QM
109	003 Classrm Ext	A	Railing		Ctr Railing	I	Wood	Blue	0.0 QM
110	003 Classrm Ext	A	Column		Ctr U column	I	Wood	Blue	0.1 QM
111	003 Classrm Ext	A	Railing		Ctr Railing	I	Metal	Blue	1.0 QM
112	003 Classrm Ext	A	Down Spout		Ctr	I	Metal	Brown	0.3 QM
113	003 Classrm Ext	A	Pipe		Ctr	I	Metal	Brown	0.3 QM
114	003 Classrm Ext	A	Gutter			I	Metal	Blue	0.6 QM
115	003 Classrm Ext	A	Soffit			I	Wood	Brown	0.3 QM
116	003 Classrm Ext	A	Fascia			I	Wood	Brown	0.0 QM

117	003	Classrm Ext	A	Wall	L	Ctr		I	Wood	Brown	0.0	QM
118	003	Classrm Ext	D	Wall	L	Ctr		I	Wood	Brown	0.1	QM
119	003	Classrm Ext	C	Wall	L	Ctr		I	Wood	Brown	0.0	QM
120	003	Classrm Ext	D	Window		Ctr	Rgt casing	I	Wood	Blue	0.0	QM
121	003	Classrm Ext	C	Foundation		Ctr		I	Concrete	Brown	0.0	QM
122		CALIBRATION									0.8	TC
123		CALIBRATION									1.0	TC
124		CALIBRATION									1.0	TC

---- End of Readings ----

SUMMARY REPORT OF LEAD PAINT INSPECTION FOR: Moss & Associates

Inspection Date: 04/22/15
Report Date: 4/29/2015
Abatement Level: 1.0
Report No. S#01369 - 04/22/15 12:26
Total Readings: 124 Actionable: 14
Job Started: 04/22/15 12:26
Job Finished: 04/23/15 18:05

Santa Cruz Roundtree SB10022
90 Roundtree Lane
Watsonville, CA
Limited Areas

Read No.	Wall	Structure	Location	Member	Paint Cond	Substrate	Paint Color	Lead (mg/cm)	Mode
Exterior Room 001 X Bldg Ext									
057	C	Window	Ctr	Rgt casing	I	Vinyl	Brown	3.0	QM
060	C	Railing	Ctr	Railing	I	Metal	Yellow	4.6	QM
Exterior Room 003 Classrm Ext									
111	A	Railing	Ctr	Railing	I	Metal	Blue	1.0	QM
Interior Room 002 X Dorm									
016	B	Door	Rgt	Rgt casing	I	Metal	Blue	1.0	QM
Interior Room 003 X Wash Area									
024	B	Window	Rgt	Sash	I	Vinyl	Blue	4.9	QM
017	C	Door	Rgt	Rgt casing	I	Metal	Blue	1.0	QM
Interior Room 004 X Din. Area									
037	B	Window	Ctr	Rgt casing	I	Vinyl	Blue	5.7	QM
039	B	Window	Ctr	Rgt casing	I	Vinyl	Blue	6.3	QM
038	C	Window	Ctr	Rgt casing	I	Vinyl	Blue	3.8	QM
036	C	Window	Ctr	Sash	I	Vinyl	Blue	4.9	QM
Interior Room 005 Ans. Kitch									
070	B	Door	Ctr	U Ctr	I	Metal	Blue	1.0	QM
067	B	Post	Rgt		I	Metal	Gray	1.0	QM
066	C	Cage	Ctr		I	Metal	Gray	1.0	QM
075	C	Beam	Ctr		I	Metal	Red	2.1	QM
Calibration Readings									

---- End of Readings ----

DETAILED REPORT OF LEAD PAINT INSPECTION FOR: Moss & Associates

Inspection Date: 04/22/15
Report Date: 4/29/2015
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Santa Cruz Roundtree SB10022
90 Roundtree Lane
Watsonville, CA
Limited Areas

Read No.	Wall	Structure	Location	Member	Paint Cond	Substrate	Paint Color	Lead (mg/cm)	Mode
Exterior Room 001 X Bldg Ext									
053	A	Wall	U Lft		I	Wood	Blue	0.1	QM
052	A	Fascia			I	Metal	Brown	0.1	QM
051	A	Soffit			I	Wood	Brown	0.1	QM
050	A	Beam	Rgt		I	Wood	Brown	0.0	QM
063	B	Beam	Rgt		I	Wood	Brown	0.0	QM
057	C	Window	Ctr	Rgt casing	I	Vinyl	Brown	3.0	QM
056	C	Door	Lft	U Ctr	I	Metal	Blue	0.0	QM
058	C	Railing	Lft	Railing	I	Wood	Brown	0.0	QM
060	C	Railing	Ctr	Railing	I	Metal	Yellow	4.6	QM
061	C	Dock	Ctr		I	Concrete	Yellow	0.0	QM
062	C	Rollup Door	Ctr		I	Metal	Blue	0.0	QM
055	D	Soffit			I	Wood	Brown	0.1	QM
059	D	Door	Lft	U Ctr	I	Metal	Blue	0.3	QM
054	D	Beam	Ctr		I	Wood	Brown	0.0	QM
Exterior Room 002 Ans. Ext									
086	A	Wall	L Ctr		I	Concrete	White	0.0	QM
085	A	Wall	L Rgt		I	Concrete	White	0.0	QM
087	A	Window	Ctr	Rgt casing	I	Vinyl	Blue	0.0	QM
093	B	Wall	L Lft		I	Concrete	White	-0.1	QM
092	B	Wall	L Rgt		I	Concrete	White	-0.1	QM
094	B	Soffit			I	Stucco	White	0.1	QM
088	B	Window	Ctr	Rgt casing	I	Vinyl	Blue	0.0	QM
090	B	Door	Lft	Rgt jamb	I	Metal	Blue	0.1	QM
089	B	Door	Lft	U Ctr	I	Metal	Blue	0.2	QM
091	B	Post	Ctr		I	Metal	White	0.2	QM
Exterior Room 003 Classrm Ext									
117	A	Wall	L Ctr		I	Wood	Brown	0.0	QM
116	A	Fascia			I	Wood	Brown	0.0	QM
114	A	Gutter			I	Metal	Blue	0.6	QM
115	A	Soffit			I	Wood	Brown	0.3	QM
107	A	Door	Ctr	Rgt casing	I	Wood	Blue	0.0	QM
106	A	Door	Ctr	U Ctr	I	Metal	Blue	0.6	QM
109	A	Railing	Ctr	Railing	I	Wood	Blue	0.0	QM
111	A	Railing	Ctr	Railing	I	Metal	Blue	1.0	QM
110	A	Column	Ctr	U column	I	Wood	Blue	0.1	QM
108	A	Deck	Ctr		I	Wood	Blue	0.0	QM
112	A	Down Spout	Ctr		I	Metal	Brown	0.3	QM
113	A	Pipe	Ctr		I	Metal	Brown	0.3	QM
119	C	Wall	L Ctr		I	Wood	Brown	0.0	QM
121	C	Foundation	Ctr		I	Concrete	Brown	0.0	QM
118	D	Wall	L Ctr		I	Wood	Brown	0.1	QM
120	D	Window	Ctr	Rgt casing	I	Wood	Blue	0.0	QM
Interior Room 001 X Module									
004	A	Wall	L Ctr		I	Wood	White	0.0	QM
009	A	Window	Ctr	Rgt casing	I	Wood	Brown	0.0	QM
008	A	Door	Ctr	Rgt casing	I	Wood	Blue	0.1	QM
010	B	Wall	L Lft		I	Wood	Blue	0.0	QM

005	B	Wall	L	Ctr		I	Wood	White	0.2	QM
007	B	Window		Ctr	Rgt casing	I	Wood	Blue	0.2	QM
006	D	Wall	L	Ctr		I	Drywall	White	0.0	QM
Interior Room 002 X Dorm										
013	A	Wall	L	Ctr		I	Concrete	White	0.0	QM
011	A	Beam		Ctr		I	Wood	Black	0.0	QM
012	A	Beam		Ctr		I	Wood	Brown	0.0	QM
016	B	Door		Rgt	Rgt casing	I	Metal	Blue	1.0	QM
015	B	Door		Rgt	U Ctr	I	Metal	Blue	0.3	QM
014	C	Wall	U	Ctr		I	Concrete	White	0.3	QM
Interior Room 003 X Wash Area										
020	A	Wall	L	Ctr		I	Concrete	White	0.0	QM
023	A	Floor				I	Concrete	Gray	-0.1	QM
021	B	Wall	L	Ctr		I	Concrete	White	-0.2	QM
022	B	Wall	L	Rgt		I	Ceramic	White	-0.1	QM
024	B	Window		Rgt	Sash	I	Vinyl	Blue	4.9	QM
025	B	Beam		Rgt		I	Wood	Black	0.1	QM
026	B	Beam		Rgt		I	Wood	Brown	0.0	QM
017	C	Door		Rgt	Rgt casing	I	Metal	Blue	1.0	QM
018	C	Door		Rgt	U Ctr	I	Metal	Blue	0.0	QM
019	D	Wall	L	Ctr		I	Concrete	White	-0.1	QM
Interior Room 004 X Din. Area										
046	B	Wall	L	Ctr		I	Drywall	White	0.0	QM
032	B	Wall	L	Rgt		I	Ceramic	Tan	-0.1	QM
029	B	Wall	U	Rgt		I	Concrete	White	0.0	QM
048	B	Wall	U	Rgt		I	Concrete	White	-0.1	QM
037	B	Window		Ctr	Rgt casing	I	Vinyl	Blue	5.7	QM
039	B	Window		Ctr	Rgt casing	I	Vinyl	Blue	6.3	QM
040	B	Window		Ctr	Apron	I	Wood	Blue	0.0	QM
041	B	Door		Lft	Header	I	Wood	Blue	0.0	QM
049	B	Door		Lft	U Ctr	I	Metal	Blue	0.1	QM
042	B	Beam		Lft		I	Wood	Black	0.0	QM
043	B	Beam		Lft		I	Wood	Brown	0.0	QM
044	B	Bench		Lft		I	Wood	Brown	0.0	QM
033	C	Wall	U	Ctr		I	Drywall	White	0.0	QM
031	C	Floor				I	Concrete	Gray	-0.1	QM
034	C	Ceiling				I	Wood	White	0.1	QM
038	C	Window		Ctr	Rgt casing	I	Vinyl	Blue	3.8	QM
036	C	Window		Ctr	Sash	I	Vinyl	Blue	4.9	QM
027	C	Beam		Rgt		I	Wood	Brown	0.0	QM
028	C	Beam		Rgt		I	Wood	Black	0.0	QM
045	D	Wall	L	Ctr		I	Drywall	White	0.0	QM
047	D	Wall	U	Rgt		I	Concrete	Blue	0.0	QM
030	D	Chair rail		Ctr		I	Concrete	White	0.0	QM
035	D	Door		Ctr	U Ctr	I	Wood	Blue	0.1	QM
Interior Room 005 Ans. Kitch										
074	B	Wall	L	Lft		I	Drywall	Gray	0.3	QM
064	B	Wall	L	Ctr		I	Concrete	Gray	0.1	QM
071	B	Door		Ctr	Lft casing	I	Metal	Blue	0.3	QM
070	B	Door		Ctr	U Ctr	I	Metal	Blue	1.0	QM
069	B	Door		Rgt	Lft casing	I	Metal	Green	0.3	QM
068	B	Door		Rgt	U Ctr	I	Metal	Green	0.2	QM
067	B	Post		Rgt		I	Metal	Gray	1.0	QM
065	C	Wall	L	Ctr		I	Concrete	Gray	-0.1	QM
066	C	Cage		Ctr		I	Metal	Gray	1.0	QM
075	C	Beam		Ctr		I	Metal	Red	2.1	QM
072	D	Window		Ctr	Rgt casing	I	Metal	Green	0.0	QM
073	D	Window		Ctr	Rgt casing	I	Metal	Blue	-0.1	QM
Interior Room 006 Ans. Office										
077	A	Wall	L	Ctr		I	Concrete	Gray	-0.2	QM

078	B	Wall	L	Lft		I	Drywall	Gray	0.0	QM
081	C	Wall	L	Rgt		I	Concrete	Green	0.0	QM
083	C	Door		Rgt	Rgt casing	I	Metal	Beige	0.2	QM
082	C	Door		Rgt	U Ctr	I	Wood	Beige	0.0	QM
079	D	Wall	L	Ctr		I	Drywall	Gray	0.0	QM
076	D	Wall	L	Rgt		I	Concrete	Tan	0.0	QM
080	D	Wall	U	Rgt		I	Drywall	Tan	0.0	QM
084	D	Window		Rgt	Rgt casing	I	Wood	White	0.0	QM

Interior Room 008 Number Only

096	A	Wall	L	Ctr		I	Drywall	White	0.0	QM
097	A	Wall	U	Ctr		I	Drywall	White	0.0	QM
100	A	Window		Lft	Sill	I	Wood	White	0.0	QM
104	A	Door		Rgt	Rgt casing	I	Wood	White	0.3	QM
105	A	Door		Rgt	U Ctr	I	Metal	White	0.0	QM
101	B	Window		Ctr	Sill	I	Wood	White	-0.1	QM
103	B	Door		Ctr	Rgt casing	I	Wood	White	0.1	QM
102	B	Door		Ctr	U Ctr	I	Wood	White	0.0	QM
095	C	Wall	U	Ctr		I	Drywall	White	0.0	QM
098	C	Shelves		Ctr		I	Wood	White	0.1	QM
099	C	Cabinet		Ctr		I	Wood	White	0.0	QM

Calibration Readings

001	0.9	TC
002	0.9	TC
003	1.0	TC
122	0.8	TC
123	1.0	TC
124	1.0	TC

---- End of Readings ----

DISTRIBUTION REPORT OF LEAD PAINT INSPECTION FOR: Moss & Associates

Inspection Date: 04/22/15
Report Date: 4/29/2015
Abatement Level: 1.0
Report No. S#01369 - 04/22/15 12:26
Total Reading Sets: 118
Job Started: 04/22/15 12:26
Job Finished: 04/23/15 18:05

Santa Cruz Roundtree SB10022
90 Roundtree Lane
Watsonville, CA
Limited Areas

Structure	Total	Structure Distribution Positive	Negative	Inconclusive
Beam	12	1 <8%>	11 <92%>	0 <0%>
Bench	1	0 <0%>	1 <100%>	0 <0%>
Cabinet	1	0 <0%>	1 <100%>	0 <0%>
Cage	1	1 <100%>	0 <0%>	0 <0%>
Ceiling	1	0 <0%>	1 <100%>	0 <0%>
Chair rail	1	0 <0%>	1 <100%>	0 <0%>
Column U column	1	0 <0%>	1 <100%>	0 <0%>
Deck	1	0 <0%>	1 <100%>	0 <0%>
Dock	1	0 <0%>	1 <100%>	0 <0%>
Door Header	1	0 <0%>	1 <100%>	0 <0%>
Door Lft casing	2	0 <0%>	2 <100%>	0 <0%>
Door Rgt casing	7	2 <29%>	5 <71%>	0 <0%>
Door Rgt jamb	1	0 <0%>	1 <100%>	0 <0%>
Door U Ctr	13	1 <8%>	12 <92%>	0 <0%>
Down Spout	1	0 <0%>	1 <100%>	0 <0%>
Fascia	2	0 <0%>	2 <100%>	0 <0%>
Floor	2	0 <0%>	2 <100%>	0 <0%>
Foundation	1	0 <0%>	1 <100%>	0 <0%>
Gutter	1	0 <0%>	1 <100%>	0 <0%>
Pipe	1	0 <0%>	1 <100%>	0 <0%>
Post	2	1 <50%>	1 <50%>	0 <0%>
Railing Railing	4	2 <50%>	2 <50%>	0 <0%>
Rollup Door	1	0 <0%>	1 <100%>	0 <0%>
Shelves	1	0 <0%>	1 <100%>	0 <0%>
Soffit	4	0 <0%>	4 <100%>	0 <0%>
Wall	37	0 <0%>	37 <100%>	0 <0%>
Window Apron	1	0 <0%>	1 <100%>	0 <0%>
Window Rgt casing	12	4 <33%>	8 <67%>	0 <0%>
Window Sash	2	2 <100%>	0 <0%>	0 <0%>
Window Sill	2	0 <0%>	2 <100%>	0 <0%>
Inspection Totals:	118	14 < 12%>	104 < 88%>	0 < 0%>

Bulk Asbestos Point Count Analysis

(NESHAP Final Rule, 40 CFR, Part 61)

Protech Consulting & Engineers Inc.
Project Manager

1208 Main St.
Redwood City, CA 94063

Client ID: 1454
Report Number: N007153
Date Received: 04/24/15
Date Analyzed: 05/19/15
Date Printed: 05/19/15

Job ID/Site: 338-MA15, 423-338-47 - Santa Cruz Roundtree SB1022, X Building

FALI Job ID: 1454
Total Samples Submitted: 6
Total Samples Analyzed: 6

PLM Report Number: B204709

Sample Preparation and Analysis:

The NESHAP Final Rule does not define the preparation method for multi-layered samples. In order to determine the composite quantity of asbestos, the volume percent of each layer is determined, the asbestos containing layers are analyzed by point counting and the composite quantity of asbestos is calculated. The NESHAP Final Rule can not be applied to matrices that dissolve in refractive index liquid. This includes tar, mastic or adhesive typically found on the back of floor tiles. According to the NESHAP Final Rule, point count data is only necessary when the visual estimate of asbestos is below 10%.

Sample ID	Lab Number	Layer Description
02	11635715	**Composite of ALL Layers** White Drywall Off-White Skimcoat/Joint Compound Paint

Point Count Results:

Number of asbestos points counted:	0
Number of non-empty points:	400
Layer percentage of entire sample:	100
Percent asbestos in layer:	**< 1**

Asbestos type(s) detected: Chrysotile

Comment: Asbestos was detected but no points were counted due to counting criteria. Therefore quantitation deemed to be < 1%.

03	11635716	**Composite of ALL Layers** White Drywall White Skimcoat/Joint Compound White Tape Off-White Skimcoat/Joint Compound Paint

Point Count Results:

Number of asbestos points counted:	0
Number of non-empty points:	400
Layer percentage of entire sample:	100
Percent asbestos in layer:	**< 1**

Asbestos type(s) detected: Chrysotile

Comment: Asbestos was detected but no points were counted due to counting criteria. Therefore quantitation deemed to be < 1%.

Bulk Asbestos Point Count Analysis

(NESHAP Final Rule, 40 CFR, Part 61)

Protech Consulting & Engineers Inc.
Project Manager

1208 Main St.
Redwood City, CA 94063

Client ID: 1454
Report Number: N007153
Date Received: 04/24/15
Date Analyzed: 05/19/15
Date Printed: 05/19/15

Job ID/Site: 338-MA15, 423-338-47 - Santa Cruz Roundtree SB1022, X Building

PLM Report Number: B204709

FALI Job ID: 1454
Total Samples Submitted: 6
Total Samples Analyzed: 6

Sample Preparation and Analysis:

The NESHAP Final Rule does not define the preparation method for multi-layered samples. In order to determine the composite quantity of asbestos, the volume percent of each layer is determined, the asbestos containing layers are analyzed by point counting and the composite quantity of asbestos is calculated. The NESHAP Final Rule can not be applied to matrices that dissolve in refractive index liquid. This includes tar, mastic or adhesive typically found on the back of floor tiles. According to the NESHAP Final Rule, point count data is only necessary when the visual estimate of asbestos is below 10%.

Sample ID	Lab Number	Layer Description
06	11635719	**Composite of ALL Layers** White Drywall White Skimcoat/Joint Compound White Tape Off-White Skimcoat/Joint Compound Paint

Point Count Results:

Number of asbestos points counted:	0
Number of non-empty points:	400
Layer percentage of entire sample:	100
Percent asbestos in layer:	**< 1**

Asbestos type(s) detected: Chrysotile

Comment: Asbestos was detected but no points were counted due to counting criteria. Therefore quantitation deemed to be < 1%.

07	11635720	**Composite of ALL Layers** White Drywall Off-White Skimcoat/Joint Compound Paint

Point Count Results:

Number of asbestos points counted:	0
Number of non-empty points:	400
Layer percentage of entire sample:	100
Percent asbestos in layer:	**< 1**

Asbestos type(s) detected: Chrysotile

Comment: Asbestos was detected but no points were counted due to counting criteria. Therefore quantitation deemed to be < 1%.

Bulk Asbestos Point Count Analysis

(NESHAP Final Rule, 40 CFR, Part 61)

Protech Consulting & Engineers Inc.
Project Manager

1208 Main St.
Redwood City, CA 94063

Client ID: 1454
Report Number: N007153
Date Received: 04/24/15
Date Analyzed: 05/19/15
Date Printed: 05/19/15

Job ID/Site: 338-MA15, 423-338-47 - Santa Cruz Roundtree SB1022, X Building

PLM Report Number: B204709

FALI Job ID: 1454
Total Samples Submitted: 6
Total Samples Analyzed: 6

Sample Preparation and Analysis:

The NESHAP Final Rule does not define the preparation method for multi-layered samples. In order to determine the composite quantity of asbestos, the volume percent of each layer is determined, the asbestos containing layers are analyzed by point counting and the composite quantity of asbestos is calculated. The NESHAP Final Rule can not be applied to matrices that dissolve in refractive index liquid. This includes tar, mastic or adhesive typically found on the back of floor tiles. According to the NESHAP Final Rule, point count data is only necessary when the visual estimate of asbestos is below 10%.

Sample ID	Lab Number	Layer Description
34	11635747	**Brown Non-Fibrous Material**

Point Count Results:

Number of asbestos points counted:	2
Number of non-empty points:	400
Layer percentage of entire sample:	100
Percent asbestos in layer:	**< 1**

Asbestos type(s) detected: Chrysotile

Comment:

Sample ID	Lab Number	Layer Description
35	11635748	**Brown Non-Fibrous Material**

Point Count Results:

Number of asbestos points counted:	1
Number of non-empty points:	400
Layer percentage of entire sample:	15
Percent asbestos in layer:	**< 1**

Asbestos type(s) detected: Chrysotile

Comment:

Note: Point count results are reported to the nearest percent per EPA method.

Tad Thrower

Tad Thrower, Laboratory Supervisor, Hayward Laboratory

Note: Limit of Quantification (LOQ) = 1%. Trace denotes the presence of asbestos below the LOQ. ND = None Detected.

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Environmental Services

Page 1 of 1
Job # 338 - MAIS
P.O. # 423-338-47

General Information

Date: 04-23-15
Job ID: Santa Cruz Roundtree
SB1022
X - Building
Collected By: EMF
Lab: EASI

Analysis Requested

- ☐ PCM NIOSH 7400
- ☐ TEM
  - ○ AHERA
  - ○ Level 2
  - ○ Bulk Quantitative
  - ○ Bulk Qualitative
- ☒ PLM BULK - EPA/600/R/116
- ☐ Lead
  - ○ AA
  - ○ TTLC
  - ○ STLC
  - ○ TCLP
- ☐ Mold
- ☐ Other

Turn Around Time

- ☐ Rush
- ☐ 12 hours
- ☐ 24 hours
- ☒ 48 hours
- ☐ 3-5 days
- ☐

Special Instructions

☐ Prior Positive

Filter Type: ☐ MCE, 0.8 µm, 25mm ☐ MCE, 0.45µm, 25mm ☐ MCE, 0.8µm, 37mm ☐ Other

Sample # / Date	Sample Type	Sample Protocol	Location / Activity / Material Description	Time On/Off	LPM	Total Min. / Total Vol. / Fibers/Fields	Results
# 01-07 08-09	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	D.W. Mastic	on off pump#	on end Ave Roto#		
# 10-11 12	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	1X1 CT w/Mastic Concrete	on off pump#	on end Ave Roto#		
# 13-14 15-18	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Mortar Coating	on off pump#	on end Ave Roto#		
# 19-21 22-26	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Mastic Glazing	on off pump#	on end Ave Roto#		
# 27 28-31	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Mastic Caulk	on off pump#	on end Ave Roto#		
# 32-35 36-37	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Glazing Jacket	on off pump#	on end Ave Roto#		
# 38 39-40	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	↓ Caulk	on off pump#	on end Ave Roto#		
# 41-42 43-47	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Mastic Roofing	on off pump#	on end Ave Roto#		
#	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.		on off pump#	on end Ave Roto#		

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Forensic Analytical Laboratories

Final Report

Metals Analysis of Paints

Protech Consulting & Engineers Inc.
Project Manager

1208 Main St.
Redwood City, CA 94063

Client ID: 1454
Report Number: M160416
Date Received: 04/24/15
Date Analyzed: 04/27/15
Date Printed: 04/27/15
First Reported: 04/27/15

Job ID / Site: 338-MA15, 423-338-09 - Santa Cruz Roundtree SB1022, Paints
Date(s) Collected: 4/23/15

FALI Job ID: 1454
Total Samples Submitted: 9
Total Samples Analyzed: 9

Sample Number	Lab Number	Analyte	Result	Result Units	Reporting Limit*	Method Reference
LP-01	30711151	Pb	< 0.006	wt%	0.006	EPA 3050B/7420
LP-02	30711152	Pb	< 0.006	wt%	0.006	EPA 3050B/7420
LP-03	30711153	Pb	< 0.006	wt%	0.006	EPA 3050B/7420
LP-04	30711154	Pb	< 0.006	wt%	0.006	EPA 3050B/7420
LP-05	30711155	Pb	< 0.006	wt%	0.006	EPA 3050B/7420
LP-06	30711156	Pb	< 0.006	wt%	0.006	EPA 3050B/7420
LP-07	30711157	Pb	< 0.006	wt%	0.006	EPA 3050B/7420
LP-08	30711158	Pb	< 0.006	wt%	0.006	EPA 3050B/7420
LP-09	30711159	Pb	< 0.006	wt%	0.006	EPA 3050B/7420

* The Reporting Limit represents the lowest amount of analyte that the laboratory can confidently detect in the sample, and is not a regulatory level. The Units for the Reporting Limit are the same as the Units for the Final Results.

Daniele Siu

Daniele Siu, Laboratory Supervisor, Hayward Laboratory

3777 Depot Road, Suite 409, Hayward, CA 94545 / Telephone: (510) 887-8828 (800) 827-FASI / Fax: (510) 887-4218

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1208 Main Street, Redwood City, CA 94063
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Environmental Services

Page 1 of 1
Job # 338-MA15
P.O. # 423-338-09

General Information

Date: 04-23-15
Job ID: Santa Cruz Roundtree SB1022 Paints
Collected By: END
Lab: FASI

Analysis Requested

- ☐ PCM NIOSH 7400
- ☐ TEM
  - ○ AHERA
  - ○ Level 2
  - ○ Bulk Quantitative
  - ○ Bulk Qualitative
- ☐ PLM BULK - EPA/600/R/116
- ☒ Lead
  - ☒ AA
  - ○ TTLC
  - ○ STLC
  - ○ TCLP
- ☐ Mold
- ☐ Other

Turn Around Time

- ☐ Rush
- ☐ 12 hours
- ☒ 24 hours
- ☐ 48 hours
- ☐ 3-5 days
- ☐

Special Instructions

☐ Prior Positive

Filter Type: ☐ MCE, 0.8 µm, 25mm ☐ MCE, 0.45µm, 25mm ☐ MCE, 0.8µm, 37mm ☐ Other

Sample # Date	Sample Type	Sample Protocol	Location / Activity / Material Description	Time On/Off	LPM	Total Min. Total Vol. Fibers/Fields	Results
# LP-01	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	X-Bldg. Gray Concrete Paint in weight Room area 150 SF loosed Peel	on off pump#	on end Ave Roto#		
# LP-02	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	White drywall Paint	on off pump#	on end Ave Roto#		
# LP-03	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Gray wood wall Paint	on off pump#	on end Ave Roto#		
# LP-04	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Blue Wood Door Paint	on off pump#	on end Ave Roto#		
# LP-05	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Ancillary ~~Store~~ Bldg. Gray Drywall Paint	on off pump#	on end Ave Roto#		
# LP-06	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Interior White Concrete Paint	on off pump#	on end Ave Roto#		
# LP-07	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Exterior White Concrete Paint	on off pump#	on end Ave Roto#		
# LP-09	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Classroom Bldg. Ext. Blue wood Deck/Railing Paint	on off pump#	on end Ave Roto#		
# LP-09	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Ext. Brown wood Siding Paint	on off pump#	on end Ave Roto#		

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E.D		[signature]	RECEIVED APR 24 2015

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Bulk Asbestos Analysis

(EPA Method 600/R-93-116, Visual Area Estimation)

Protech Consulting & Engineers Inc.
Project Manager

1208 Main St.
Redwood City, CA 94063

Client ID: 1454
Report Number: B204709
Date Received: 04/24/15
Date Analyzed: 04/28/15
Date Printed: 04/28/15
First Reported: 04/28/15

Job ID/Site: 338-MA15, 423-338-47 - Santa Cruz Roundtree SB1022, X Building

Date(s) Collected: 04/23/2015

FALI Job ID: 1454
Total Samples Submitted: 47
Total Samples Analyzed: 47

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
01	11635714						
Layer: White Drywall			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							
02	11635715						
Layer: White Drywall			**ND**				
Layer: Off-White Skimcoat/Joint Compound		Chrysotile	**2 %**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (Trace)**					
Cellulose (20 %) Fibrous Glass (10 %)							
03	11635716						
Layer: White Drywall			**ND**				
Layer: White Skimcoat/Joint Compound		Chrysotile	**2 %**				
Layer: White Tape			**ND**				
Layer: Off-White Skimcoat/Joint Compound		Chrysotile	**2 %**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (Trace)**					
Cellulose (20 %) Fibrous Glass (10 %)							
04	11635717						
Layer: White Drywall			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: White Tape			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							
05	11635718						
Layer: White Drywall			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							

Client Name: Protech Consulting & Engineers Inc.

Report Number: B204709
Date Printed: 04/28/15

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
06	11635719						
Layer: White Drywall			**ND**				
Layer: White Skimcoat/Joint Compound		Chrysotile	**2 %**				
Layer: White Tape			**ND**				
Layer: Off-White Skimcoat/Joint Compound		Chrysotile	**2 %**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (20 %) Fibrous Glass (10 %)		**Asbestos (Trace)**					
07	11635720						
Layer: White Drywall			**ND**				
Layer: Off-White Skimcoat/Joint Compound		Chrysotile	**2 %**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (20 %) Fibrous Glass (10 %)		**Asbestos (Trace)**					
08	11635721						
Layer: Tan Mastic			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
09	11635722						
Layer: Tan Mastic			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
10	11635723						
Layer: Brown Mastic			**ND**				
Layer: Yellow Fibrous Tile			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (2 %) Fibrous Glass (90 %)		**Asbestos (ND)**					
11	11635724						
Layer: Tan Mastic			**ND**				
Layer: Tan Fibrous Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (95 %)		**Asbestos (ND)**					
12	11635725						
Layer: Grey Mortar			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
13	11635726						
Layer: Grey Mortar			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					

Client Name: Protech Consulting & Engineers Inc.

Report Number: B204709
Date Printed: 04/28/15

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
14	11635727						
Layer: Tan Coating			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
15	11635728						
Layer: Tan Coating			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
16	11635729						
Layer: Tan Coating			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
17	11635730						
Layer: Tan Coating			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
18	11635731						
Layer: Tan Coating			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
19	11635732						
Layer: Brown Mastic			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
20	11635733						
Layer: Brown Mastic			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
21	11635734						
Layer: Brown Mastic			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
22	11635735						
Layer: Grey Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					

Client Name: Protech Consulting & Engineers Inc.

Report Number: B204709
Date Printed: 04/28/15

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
23	11635736						
Layer: Grey Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
24	11635737						
Layer: Grey Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
25	11635738						
Layer: Grey Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
26	11635739						
Layer: Grey Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
27	11635740						
Layer: Yellow Mastic			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
28	11635741						
Layer: Dark Brown Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace) Fibrous Glass (5 %)		**Asbestos (ND)**					
29	11635742						
Layer: Dark Brown Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace) Fibrous Glass (5 %)		**Asbestos (ND)**					
30	11635743						
Layer: Dark Brown Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace) Fibrous Glass (5 %)		**Asbestos (ND)**					
31	11635744						
Layer: Dark Brown Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace) Fibrous Glass (5 %)		**Asbestos (ND)**					
32	11635745						
Layer: Brown Non-Fibrous Material			**ND**				
Layer: Grey Non-Fibrous Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					

Client Name: Protech Consulting & Engineers Inc.

Report Number: B204709
Date Printed: 04/28/15

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
33	11635746						
Layer: Brown Non-Fibrous Material			**ND**				
Layer: Grey Non-Fibrous Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
34	11635747						
Layer: Brown Non-Fibrous Material		Chrysotile	**Trace**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (Trace)**					
35	11635748						
Layer: Brown Non-Fibrous Material		Chrysotile	**Trace**				
Layer: Grey Non-Fibrous Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (Trace)**					
36	11635749						
Layer: Yellow Fibrous Material			**ND**				
Layer: Tan Woven Material			**ND**				
Layer: White Coating			**ND**				
Total Composite Values of Fibrous Components: Cellulose (75 %) Fibrous Glass (25 %)		**Asbestos (ND)**					
37	11635750						
Layer: Yellow Fibrous Material			**ND**				
Layer: White Woven Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (75 %) Fibrous Glass (25 %)		**Asbestos (ND)**					
38	11635751						
Layer: Yellow Fibrous Material			**ND**				
Layer: White Woven Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (75 %) Fibrous Glass (25 %)		**Asbestos (ND)**					
39	11635752						
Layer: Dark Brown Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
40	11635753						
Layer: Dark Brown Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
41	11635754						
Layer: Black Mastic			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
42	11635755						
Layer: Black Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							
43	11635756						
Layer: Black Roof Shingle			**ND**				
Layer: Black Roof Shingle			**ND**				
Layer: Black Felt			**ND**				
Layer: Black Felt			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (35 %)							
Comment: Bulk complex sample.							
44	11635757						
Layer: Black Roof Shingle			**ND**				
Layer: Black Roof Shingle			**ND**				
Layer: Black Felt			**ND**				
Layer: Black Felt			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (35 %)							
Comment: Bulk complex sample.							
45	11635758						
Layer: Black Roof Shingle			**ND**				
Layer: Black Roof Shingle			**ND**				
Layer: Black Felt			**ND**				
Layer: Black Felt			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (35 %)							
Comment: Bulk complex sample.							
46	11635759						
Layer: Black Roof Shingle			**ND**				
Layer: Black Roof Shingle			**ND**				
Layer: Black Felt			**ND**				
Layer: Black Felt			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (35 %)							
Comment: Bulk complex sample.							
47	11635760						
Layer: Black Roof Shingle			**ND**				
Layer: Black Roof Shingle			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (35 %)							
Comment: Bulk complex sample.							

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Client Name: Protech Consulting & Engineers Inc.

Report Number: B204709
Date Printed: 04/28/15

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer

Tad Thrower, Laboratory Supervisor, Hayward Laboratory

Note: Limit of Quantification ('LOQ') = 1%. 'Trace' denotes the presence of asbestos below the LOQ. 'ND' = 'None Detected'.

ProTech
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Phone: (650) 569-4020 Fax: (650) 569 4023
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Environmental Services

Page 1 of 4
Job # 338 - MAIS
P.O. # 423-338-47

General Information

Date: 04-23-15
Job ID: Santa Cruz Roundtree
SB1022
X-Building
Collected By: EMT
Lab: EASI

Analysis Requested

- ☐ PCM NIOSH 7400
- ☐ TEM
  - ○ AHERA
  - ○ Level 2
  - ○ Bulk Quantitative
  - ○ Bulk Qualitative
- ☒ PLM BULK - EPA/600/R/116
- ☐ Lead
  - ○ AA
  - ○ TTLC
  - ○ STLC
  - ○ TCLP
- ☐ Mold
- ☐ Other

Turn Around Time

- ☐ Rush
- ☐ 12 hours
- ☐ 24 hours
- ☒ 48 hours
- ☐ 3-5 days
- ☐ _____

Special Instructions

☐ Prior Positive

Filter Type: ☐ MCE, 0.8 µm, 25mm ☐ MCE, 0.45µm, 25mm ☐ MCE, 0.8µm, 37mm ☐ Other _____

Sample # / Date	Sample Type	Sample Protocol	Location / Activity / Material Description	Time On/Off	LPM	Total Min. / Total Vol. / Fibers/Fields	Results
# 01-07 08-09	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	D.W. Mastic	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# 10-11 12	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	1X1 CT w/mastic Concrete	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto#		
# 13-14 15-18	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Mortar Coating	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto# _____		
# 19-21 22-26	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Mastic Glazing	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto#		
# 27 28-31	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Mastic Caulk	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto#		
# 32-35 36-37	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Glazing Jacket	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto#		
# 38 39-40	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	↓ Caulk	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto#		
# 41-42 43-47	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Mastic Roofing	on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto#		
#	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.		on _____ off _____ pump# _____	on _____ end _____ Ave _____ Roto#		

CHAIN OF CUSTODY

Relinquished By:	Date/Time	Received By:	Date/Time
			RECEIVED APR 24 2015

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Bulk Asbestos Analysis

(EPA Method 600/R-93-116, Visual Area Estimation)

Protech Consulting & Engineers Inc.
Project Manager

1208 Main St.
Redwood City, CA 94063

Client ID: 1454
Report Number: B204707
Date Received: 04/24/15
Date Analyzed: 04/27/15
Date Printed: 04/27/15
First Reported: 04/27/15

Job ID/Site: 338-MA15, 423-338-14 - Santa Cruz Roundtree SB1022, Classroom Building

Date(s) Collected: 04/23/2015

FALI Job ID: 1454
Total Samples Submitted: 14
Total Samples Analyzed: 14

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
01	11635700						
Layer: White Drywall			**ND**				
Layer: White Woven Material			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							
02	11635701						
Layer: White Drywall			**ND**				
Layer: Yellow Woven Material			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							
03	11635702						
Layer: Brown Drywall			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							
04	11635703						
Layer: White Drywall			**ND**				
Layer: White Texture			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							
05	11635704						
Layer: White Drywall			**ND**				
Layer: White Texture			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							

Client Name: Protech Consulting & Engineers Inc.

Report Number: B204707
Date Printed: 04/27/15

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
06	11635705						
Layer: Tan Fibrous Material			**ND**				
Layer: Paint			**ND**				
Layer: Yellow Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (90 %)							
07	11635706						
Layer: White Non-Fibrous Material			**ND**				
Layer: Tan Fibrous Material			**ND**				
Layer: Paint			**ND**				
Layer: Yellow Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (80 %)							
08	11635707						
Layer: Beige Fibrous Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (35 %) Fibrous Glass (45 %)							
09	11635708						
Layer: Beige Fibrous Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (35 %) Fibrous Glass (45 %)							
10	11635709						
Layer: Yellow Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
11	11635710						
Layer: Yellow Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
12	11635711						
Layer: Grey Sheet Flooring			**ND**				
Layer: Fibrous Backing			**ND**				
Layer: Off-White Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (5 %) Synthetic (10 %)							
13	11635712						
Layer: Grey Roof Shingle			**ND**				
Layer: Black Felt			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (30 %) Fibrous Glass (15 %)							

Client Name: Protech Consulting & Engineers Inc.

Report Number: B204707
Date Printed: 04/27/15

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
14	11635713						
Layer: Grey Roof Shingle			**ND**				
Layer: Black Felt			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (30 %) Fibrous Glass (15 %)							

Tad Thrower, Laboratory Supervisor, Hayward Laboratory

Note: Limit of Quantification ('LOQ') = 1%. 'Trace' denotes the presence of asbestos below the LOQ. 'ND' = 'None Detected'.

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Environmental Services

Page 1 of 1
Job # 338-MA15
P.O. # 423 338-14

General Information

Date: 04-23-15
Job ID: Santa Cruz Roundtree SB1022 Classroom Bldg.
Collected By: EO
Lab: EMSL

Analysis Requested

- ☐ PCM NIOSH 7400
- ☐ TEM
  - ○ AHERA
  - ○ Level 2
  - ○ Bulk Quantitative
  - ○ Bulk Qualitative
- ☒ PLM BULK - EPA/600/R/116
- ☐ Lead
  - ○ AA
  - ○ TTLC
  - ○ STLC
  - ○ TCLP
- ☐ Mold ________
- ☐ Other ________

Turn Around Time

- ☐ Rush
- ☐ 12 hours
- ☒ 24 hours
- ☐ 48 hours
- ☐ 3-5 days
- ☐ ________

Special Instructions

☐ Prior Positive

Filter Type: ☐ MCE, 0.8 µm, 25mm ☐ MCE, 0.45µm, 25mm ☐ MCE, 0.8µm, 37mm ☐ Other ________

Sample # Date	Sample Type	Sample Protocol	Location / Activity / Material Description	Time On/Off	LPM	Total Min. Total Vol. Fibers/Fields	Results
# 01-03 / 04-05	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	D.W. / T.Text.	on / off / pump#	on / end / Ave / Roto#		
# 06-07 / 08-09	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Panels w/mastic / 2x4 C.Pad	on / off / pump#	on / end / Ave / Roto#		
# 10-11 / 12	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Mastic / S.F.	on / off / pump#	on / end / Ave / Roto#		
# 13-14	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	C.S. Roof	on / off / pump#	on / end / Ave / Roto#		
#	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.		on / off / pump#	on / end / Ave / Roto#		
#	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.		on / off / pump#	on / end / Ave / Roto#		
#	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.		on / off / pump#	on / end / Ave / Roto#		
#	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.		on / off / pump#	on / end / Ave / Roto#		
#	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.		on / off / pump#	on / end / Ave / Roto#		

CHAIN OF CUSTODY

Relinquished By:	Date/Time	Received By:	Date/Time
EO (signature)		(signature)	RECEIVED APR 24 2015 (stamp) ON

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Bulk Asbestos Analysis

(EPA Method 600/R-93-116, Visual Area Estimation)

Protech Consulting & Engineers Inc.
Project Manager

1208 Main St.
Redwood City, CA 94063

Client ID: 1454
Report Number: B204703
Date Received: 04/24/15
Date Analyzed: 04/27/15
Date Printed: 04/27/15
First Reported: 04/27/15

Job ID/Site: 338-MA15, 423-338-29 - Santa Cruz Roundtree SB1022, Ancillary Bldg.

Date(s) Collected: 04/23/2015

FALI Job ID: 1454
Total Samples Submitted: 29
Total Samples Analyzed: 29

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
01	11635652						
Layer: White Drywall			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: White Tape			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							
02	11635653						
Layer: White Drywall			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							
03	11635654						
Layer: White Drywall			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: White Tape			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							
04	11635655						
Layer: Beige Fibrous Material			**ND**				
Layer: Yellow Mastic			**ND**				
Layer: White Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (35 %) Fibrous Glass (45 %)							
05	11635656						
Layer: Yellow Mastic			**ND**				
Layer: Tan Fibrous Material			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (50 %)							
06	11635657						
Layer: Grey Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
07	11635658						
Layer: Grey Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
08	11635659						
Layer: White Foam			**ND**				
Layer: White Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
09	11635660						
Layer: White Drywall			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: White Tape			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							
10	11635661						
Layer: Brown Drywall			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: White Tape			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							
11	11635662						
Layer: White Drywall			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: White Tape			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (10 %)							
12	11635663						
Layer: Beige Fibrous Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (45 %) Fibrous Glass (35 %)							
13	11635664						
Layer: Beige Fibrous Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (45 %) Fibrous Glass (35 %)							

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Client Name: Protech Consulting & Engineers Inc.

Report Number: B204703
Date Printed: 04/27/15

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
14	11635665						
Layer: Off-White Mastic			**ND**				
Layer: White Fibrous Material			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (5 %)							
15	11635666						
Layer: White Tile			**ND**				
Layer: Yellow Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							
16	11635667						
Layer: Grey Sheet Flooring			**ND**				
Layer: Fibrous Backing			**ND**				
Layer: White Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (20 %) Fibrous Glass (5 %) Synthetic (10 %)							
17	11635668						
Layer: Grey Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (2 %)							
18	11635669						
Layer: Clear Mastic			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
19	11635670						
Layer: Grey Non-Fibrous Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							
20	11635671						
Layer: Grey Non-Fibrous Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							
21	11635672						
Layer: White Fibrous Material			**ND**				
Layer: Foil			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (80 %) Fibrous Glass (10 %)							

Client Name: Protech Consulting & Engineers Inc.

Report Number: B204703
Date Printed: 04/27/15

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
22	11635673						
Layer: Yellow Fibrous Material			**ND**				
Layer: Foil			**ND**				
Layer: White Fibrous Material			**ND**				
Layer: Foil			**ND**				
Layer: White Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (15 %) Fibrous Glass (75 %)		**Asbestos (ND)**					
23	11635674						
Layer: Grey Semi-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (20 %)		**Asbestos (ND)**					
24	11635675						
Layer: Grey Semi-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (20 %)		**Asbestos (ND)**					
25	11635676						
Layer: Grey Semi-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (20 %)		**Asbestos (ND)**					
26	11635677						
Layer: Grey Semi-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (20 %)		**Asbestos (ND)**					
27	11635678						
Layer: Grey Semi-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (20 %)		**Asbestos (ND)**					
28	11635679						
Layer: White Mastic			**ND**				
Layer: Blue Tile			**ND**				
Layer: Yellow Mastic			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
29	11635680						
Layer: Grey Cementitious Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					

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Client Name: Protech Consulting & Engineers Inc.

Report Number: B204703
Date Printed: 04/27/15

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer

Tad Thrower

Tad Thrower, Laboratory Supervisor, Hayward Laboratory

Note: Limit of Quantification ('LOQ') = 1%. 'Trace' denotes the presence of asbestos below the LOQ. 'ND' = 'None Detected'.

ProTech
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Environmental Services

Page 1 of 1
Job # 338-MA15
P.O. # 423 338.29

General Information

Date: 04-23-15
Job ID: Santa Cruz Roundtree SB1022
Ancillary Bldg.
Collected By: ED
Lab: FAST

Analysis Requested

- ☐ PCM NIOSH 7400
- ☐ TEM
  - ○ AHERA
  - ○ Level 2
  - ○ Bulk Quantitative
  - ○ Bulk Qualitative
- ☒ PLM BULK - EPA/600/R/116
- ☐ Lead
  - ○ AA
  - ○ TTLC
  - ○ STLC
  - ○ TCLP
- ☐ Mold
- ☐ Other

Turn Around Time

- ☐ Rush
- ☐ 12 hours
- ☒ 24 hours
- ☐ 48 hours
- ☐ 3-5 days
- ☐

Special Instructions

☐ Prior Positive

Filter Type: ☐ MCE, 0.8 µm, 25mm ☐ MCE, 0.45µm, 25mm ☐ MCE, 0.8µm, 37mm ☐ Other

Sample # / Date	Sample Type	Sample Protocol	Location / Activity / Material Description	Time On/Off	LPM	Total Min. / Total Vol. / Fibers/Fields	Results
# 01-03 / 04	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	D.W. / 2x4 C.P.	on / off / pump#	on / end / Ave / Roto#		
# 05 / 06	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	W.P. Mastic / Mastic	on / off / pump#	on / end / Ave / Roto#		
# 07 / 08	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Epoxy / Insulation	on / off / pump#	on / end / Ave / Roto#		
# 09-11 / 12-13	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	D.W. / 2x4 Gilroy Pond	on / off / pump#	on / end / Ave / Roto#		
# 14 / 15	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	/ B.B. Mastic	on / off / pump#	on / end / Ave / Roto#		
# 16 / 17-18	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	12x12 VFT w/m. / Mastic	on / off / pump#	on / end / Ave / Roto#		
# 19-20 / 21-22	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Caulk. / Jacket	on / off / pump#	on / end / Ave / Roto#		
# 23-27 / 28	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Fireproofing / 12x12 VFT w/m	on / off / pump#	on / end / Ave / Roto#		
# 29	☐ Post ☐ Area ☐ Background ☐ Personal ☐ Blank ☐ Bulk	☐ Amb. ☐ ALS ☐ Agg.	Stucco	on / off / pump#	on / end / Ave / Roto#		

CHAIN OF CUSTODY

Relinquished By:	Date/Time	Received By:	Date/Time
ED			APR 24 2015

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WHITE - RETAIN WITH SAMPLES CANARY - FILE COPY

PRELIMINARY STORMWATER CONTROL PLAN

ADDRESSING:
INITIAL BMP SIZING

For

THE ROUNDTREE JAIL EXPANSION
100 ROUNTREE LANE
Watsonville, California 95076

Prepared by:

Whitson Engineers
2425 Porter Street, Suite 2
Soquel, California 95073

Prepared:

July 14, 2015
Project #3193.00

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2425 Porter Street • Suite 2 • Soquel, CA 95073
831 464-9363 • Fax 831 464-2316

ROUNTREE REHABILITATION AND RE-ENTRY FACILITY
SANTA CRUZ COUNTY
AT 100 ROUNTREE LANE
WATSONVILLE, CALIFORNIA

Background and Project Description
The detention facility boundary area covers approximately 21.6 acres and is located at 100 Rountree Lane, adjacent to the Buena Vista Landfill, in Watsonville, California. The project site currently developed and contains an existing medium security detention facility that is in use and an existing low security facility that is currently unused. The low security ("X-Building") is proposed to be renovated and expanded. The project consists of the construction of an expanded housing unit at the X-Building, a new visitation building, and an administration building and storage addition attached to the Medium Security building. Also included with the improvements is associate parking and utility improvements, permeable pavement, biotreatment areas, and miscellaneous site improvements. The total site disturbance is estimated as approximately 4.6 acres. The existing impervious coverage is estimated as 19.1% impervious. The proposed improvements will increase the impervious coverage to approximately 21.5% impervious.

The existing site currently drains to a drainage swale located along the east side of the project where it is eventually conveyed to a series of ponds prior to draining to Gallighan Slough. The proposed improvements will continue a similar drainage pattern and will discharge runoff the existing drainage swale after meeting the County's requirements for water quality and retention/detention. The site does not receive run-on from any of the adjacent properties. There were no natural creeks proposed for disturbance that require protection or maintenance. Reduced scale prints of the civil site plans for *Rountree Rehabilitation and Re-entry Facility renovation and Expansion* are include in Appendix C for reference and show the existing and proposed improvements.

On-site Soils

A sewage disposal study was performed by Steve Brooks R.E.H.S. in 1990 that indicates that the site soils below 3' are largely sands. The 9 percolation tests performed by Steve Brooks indicate percolation rates ranging from 2 to 11 in/hr. A design rate of 1 in/hr was used for preliminary drainage calculations. The final design percolation rates at the base of the proposed drainage facilities should be verified as part of the final plans. Groundwater was observed at depths of approximately 30 feet.

Project Requirements
The project has been designed to comply with the County of Santa Cruz Design Criteria, dated June 2014 (CDC). Since the adds or replaces more than 5,000 square feet of impervious area, it falls under the "Large Project" threshold for mitigation requirement referenced in Part 3, Section C,1,c of the CDC. Based on known restrictions in the downstream channel, the County is requiring that the project limit the post-development release to the predevelopment 5-year, 15 minute discharge rate while providing storage for the post-development 10-year storm event and demonstrating that the pre-project 2-year 2-hour runoff rate will not be exceeded for the 2-year storm event. Additionally, the project is required to meet the stormwater water quality standards (two times the 85th percentile event) required in the Central Coast Region Post-Construction Stormwater Management Requirements for Development Projects in the Coast Region (Resolution R3-2013-0032).

Storm Water Treatment Approach
The project consists of six main watersheds, as shown on the Watershed Summary Exhibit provided in Appendix A. Various runoff site design and runoff reduction strategies are proposed as part of the project stormwater management approach. Efforts were made to reduce impervious coverage by implementing pervious pavement, biotreatment areas, and landscape areas. Approximately 14,300 sf of conventional hardscape was replaced with permeable pavement as part of the current redesign, providing a significant reduction in impervious coverage. The site soils are proposed to be compacted to the minimum

standards required by the geotechnical engineer. Compaction beyond these requirements is not proposed. No vegetation clearing or grading is proposed beyond the minimum of what is required to construct the project. All roof runoff is directed to surface drain to biotreatment areas.

Permeable Concrete Pavement
Approximately 14,300 sf of permeable concrete pavement is proposed for several areas to reduce the project's impervious coverage. Roof water and new and replaced hardscape areas may be directed to the permeable pavement for treatment and detention as part of the final design, if practical. However, this is not proposed as part of the current plans. Subdrains may be required based on final geotechnical recommendations and percolation testing results.

Biotreatment BMP
Approximately 6,800 square feet of Biotreatment BMP area is proposed throughout the project to mitigate new or replaced impervious area. The preliminary cross-section consists of a maximum of 6 inches of ponded water over 24 inches of amended topsoil on top of 12 inches of drain rock that surrounds a 4 inch perforated pipe. An orifice is provided in a cap at the base of the perforated pipe to meter the 2-year, 2-hour pre-development discharge rate and a second orifice is provided at a higher elevation to meter the predevelopment 5-year, 15 minute discharge rate. In large storm events, stormwater that does not meter trough the orifices will be conveyed to the Stormdrain System through an inlet that is raised 6 inches above the BMP channel bottom. See Appendix B for Biotreatment BMP sizing. The porosity in the amended soil and the drain rock is calculated as 0.26 and 0.40, respectively.

DESIGN CALCULATIONS

The HEC-HMS computer program was used to calculate runoff volumes, perform routing, and determine detention volume requirements. The stage storage relationship for each BMP is displayed in the excel spreadsheets included in Appendix B. The outflow is metered through two orifices that restricts the outflow to the predevelopment 5-year 15 minute discharge rate while providing storage for the post-development 10-year storm event and maintaining the 2-year 2 hour predevelopment runoff rates. A 10-year, 24-hour storm event was routed though each stage storage model to verify that the volume provided by each BMP is sufficient. The rainfall-runoff model developed by the Soil Conservation Service and presented in the TR-55 was used. The model inputs for the 10-year post-development hydrology for this project are presented in Tables 1 and 2, below.

Soil hydrologic parameters (Runoff Curve Numbers) were derived from Table 2-2a of the TR-55. The 10 year 24-hour precipitation was determined from the NOAA Atlas 14, Volume 6, Version 2, for Watsonville, California.

Table 1. 24-Hour Precipitation

10-Year	4.09 in

Table 2. Soil Hydrologic Parameters

Hydrologic Soil Group	Runoff Curve Number
	100-Year Storm
A	40
B	98

Table 3 summarize the project watershed areas.

Table 3: Watershed Area Summary

Watershed	Impervious Area (SF)	Pervious Area (SF)	Total Area (SF)	BMP Area (SF)
A	52,828	47,109	99,937	3,800
B	6,722	10,934	17,656	625
C	1,665	5,382	7,047	165
D	3,594	2,172	5,766	260
E	938	1,377	2,315	65
Total	65,747	66,974	132,721	4,915

*See Appendix A for Watershed Exhibit

Table 4: Storage Volume Summary

BMP	BMP A	BMP B	BMP C	BMP D	BMP E
Required Storage (CF)	2,786	1,427	1,840	300	300
Provided Storage (CF)	2,786	1,500	1,890	300	300

Table 4 summarizes the required and provided storage volumes for each BMP. For the purpose of sizing each BMP, 100 percent of the incidental rainfall is accounted for in the modeling calculations by including the BMP area as impervious area. The BMP's are designed to limit the post-development release to the predevelopment 5-year, 15 minute discharge rate while providing storage for the post-development 10-year storm event and demonstrate that the pre-project 2-year 2-hour runoff rate will not be exceeded for the 2-year storm event. Additionally, water quality calculations were performed to verify that the water quality storage volume required by Section B, 3, b, iii, a (two times the 85th percentile event), of the Central Coast Region Post-Construction Stormwater Management Requirements for Development Projects in the Coast Region (Resolution R3-2013-0032). See Appendix B for calculations. As a precautionary measure, overland escape shall be provided as part of the final design to insure that stormwater will drain out away from structures if the storm drain system were to cease functioning.

Permeable Pavement and Biotreatment BMP Operation and Maintenance Recommendations
The permeable concrete pavement is proposed to be one of the last site improvements constructed in order to minimize opportunities for construction debris to be collected in the pavement. Additionally, the project Storm Water Pollution Prevention Plan will provide guidance regarding the mitigation of potential storm water contaminants expected during construction.

After construction, the permeable concrete pavement and Biotreatment BMP will be inspected on a frequent basis and maintained in order to ensure long term performance. The following inspection and maintenance measures are proposed in maintain functionality of the project BMPs.

Permeable Pavement:

- Accumulated debris and litter shall be routinely removed as a source control measure.
- The permeable concrete pavement will be inspected several times during the first few storms to insure proper infiltration and drainage. After the first year the pavement will be inspected at least once a year.
- Permeable pavements and materials shall be cleaned with a vacuum-type street cleaner. The frequency will depend on the exposure to sediment. However it is anticipated that vacuuming may occur twice a year (before and after the rainy season).
- Hand held pressure washers can be effective for cleaning the void spaces of small areas and shall follow vacuum cleaning.
- Maintenance personnel shall be instructed not to seal or pave with non-porous materials.

- Pervious pavements will not be sanded in the winter to avoid clogging the void spaces

Biotreatment BMPs:

- Proper maintenance includes mowing, weed control, removal of trash and debris, watering during the dry season, and reseeding of non-vegetated areas.
- Remove grass cuttings after mowing grass.
- Vegetation, large shrubs or trees that interfere with landscape swale operation shall be pruned.
- Invasive vegetation contributing up to 25% of vegetation of all species shall be removed and replaced. Fallen leaves and debris from deciduous plant foliage shall be removed.
- Inspect swales at least twice annually for damage to vegetation, erosion, sediment accumulation and ponding water standing longer than 72 hours.
- Debris in quantities that inhibit operation shall be removed routinely (no less than quarterly), or upon discovery. Sediments shall be removed when depths exceed 3 inches.
- Side slopes shall be maintained to prevent erosion that introduces sediment into the swale.
- If a spill occurs and hazardous materials contaminate soils in vegetated swales, the affected areas shall be removed immediately and the appropriate soils and materials replaced as soon as possible.
- Insects and rodents shall not be harbored in the vegetated swales. Pest control measures shall be taken when insects/rodents are found to be present.
- If sprays are considered, then a mosquito larvicide, such as bacillus thurendensis or altoside formulations may be applied only if absolutely necessary, approved by the County, and, applied by an appropriately licensed individual or contractor.

Anticipated On-going Pollutant Generating Activities and Sources

Over the life of the project, there are a number of pollutant generating activities and sources expected. Table 5 below shows the expected pollutant generating activities and sources along with the proposed mitigation measures. A Pollutant Mitigation Exhibit is also included in Appendix D.

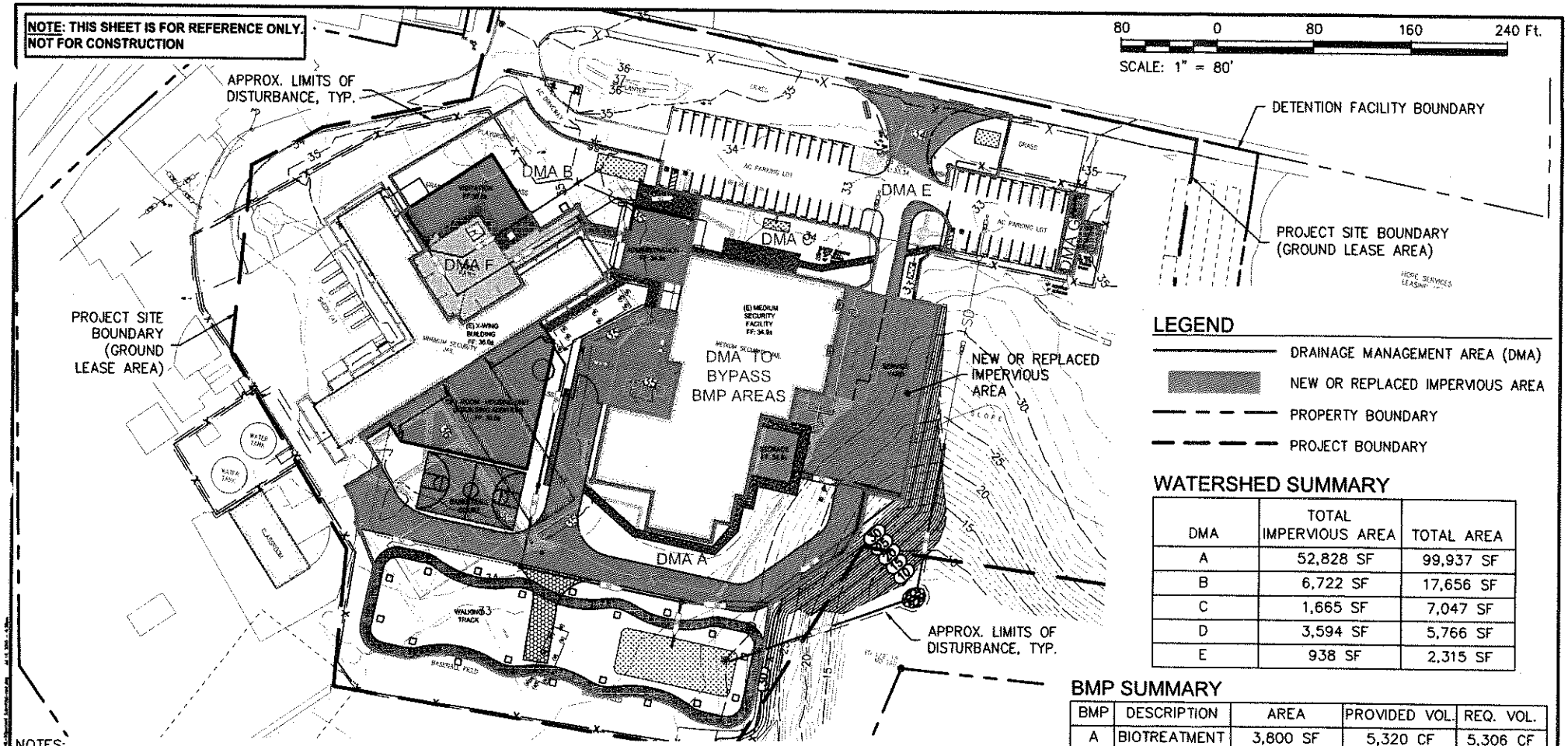
Table 5: Expected Pollutants and Mitigations

Pollutant Exhibit Plan Keynote #	Source Pollutants	Mitigation Measure – CASQA BMP Designation
1	Accidental spills or leaks	o NS-1 Water Conservation Practices o SC-11 Spill Prevention, Control, and Cleanup o SC-41 Building & Grounds Maintenance o SC-10 Non-Stormwater Discharges o Clean up spills immediately o Keep spill control measures onsite
2	Interior floor drains and elevator drains	o Interior floor drains and elevator drains shall be plumbed to sanitary sewer. o Inspect and maintain drains to prevent blockages and overflow.
3	Parking area maintenance	o SC-41 Building & Grounds Maintenance o SC-70 Road and Street Maintenance
4	Indoor and structural pest control	o SC-11 Spill Prevention, Control, and Cleanup o SC-41 Building and Grounds Maintenance o SC-61 Safer Alternative Products o Provide Integrated Pest Management information to owners, lessees, and operators
5	Landscape/out door pesticide use	o SC-11 Spill Prevention, Control, and Cleanup o SC-41 Building and Grounds Maintenance o SC-60 Housekeeping Practices o SC-61 Safer Alternative Products o SC-73 Landscape Maintenance o Maintain landscaping using minimum or no pesticides o Provide Integrated Pest Management information to owners, lessees, and operators
6	Food service operations	o SC-34 Waste Handling and Disposal o As necessary, drains connect to a grease interceptor before discharging to the sanitary sewer
7	Refuse areas	o SC-34 Waste Handling and Disposal o Provide signage stating "Do not dump hazardous materials here", or similar o Inspect receptacles regularly; repair or replace leaky receptacles o Keep receptacles covered o Inspect and pick up litter daily o Clean up spills immediately o Keep spill control measures onsite
8	Fire sprinkler test water	SC-41 Building and Grounds Maintenance
9	Drain or wash water from boiler drains, condensate drain lines, rooftop equipment, and other sources	SC-10 Non-Stormwater Discharges
10	Unauthorized non-stormwater discharges	o SC-10 Building and Grounds Maintenance o SC-60 Housekeeping Practices o SC-61 Safer Alternative Products
11	Building and grounds maintenance	o SC-41 Building and Grounds Maintenance o SC-32 Outdoor Equipment Maintenance o SC-60 Housekeeping Practices o SC-70 Plaza and Sidewalk Cleaning (includes graffiti removal) o SC-73 Landscape Maintenance o SC-74 Drainage System Maintenance

Conclusion

The preliminary drainage calculations meet the intent of the current County Design Criteria. All assumptions and calculations shall be verified by the design build team as part of the final design. The location and placement of all biotreatment and permeable pavement BMPs shall be coordinated with the project Geotechnical and Structural Engineer. All control structures and storm drainage pipes shall be sized to convey the 25 year storm flows at a minimum.

APPENDIX A



WATERSHED SUMMARY

DMA	TOTAL IMPERVIOUS AREA	TOTAL AREA
A	52,828 SF	99,937 SF
B	6,722 SF	17,656 SF
C	1,665 SF	7,047 SF
D	3,594 SF	5,766 SF
E	938 SF	2,315 SF

BMP SUMMARY

BMP	DESCRIPTION	AREA	PROVIDED VOL.	REQ. VOL.
A	BIOTREATMENT	3,800 SF	5,320 CF	5,306 CF
B	BIOTREATMENT	625 SF	875 CF	663 CF
C	BIOTREATMENT	165 SF	231 CF	187 CF
D	BIOTREATMENT	260 SF	364 CF	356 CF
E	BIOTREATMENT	65 SF	91 CF	91 CF
F&G	SELF-TREATING	N/A	N/A	N/A

NOTES:

1. FOR THE PURPOSE OF THESE CALCULATIONS, THE BIOSWALE SOIL MEDIA HAS A POROSITY OF 0.25 AND THE DRAIN ROCK HAS A VOID RATIO OF 0.4.

2. THE SEWAGE DISPOSAL STUDY PERFORMED BY STEVE BROOKS, R.E.H.S IN 1990 INDICATES THAT THE SITE SOILS BELOW 3' ARE LARGELY SANDS. THE 9 PERCOLATION TESTS INDICATE PERCOLATION RATES RANGING FROM 2 TO 11 IN/HR. A DESIGN RATE OF 2 IN/HR WAS USED FOR THESES CALCULATIONS AND SHOULD BE VERIFIED AS PART OF THE FINAL DESIGN PLANS.

WATERSHED EXHIBIT

SANTA CRUZ COUNTY - ROUNTREE FACILTY

SANTA CRUZ COUNTY, CALIFORNIA

Whitson Engineers
2425 Porter Street | Suite 2 | Soquel, CA 95073 | **831 464-9363 | F 831 464-2316**
CIVIL ENGINEERING ▪ LAND SURVEYING ▪ PROJECT MANAGEMENT | www.whitsonengineers.com
Project No.: 3193.02

7 / 1 5 / 1 5
Sheet 1 of 1

1"=80'

APPENDIX B

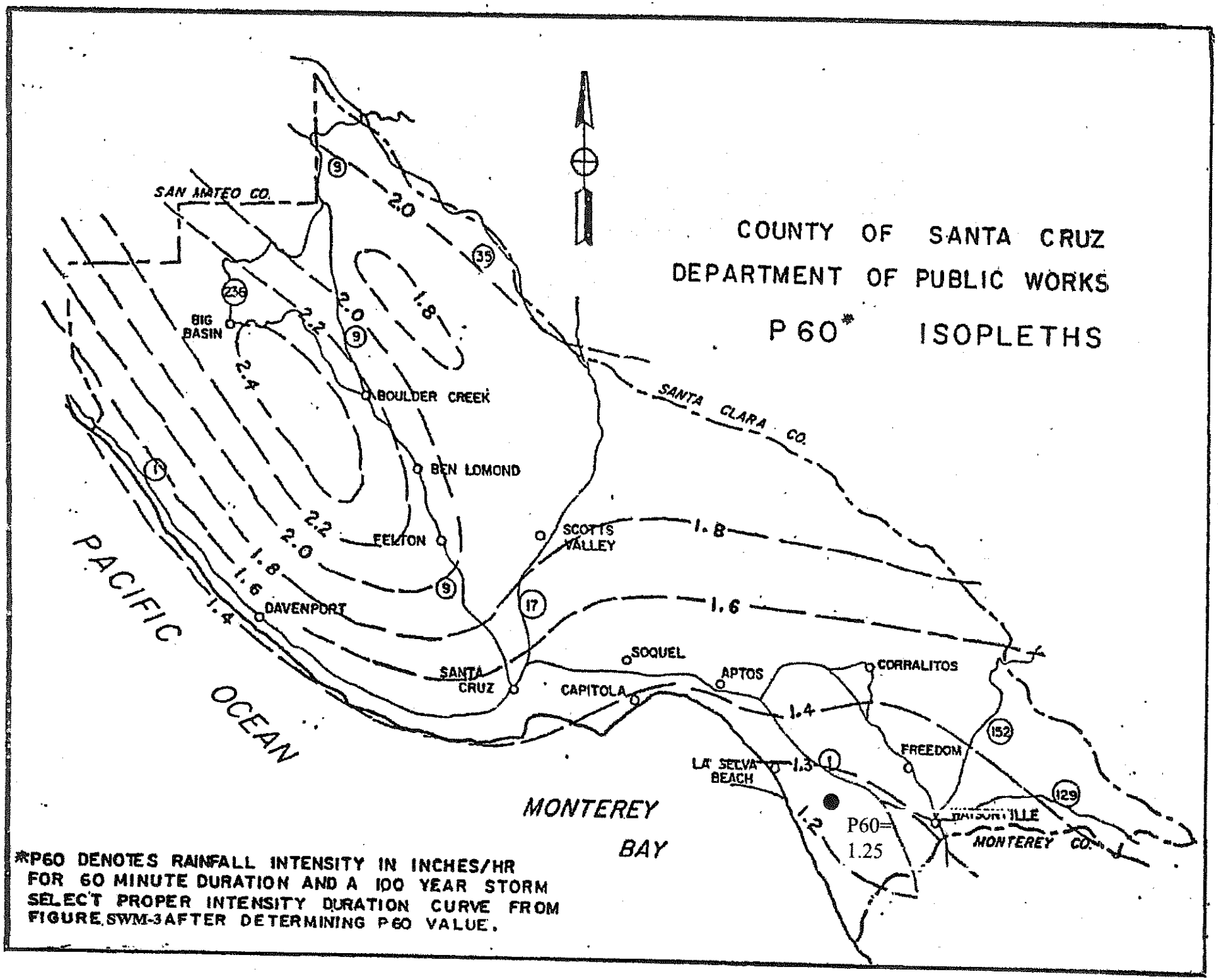

COUNTY OF SANTA CRUZ
DEPARTMENT OF PUBLIC WORKS
P 60* ISOPLETHS
SAN MATEO CO.
SANTA CLARA CO.
MONTEREY CO.
PACIFIC OCEAN
MONTEREY BAY
BIG BASIN
BOULDER CREEK
BEN LOMOND
FELTON
SCOTTS VALLEY
DAVENPORT
SANTA CRUZ
CAPITOLA
SOQUEL
APTOS
CORRALITOS
LA SELVA BEACH
FREEDOM
WATSONVILLE
2.0
2.2
2.4
1.8
1.6
1.4
1.3
1.2
P60= 1.25
*P60 DENOTES RAINFALL INTENSITY IN INCHES/HR FOR 60 MINUTE DURATION AND A 100 YEAR STORM SELECT PROPER INTENSITY DURATION CURVE FROM FIGURE SWM-3 AFTER DETERMINING P60 VALUE.

FIG. SWM-2

PROJECT: BMP A: Rountree Jail Facility

Calc by: RMT **Date:** 7/14/2015

Input Parameters	
Impervious Area (sf)	52828
Footprint (sf)	3,800
Soil Void Ratio	0.25
Rock Void Ratio	0.4
Ponding Depth (ft)	0.5
Soil Depth (ft)	2
Rock Depth (ft)	1

10yr-5hr Calculations	(SWM-24)
Storage Req. (cf)	2710
Release Rate (cfs)	0.412

2yr-2hr Calculations	(SWM-17)
Storage Req. (cf)	2639
Release Rate (cfs)	0.130

Required Water Quality Storage Volume
(85th Percentile Event)

Total Watershed Area	52828	SF
Impervous Area	13867	SF
Impervious Area Ratio	0.26	
Runoff Coefficient	0.20	
Requred WQv	1505	CF

Stage-Storage Table

	Stage (ft)	Storage (cf)	Storage (ac-ft)	Orifice Release
Bottom of Rock	0	0	0.0000	0.000
Orifice 1 Elev.	0.1	152	0.0035	0.024
	0.2	304	0.0070	0.033
	0.3	456	0.0105	0.041
	0.4	608	0.0140	0.047
	0.5	760	0.0174	0.053
	0.6	912	0.0209	0.058
	0.7	1064	0.0244	0.063
	0.8	1216	0.0279	0.067
	0.9	1368	0.0314	0.071
Bottom of Soil	1	1520	0.0349	0.075
	1.1	1615	0.0371	0.078
	1.2	1710	0.0393	0.082
	1.3	1805	0.0414	0.085
	1.4	1900	0.0436	0.088
	1.5	1995	0.0458	0.092
	1.6	2090	0.0480	0.095
	1.7	2185	0.0502	0.098
	1.8	2280	0.0523	0.100
	1.9	2375	0.0545	0.103
	2	2470	0.0567	0.106
	2.1	2565	0.0589	0.108
	2.2	2660	0.0611	0.111
	2.3	2755	0.0632	0.113
	2.4	2850	0.0654	0.116
	2.5	2945	0.0676	0.118
	2.6	3040	0.0698	0.121
	2.7	3135	0.0720	0.123
	2.8	3230	0.0742	0.125
Orifice 2 Elev.	2.9	3325	0.0763	0.127
Top of Soil	3	3420	0.0785	0.240
	3.1	3800	0.0872	0.287
	3.2	4180	0.0960	0.323
	3.3	4560	0.1047	0.353
	3.4	4940	0.1134	0.380
Max Pond Depth	3.5	5320	0.1221	0.404

10 Year Storm Analysis

Storm Duration (min)	10-year Intensity (in/hr)	Detention Release Qpre (cfs)	Specified 10 - Year Qpost (cfs)	Post-Pre 10yr-5yr Rate To Storage (cfs)	Storage Volume (cf)
1440	0.223	0.058	0.246	-0.186	-20055
1200	0.242	0.063	0.266	-0.165	-14867
960	0.267	0.069	0.294	-0.138	-9918
720	0.303	0.079	0.333	-0.098	-5301
480	0.362	0.094	0.398	-0.033	-1194
360	0.411	0.107	0.452	0.021	554
240	0.491	0.128	0.540	0.109	1957
180	0.557	0.145	0.613	0.182	2450
120	0.666	0.173	0.732	0.301	2710
90	0.755	0.196	0.831	0.400	2699
60	0.903	0.235	0.993	0.562	2529
45	1.024	0.266	1.127	0.696	2349
30	1.224	0.318	1.347	0.916	2061
20	1.463	0.380	1.610	1.179	1768
15	1.660	0.431	1.827	1.396	1570
10	1.984	0.516	2.184	1.752	1314
5	2.691	0.699	2.961	2.530	949
0	0.000	0.000	0.000	0.000	0
				Max:	**2710**

Orifice 1 Sizing: (2 Year-2hr Release)

Orifice diameter	1.69	inch	(1-11/16")
Cd	0.6		
Design Flow Rate (Max)	0.130	cfs	(2 Year-2hr)
Calculated Flow Rate	0.127	cfs	
Orifice Area	0.0155316	ft^2	

Orifice 2 Sizing: (5 Year-15 Min Release)

Orifice diameter	3.69	inch	3-(11/16")
Cd	0.6		
Design Flow Rate (Max)	0.281	cfs	(Difference between 10 and 2 year)
Calculated Flow Rate	0.277	cfs	
Orifice Area	0.0741637	ft^2	

SUMMARY:

Storage Required From Routing via HEC-HMS:	5306	CF
Total Storage Provided	5320	CF

PROJECT: BMP A: Rountree Jail Facility **Calc by:** RMT **Date:** 7/14/2015

RUNOFF DETENTION BY THE MODIFIED RATIONAL METHOD

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

Site Location P60 Isopleth:	1.35		Fig. SWM-2 in County Design Criteria
Rational Coefficients Cpre:	0.25		See note # 2
Cpost:	0.90		See note # 2
Impervious Area:	52828	ft²	See note # 2 and # 4

STRUCTURE DIMENSIONS FOR DETENTION

2710 ft³ storage volume calculated

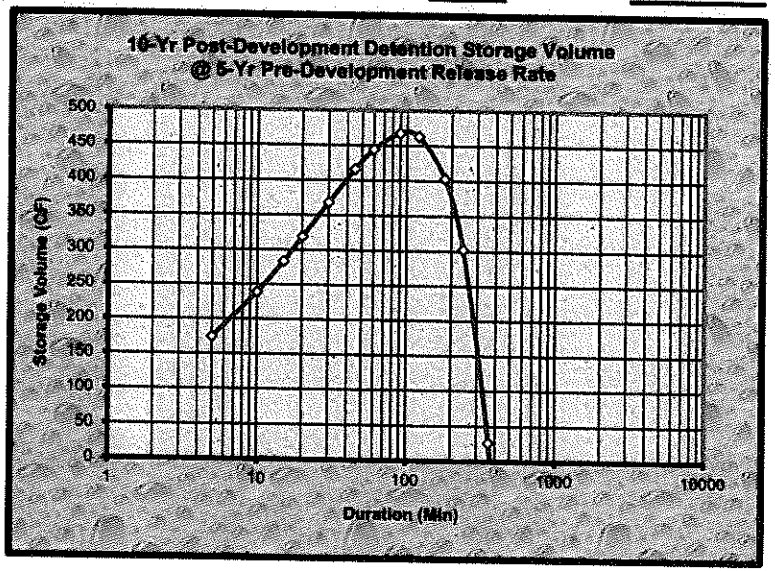
100 % void space assumed

2710 ft³ excavated volume needed

Structure	Length	Width*	Depth*
Ratios	25.00	2.00	2.00
Dimen. (ft)	**75.09**	**6.01**	**6.01**

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

10 - YEAR DESIGN STORM				DETENTION @ 15 MIN.	
Storm Duration (min)	10 - Year Intensity (in/hr)	5 - Yr. Release Qpre (cfs)	10 - Year Qpost (cfs)	Detention Rate To Storage (cfs)	Specified Storage Volume (cf)
1440	0.22	0.058	0.246	-0.186	-20055
1200	0.24	0.063	0.266	-0.165	-14867
960	0.27	0.069	0.294	-0.138	-9918
720	0.30	0.079	0.333	-0.098	-5301
480	0.36	0.094	0.398	-0.033	-1194
360	0.41	0.107	0.452	0.021	554
240	0.49	0.128	0.540	0.109	1957
180	0.56	0.145	0.613	0.182	2450
120	0.67	0.173	0.732	0.301	2710
90	0.76	0.196	0.831	0.400	2699
60	0.90	0.235	0.993	0.562	2529
45	1.02	0.266	1.127	0.696	2349
30	1.22	0.318	1.347	0.916	2061
20	1.46	0.380	1.610	1.179	1768
15	1.66	**0.431**	1.827	1.396	1570
10	1.98	0.516	2.184	1.752	1314
5	2.69	0.699	2.961	2.530	949



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.

This method is available from the County Public Works web site in a computerized Excel spreadsheet format to simplify usage. http://www.dpw.co.santa-cruz.ca.us/drainage.htm

11-05

PROJECT: BMP A: Rountree Jail Facility **Calc by:** RMT **Date:** 7/14/2015

RUNOFF RETENTION BY THE STORAGE PERCOLATION METHOD

Data Entry: PRESS TAB KEY & ENTER DESIGN VALUES

SS Ver:1.0

Site Location P60 Isopleth:	1.35	Fig. SWM-2
Rational Coefficients Cpre:	0.25	
Cpost:	0.90	
Impervious Area:	52828	ft^2
Saturated Soil Permeability:	1.00	in/hr

Notes & Limitations on Use:

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

Storm Duration (min)	2 - Year Intensity (in/hr)	Qpre (cfs)	Qpost (cfs)
1440	0.14	0.044	0.157
1200	0.15	0.047	0.170
960	0.17	0.052	0.188
720	0.19	0.059	0.213
480	0.23	0.071	0.255
360	0.26	0.080	0.289
240	0.31	0.096	0.346
180	0.36	0.109	0.392
120	0.43	**0.130**	0.469
90	0.48	0.148	0.532
60	0.58	0.177	0.636
45	0.66	0.200	0.721
30	0.78	0.240	0.862
20	0.94	0.286	1.030
15	1.06	0.325	1.169
10	1.27	0.388	1.397
5	1.72	0.526	1.895

RETENTION @ 120 MIN.

Retention Rate To Storage (cfs)	Specified Retained Volume (cf)
0.027	-1043
0.040	92
0.058	1102
0.083	1940
0.125	2512
0.159	**2639**
0.215	2586
0.262	2451
0.339	2195
0.402	1993
0.506	1709
0.591	1517
0.732	1269
0.900	1051
1.039	916
1.267	750
1.765	527

STRUCTURE DIMENSIONS FOR RETENTION

2639	ft^3 storage volume calculated			
40	% void space assumed			
6598	ft^3 excavated volume needed			
Structure Ratios	Length	Width*	Depth**	
	25.00	2.00	2.00	
Dimen. (ft)	**101.02**	**8.08**	**8.08**	
2580	ft^2 internal surface area			
1806	ft^2 effective surface area			
17.5	hrs estimated structure drainage time			

* 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

2434	ft^3 storage volume calculated		
100	% void space assumed		
2434	ft^3 excavated volume needed		
Structure Ratios	Length	Width*	Depth*
	25.00	2.00	2.00
Dimen. (ft)	**72.46**	**5.80**	**5.80**

DETENTION @ 60 MIN.

Detention Rate To Storage (cfs)	Specified Detained Volume (cf)
-0.019	-1672
-0.006	-448
0.011	653
0.037	1584
0.078	2254
0.113	2433
0.169	**2434**
0.216	2329
0.292	2104
0.355	1919
0.459	1653
0.545	1471
0.686	1234
0.854	1025
0.993	893
1.221	733
1.719	516

This method is available from the County Public Works web site in a computerized Excel spreadsheet format to simplify usage. http://www.dpw.co.santa-cruz.ca.us/drainage.htm

FIG. SWM-24

Project: BMP - A

Simulation Run: Run 1 Reservoir: BMP

Start of Run:	01Jan2000, 00:00	Basin Model:	Site
End of Run:	02Jan2000, 23:59	Meteorologic Model:	Met 1
Compute Time:	14Jul2015, 13:54:15	Control Specifications:	Control 1

Volume Units: AC-FT

Computed Results

Peak Inflow :	2.40 (CFS)	Date/Time of Peak Inflow :	01Jan2000, 10:07
Peak Outflow :	0.49 (CFS)	Date/Time of Peak Outflow :	01Jan2000, 10:54
Total Inflow :	0.40136 (AC-FT)	Peak Storage :	0.12182 (AC-FT)
Total Outflow :	0.40136 (AC-FT)	Peak Elevation :	(FT)

PROJECT: BMP B: Rountree Jail Facility

Calc by: RMT **Date:** 7/14/2015

Input Parameters	
Impervious Area (sf)	6722
Footprint (sf)	625
Soil Void Ratio	0.25
Rock Void Ratio	0.4
Ponding Depth (ft)	0.5
Soil Depth (ft)	2
Rock Depth (ft)	1

10yr-5hr Calculations	(SWM-24)
Storage Req. (cf)	345
Release Rate (cfs)	0.052

2yr-2hr Calculations	(SWM-17)
Storage Req. (cf)	279
Release Rate (cfs)	0.017

Required Water Quality Storage Volume
(85th Percentile Event)

Total Watershed Area	17656	SF
Impervous Area	6722	SF
Impervious Area Ratio	0.38	
Runoff Coefficient	0.27	
Requred WQv	660	CF

Stage-Storage Table

	Stage (ft)	Storage (cf)	Storage (ac-ft)	Orifice Release
Bottom of Rock	0	0	0.0000	0.000
Orifice 1 Elev.	0.1	25	0.0006	0.003
	0.2	50	0.0011	0.005
	0.3	75	0.0017	0.006
	0.4	100	0.0023	0.006
	0.5	125	0.0029	0.007
	0.6	150	0.0034	0.008
	0.7	175	0.0040	0.009
	0.8	200	0.0046	0.009
	0.9	225	0.0052	0.010
Bottom of Soil	1	250	0.0057	0.010
	1.1	266	0.0061	0.011
	1.2	281	0.0065	0.011
	1.3	297	0.0068	0.012
	1.4	313	0.0072	0.012
	1.5	328	0.0075	0.013
	1.6	344	0.0079	0.013
	1.7	359	0.0083	0.013
	1.8	375	0.0086	0.014
	1.9	391	0.0090	0.014
	2	406	0.0093	0.015
	2.1	422	0.0097	0.015
	2.2	438	0.0100	0.015
	2.3	453	0.0104	0.016
	2.4	469	0.0108	0.016
	2.5	484	0.0111	0.016
	2.6	500	0.0115	0.017
	2.7	516	0.0118	0.017
	2.8	531	0.0122	0.017
Orifice 2 Elev.	2.9	547	0.0126	0.017
Top of Soil	3	563	0.0129	0.032
	3.1	625	0.0143	0.038
	3.2	688	0.0158	0.042
	3.3	750	0.0172	0.046
	3.4	813	0.0187	0.049
Max Pond Depth	3.5	875	0.0201	0.053

10 Year Storm Analysis

Storm Duration (min)	10-year Intensity (in/hr)	Detention Release Qpre (cfs)	Specified 10 - Year Qpost (cfs)	Post-Pre 10yr-5yr Rate To Storage (cfs)	Storage Volume (cf)
1440	0.223	0.007	0.031	-0.024	-2552
1200	0.242	0.008	0.034	-0.021	-1892
960	0.267	0.009	0.037	-0.018	-1262
720	0.303	0.010	0.042	-0.012	-675
480	0.362	0.012	0.051	-0.004	-152
360	0.411	0.014	0.058	0.003	71
240	0.491	0.016	0.069	0.014	249
180	0.557	0.018	0.078	0.023	312
120	0.666	0.022	0.093	0.038	345
90	0.755	0.025	0.106	0.051	343
60	0.903	0.030	0.126	0.072	322
45	1.024	0.034	0.143	0.089	299
30	1.224	0.040	0.171	0.117	262
20	1.463	0.048	0.205	0.150	225
15	1.660	0.055	0.232	0.178	200
10	1.984	0.066	0.278	0.223	167
5	2.691	0.089	0.377	0.322	121
0	0.000	0.000	0.000	0.000	0
				Max:	345

Orifice 1 Sizing: (2 Year-2hr Release)

Orifice diameter	0.63	inch	(10/16")
Cd	0.6		
Design Flow Rate (Max)	0.017	cfs	(2 Year-2hr)
Calculated Flow Rate	0.017	cfs	
Orifice Area	0.0021305	ft^2	

Orifice 2 Sizing: (5 Year-15 Min Release)

Orifice diameter	1.31	inch	1-(5/16")
Cd	0.6		
Design Flow Rate (Max)	0.036	cfs	(Difference between 10 and 2 year)
Calculated Flow Rate	0.035	cfs	
Orifice Area	0.0093956	ft^2	

SUMMARY:

Storage Required From Routing via HEC-HMS:	663	CF
Total Storage Provided	875	CF

11-05

PROJECT: BMP B: Rountree Jail Facility **Calc by:** RMT **Date:** 7/14/2015

RUNOFF RETENTION BY THE STORAGE PERCOLATION METHOD

Data Entry: PRESS TAB KEY & ENTER DESIGN VALUES

SS Ver:1.0

Site Location P60 Isopleth:	1.35	Fig. SWM-2
Rational Coefficients Cpre:	0.25	
Cpost:	0.90	
Impervious Area:	6722	ft^2
Saturated Soil Permeability:	1.00	in/hr

Notes & Limitations on Use:

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

Storm Duration (min)	2 - Year Intensity (in/hr)	Qpre (cfs)	Qpost (cfs)
1440	0.14	0.006	0.020
1200	0.15	0.006	0.022
960	0.17	0.007	0.024
720	0.19	0.008	0.027
480	0.23	0.009	0.032
360	0.26	0.010	0.037
240	0.31	0.012	0.044
180	0.36	0.014	0.050
120	0.43	0.017	0.060
90	0.48	0.019	0.068
60	0.58	0.022	0.081
45	0.66	0.026	0.092
30	0.78	0.030	0.110
20	0.94	0.036	0.131
15	1.06	0.041	0.149
10	1.27	0.049	0.178
5	1.72	0.067	0.241

RETENTION @ 120 MIN.

Retention Rate To Storage (cfs)	Specified Retained Volume (cf)
0.003	-459
0.005	-258
0.007	-74
0.011	88
0.016	216
0.020	259
0.027	279
0.033	275
0.043	256
0.051	237
0.064	207
0.075	185
0.093	157
0.115	131
0.132	115
0.161	94
0.225	67

STRUCTURE DIMENSIONS FOR RETENTION

279 ft^3 storage volume calculated
40 % void space assumed
698 ft^3 excavated volume needed

Structure Ratios	Length	Width*	Depth**
	25.00	2.00	2.00
Dimen. (ft)	**47.78**	**3.82**	**3.82**

577 ft^2 internal surface area
404 ft^2 effective surface area
8.3 hrs estimated structure drainage time

* 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

310 ft^3 storage volume calculated
100 % void space assumed
310 ft^3 excavated volume needed

Structure Ratios	Length	Width*	Depth*
	25.00	2.00	2.00
Dimen. (ft)	**36.44**	**2.92**	**2.92**

DETENTION @ 60 MIN.

Detention Rate To Storage (cfs)	Specified Detained Volume (cf)
-0.002	-213
-0.001	-57
0.001	83
0.005	202
0.010	287
0.014	310
0.022	310
0.027	296
0.037	268
0.045	244
0.058	210
0.069	187
0.087	157
0.109	130
0.126	114
0.155	93
0.219	66

This method is available from the County Public Works web site in a computerized Excel spreadsheet format to simplify usage. http://www.dpw.co.santa-cruz.ca.us/drainage.htm

FIG. SWM-24

Project: BMP - B

Simulation Run: Run 1 Reservoir: BMP

Start of Run:	01Jan2000, 00:00	Basin Model:	Site
End of Run:	02Jan2000, 23:59	Meteorologic Model:	Met 1
Compute Time:	14Jul2015, 14:57:34	Control Specifications:	Control 1

Volume Units: AC-FT

Computed Results

Peak Inflow :	0.30 (CFS)	Date/Time of Peak Inflow :	01Jan2000, 10:07
Peak Outflow :	0.05 (CFS)	Date/Time of Peak Outflow :	01Jan2000, 11:01
Total Inflow :	0.05109 (AC-FT)	Peak Storage :	0.01522 (AC-FT) 663 CF
Total Outflow :	0.05109 (AC-FT)	Peak Elevation :	(FT)

PROJECT: BMP B: Rountree Jail Facility **Calc by:** RMT **Date:** 7/14/2015

RUNOFF DETENTION BY THE MODIFIED RATIONAL METHOD

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

Site Location P60 Isopleth:	1.35	Fig. SWM-2 in County Design Criteria	
Rational Coefficients Cpre:	0.25	See note # 2	
Cpost:	0.90	See note # 2	
Impervious Area:	6722	ft²	See note # 2 and # 4

STRUCTURE DIMENSIONS FOR DETENTION

345 ft³ storage volume calculated

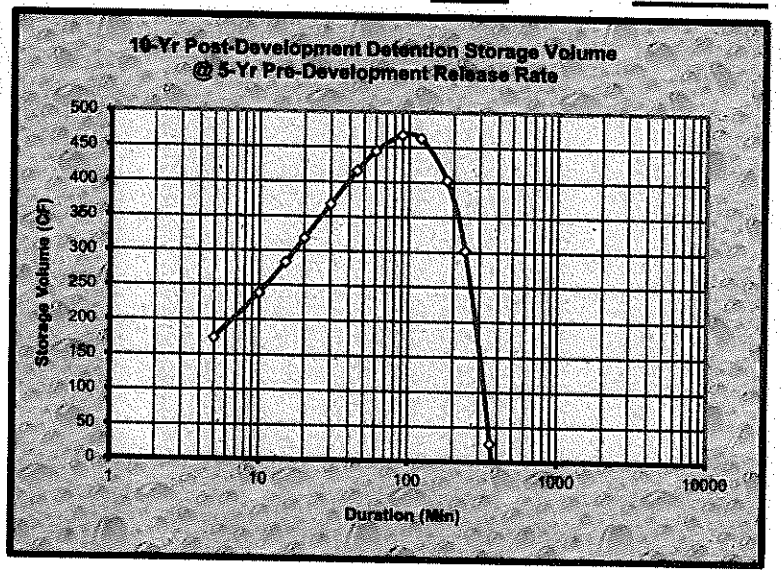
100 % void space assumed

345 ft³ excavated volume needed

Structure	Length	Width*	Depth*
Ratios	25.00	2.00	2.00
Dimen. (ft)	**37.77**	**3.02**	**3.02**

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

10 - YEAR DESIGN STORM				DETENTION @ 15 MIN.	
Storm Duration (min)	10 - Year Intensity (in/hr)	5 - Yr. Release Qpre (cfs)	10 - Year Qpost (cfs)	Detention Rate To Storage (cfs)	Specified Storage Volume (cf)
1440	0.22	0.007	0.031	-0.024	-2552
1200	0.24	0.008	0.034	-0.021	-1892
960	0.27	0.009	0.037	-0.018	-1262
720	0.30	0.010	0.042	-0.012	-675
480	0.36	0.012	0.051	-0.004	-152
360	0.41	0.014	0.058	0.003	71
240	0.49	0.016	0.069	0.014	249
180	0.56	0.018	0.078	0.023	312
120	0.67	0.022	0.093	0.038	345
90	0.76	0.025	0.106	0.051	343
60	0.90	0.030	0.126	0.072	322
45	1.02	0.034	0.143	0.089	299
30	1.22	0.040	0.171	0.117	262
20	1.46	0.048	0.205	0.150	225
15	1.66	**0.055**	0.232	0.178	200
10	1.98	0.066	0.278	0.223	167
5	2.69	0.089	0.377	0.322	121



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.

This method is available from the County Public Works web site in a computerized Excel spreadsheet format to simplify usage. http://www.dpw.co.santa-cruz.ca.us/drainage.htm

PROJECT: BMP C: Rountree Jail Facility

Calc by: RMT **Date:** 7/14/2015

Input Parameters	
Impervious Area (sf)	1665
Footprint (sf)	165
Soil Void Ratio	0.25
Rock Void Ratio	0.4
Ponding Depth (ft)	0.5
Soil Depth (ft)	2
Rock Depth (ft)	1

10yr-5hr Calculations	(SWM-24)
Storage Req. (cf)	85
Release Rate (cfs)	0.013

2yr-2hr Calculations	(SWM-17)
Storage Req. (cf)	59
Release Rate (cfs)	0.004

Required Water Quality Storage Volume
(85th Percentile Event)

Total Watershed Area	7047	SF
Impervous Area	1665	SF
Impervious Area Ratio	0.24	
Runoff Coefficient	0.19	
Requred WQv	187	CF

Stage-Storage Table

	Stage (ft)	Storage (cf)	Storage (ac-ft)	Orifice Release
Bottom of Rock	0	0	0.0000	0.000
Orifice 1 Elev.	0.1	7	0.0002	0.001
	0.2	13	0.0003	0.001
	0.3	20	0.0005	0.001
	0.4	26	0.0006	0.002
	0.5	33	0.0008	0.002
	0.6	40	0.0009	0.002
	0.7	46	0.0011	0.002
	0.8	53	0.0012	0.002
	0.9	59	0.0014	0.002
Bottom of Soil	1	66	0.0015	0.003
	1.1	70	0.0016	0.003
	1.2	74	0.0017	0.003
	1.3	78	0.0018	0.003
	1.4	83	0.0019	0.003
	1.5	87	0.0020	0.003
	1.6	91	0.0021	0.003
	1.7	95	0.0022	0.003
	1.8	99	0.0023	0.003
	1.9	103	0.0024	0.004
	2	107	0.0025	0.004
	2.1	111	0.0026	0.004
	2.2	116	0.0027	0.004
	2.3	120	0.0027	0.004
	2.4	124	0.0028	0.004
	2.5	128	0.0029	0.004
	2.6	132	0.0030	0.004
	2.7	136	0.0031	0.004
	2.8	140	0.0032	0.004
Orifice 2 Elev.	2.9	144	0.0033	0.004
Top of Soil	3	149	0.0034	0.008
	3.1	165	0.0038	0.009
	3.2	182	0.0042	0.010
	3.3	198	0.0045	0.011
	3.4	215	0.0049	0.012
Max Pond Depth	3.5	231	0.0053	0.012

10 Year Storm Analysis

Storm Duration (min)	10-year Intensity (in/hr)	Detention Release Qpre (cfs)	Specified 10 - Year Qpost (cfs)	Post-Pre 10yr-5yr Rate To Storage (cfs)	Storage Volume (cf)
1440	0.223	0.002	0.008	-0.006	-632
1200	0.242	0.002	0.008	-0.005	-469
960	0.267	0.002	0.009	-0.004	-313
720	0.303	0.002	0.011	-0.003	-167
480	0.362	0.003	0.013	-0.001	-38
360	0.411	0.003	0.014	0.001	17
240	0.491	0.004	0.017	0.003	62
180	0.557	0.005	0.019	0.006	77
120	0.666	0.005	0.023	0.009	85
90	0.755	0.006	0.026	0.013	85
60	0.903	0.007	0.031	0.018	80
45	1.024	0.008	0.036	0.022	74
30	1.224	0.010	0.042	0.029	65
20	1.463	0.012	0.051	0.037	56
15	1.660	0.014	0.058	0.044	49
10	1.984	0.016	0.069	0.055	41
5	2.691	0.022	0.093	0.080	30
0	0.000	0.000	0.000	0.000	0
				Max:	85

Orifice 1 Sizing: (2 Year-2hr Release)

Orifice diameter	0.31	inch	(5/16")
Cd	0.6		
Design Flow Rate (Max)	0.004	cfs	(2 Year-2hr)
Calculated Flow Rate	0.004	cfs	
Orifice Area	0.0005326	ft^2	

Orifice 2 Sizing: (5 Year-15 Min Release)

Orifice diameter	0.63	inch	(5/8")
Cd	0.6		
Design Flow Rate (Max)	0.009	cfs	(Difference between 10 and 2 year)
Calculated Flow Rate	0.008	cfs	
Orifice Area	0.0021305	ft^2	

SUMMARY:

Storage Required From Routing via HEC-HMS:	167	CF
Total Storage Provided	231	CF

PROJECT: BMP C: Rountree Jail Facility **Calc by:** RMT **Date:** 7/14/2015

RUNOFF DETENTION BY THE MODIFIED RATIONAL METHOD

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

Site Location P60 Isopleth:	1.35	Fig. SWM-2 in County Design Criteria	
Rational Coefficients Cpre:	0.25	See note # 2	
Cpost:	0.90	See note # 2	
Impervious Area:	1665	ft^2	See note # 2 and # 4

STRUCTURE DIMENSIONS FOR DETENTION

85 ft^3 storage volume calculated

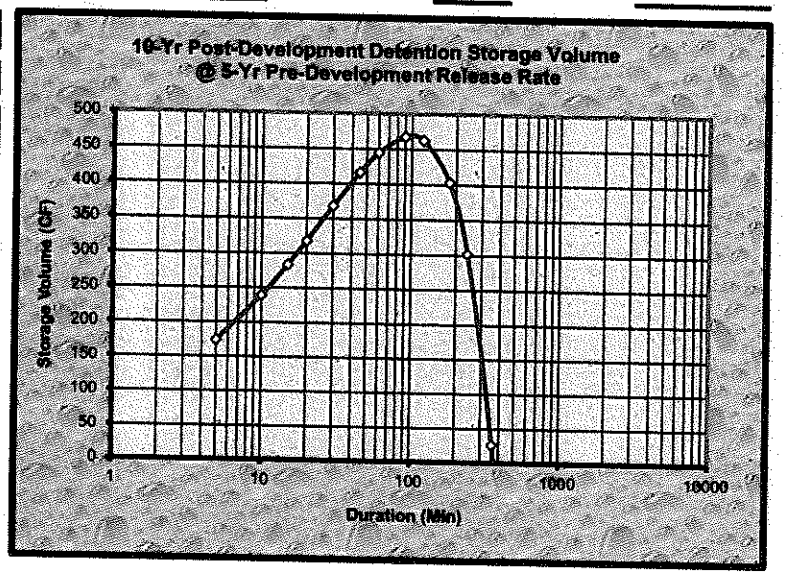
100 % void space assumed

85 ft^3 excavated volume needed

Structure	Length	Width*	Depth*
Ratios	25.00	2.00	2.00
Dimen. (ft)	**23.72**	**1.90**	**1.90**

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

10 - YEAR DESIGN STORM				DETENTION @ 15 MIN.	
Storm Duration (min)	10 - Year Intensity (in/hr)	5 - Yr. Release Qpre (cfs)	10 - Year Qpost (cfs)	Detention Rate To Storage (cfs)	Specified Storage Volume (cf)
1440	0.22	0.002	0.008	-0.006	-632
1200	0.24	0.002	0.008	-0.005	-469
960	0.27	0.002	0.009	-0.004	-313
720	0.30	0.002	0.011	-0.003	-167
480	0.36	0.003	0.013	-0.001	-38
360	0.41	0.003	0.014	0.001	17
240	0.49	0.004	0.017	0.003	62
180	0.56	0.005	0.019	0.006	77
120	0.67	0.005	0.023	0.009	85
90	0.76	0.006	0.026	0.013	85
60	0.90	0.007	0.031	0.018	80
45	1.02	0.008	0.036	0.022	74
30	1.22	0.010	0.042	0.029	65
20	1.46	0.012	0.051	0.037	56
15	1.66	**0.014**	0.058	0.044	49
10	1.98	0.016	0.069	0.055	41
5	2.69	0.022	0.093	0.080	30



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.

This method is available from the County Public Works web site in a computerized Excel spreadsheet format to simplify usage. http://www.dpw.co.santa-cruz.ca.us/drainage.htm

The spreadsheet formulas and format are copy protected to prevent alteration.
Any modified submittals may be rejected, unless the changes made and the author are clearly identified, and the format is recognizably different

11-05

PROJECT: BMP C: Rountree Jail Facility **Calc by:** RMT **Date:** 7/14/2015

RUNOFF RETENTION BY THE STORAGE PERCOLATION METHOD

Data Entry: PRESS TAB KEY & ENTER DESIGN VALUES

SS Ver:1.0

Site Location P60 Isopleth:	1.35	Fig. SWM-2
Rational Coefficients Cpre:	0.25	
Cpost:	0.90	
Impervious Area:	1665	ft^2
Saturated Soil Permeability:	1.00	in/hr

Notes & Limitations on Use:

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

Storm Duration (min)	2 - Year Intensity (in/hr)	Qpre (cfs)	Qpost (cfs)
1440	0.14	0.001	0.005
1200	0.15	0.001	0.005
960	0.17	0.002	0.006
720	0.19	0.002	0.007
480	0.23	0.002	0.008
360	0.26	0.003	0.009
240	0.31	0.003	0.011
180	0.36	0.003	0.012
120	0.43	0.004	0.015
90	0.48	0.005	0.017
60	0.58	0.006	0.020
45	0.66	0.006	0.023
30	0.78	0.008	0.027
20	0.94	0.009	0.032
15	1.06	0.010	0.037
10	1.27	0.012	0.044
5	1.72	0.017	0.060

RETENTION @ 120 MIN.

Retention Rate To Storage (cfs)	Specified Retained Volume (cf)
0.001	-195
0.001	-131
0.002	-72
0.003	-18
0.004	28
0.005	45
0.007	57
0.008	59
0.011	58
0.013	54
0.016	49
0.019	44
0.023	38
0.028	32
0.033	28
0.040	23
0.056	16

STRUCTURE DIMENSIONS FOR RETENTION

59	ft^3 storage volume calculated			
40	% void space assumed			
148	ft^3 excavated volume needed			
Structure Ratios	Length	Width*	Depth**	
	25.00	2.00	2.00	
Dimen. (ft)	28.47	2.28	2.28	
205	ft^2 internal surface area			
143	ft^2 effective surface area			
4.9	hrs estimated structure drainage time			

* 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

77	ft^3 storage volume calculated		
100	% void space assumed		
77	ft^3 excavated volume needed		
Structure Ratios	Length	Width*	Depth*
	25.00	2.00	2.00
Dimen. (ft)	22.89	1.83	1.83

DETENTION @ 60 MIN.

Detention Rate To Storage (cfs)	Specified Detained Volume (cf)
-0.001	-53
0.000	-14
0.000	21
0.001	50
0.002	71
0.004	77
0.005	77
0.007	73
0.009	66
0.011	60
0.014	52
0.017	46
0.022	39
0.027	32
0.031	28
0.038	23
0.054	16

This method is available from the County Public Works web site in a computerized Excel spreadsheet format to simplify usage. http://www.dpw.co.santa-cruz.ca.us/drainage.htm

FIG. SWM-24

PROJECT: BMP D: Rountree Jail Facility **Calc by:** RMT **Date:** 7/14/2015

Input Parameters	
Impervious Area (sf)	3594
Footprint (sf)	260
Soil Void Ratio	0.25
Rock Void Ratio	0.4
Ponding Depth (ft)	0.5
Soil Depth (ft)	2
Rock Depth (ft)	1

10yr-5hr Calculations	(SWM-24)
Storage Req. (cf)	184
Release Rate (cfs)	0.028

2yr-2hr Calculations	(SWM-17)
Storage Req. (cf)	139
Release Rate (cfs)	0.009

Required Water Quality Storage Volume
(85th Percentile Event)

Total Watershed Area	5766	SF
Impervous Area	3594	SF
Impervious Area Ratio	0.62	
Runoff Coefficient	0.43	
Requred WQv	342	CF

Stage-Storage Table

	Stage (ft)	Storage (cf)	Storage (ac-ft)	Orifice Release
Bottom of Rock	0	0	0.0000	0.000
Orifice 1 Elev.	0.1	10	0.0002	0.002
	0.2	21	0.0005	0.002
	0.3	31	0.0007	0.003
	0.4	42	0.0010	0.003
	0.5	52	0.0012	0.004
	0.6	62	0.0014	0.004
	0.7	73	0.0017	0.004
	0.8	83	0.0019	0.004
	0.9	94	0.0021	0.005
Bottom of Soil	1	104	0.0024	0.005
	1.1	111	0.0025	0.005
	1.2	117	0.0027	0.006
	1.3	124	0.0028	0.006
	1.4	130	0.0030	0.006
	1.5	137	0.0031	0.006
	1.6	143	0.0033	0.006
	1.7	150	0.0034	0.007
	1.8	156	0.0036	0.007
	1.9	163	0.0037	0.007
	2	169	0.0039	0.007
	2.1	176	0.0040	0.007
	2.2	182	0.0042	0.007
	2.3	189	0.0043	0.008
	2.4	195	0.0045	0.008
	2.5	202	0.0046	0.008
	2.6	208	0.0048	0.008
	2.7	215	0.0049	0.008
	2.8	221	0.0051	0.008
Orifice 2 Elev.	2.9	228	0.0052	0.009
Top of Soil	3	234	0.0054	0.016
	3.1	260	0.0060	0.019
	3.2	286	0.0066	0.021
	3.3	312	0.0072	0.023
	3.4	338	0.0078	0.025
Max Pond Depth	3.5	364	0.0084	0.026

10 Year Storm Analysis

Storm Duration (min)	10-year Intensity (in/hr)	Detention Release Qpre (cfs)	Specified 10 - Year Qpost (cfs)	Post-Pre 10yr-5yr Rate To Storage (cfs)	Storage Volume (cf)
1440	0.223	0.004	0.017	-0.013	-1364
1200	0.242	0.004	0.018	-0.011	-1011
960	0.267	0.005	0.020	-0.009	-675
720	0.303	0.005	0.023	-0.007	-361
480	0.362	0.006	0.027	-0.002	-81
360	0.411	0.007	0.031	0.001	38
240	0.491	0.009	0.037	0.007	133
180	0.557	0.010	0.042	0.012	167
120	0.666	0.012	0.050	0.020	184
90	0.755	0.013	0.057	0.027	184
60	0.903	0.016	0.068	0.038	172
45	1.024	0.018	0.077	0.047	160
30	1.224	0.022	0.092	0.062	140
20	1.463	0.026	0.110	0.080	120
15	1.660	0.029	0.124	0.095	107
10	1.984	0.035	0.149	0.119	89
5	2.691	0.048	0.201	0.172	65
0	0.000	0.000	0.000	0.000	0
				Max:	184

Orifice 1 Sizing: (2 Year-2hr Release)

Orifice diameter	0.44	inch	(7/16")
Cd	0.6		
Design Flow Rate (Max)	0.009	cfs	(2 Year-2hr)
Calculated Flow Rate	0.009	cfs	
Orifice Area	0.001044	ft^2	

Orifice 2 Sizing: (5 Year-15 Min Release)

Orifice diameter	0.94	inch	(15/16")
Cd	0.6		
Design Flow Rate (Max)	0.019	cfs	(Difference between 10 and 2 year)
Calculated Flow Rate	0.018	cfs	
Orifice Area	0.0047937	ft^2	

SUMMARY:

Storage Required From Routing via HEC-HMS:	356	CF
Total Storage Provided	364	CF

PROJECT: BMP D: Rountree Jail Facility **Calc by:** RMT **Date:** 7/14/2015

RUNOFF DETENTION BY THE MODIFIED RATIONAL METHOD

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

Site Location P60 Isopleth:	1.35		Fig. SWM-2 in County Design Criteria
Rational Coefficients Cpre:	0.25		See note # 2
Cpost:	0.90		See note # 2
Impervious Area:	3594	ft^2	See note # 2 and # 4

STRUCTURE DIMENSIONS FOR DETENTION

184 ft^3 storage volume calculated

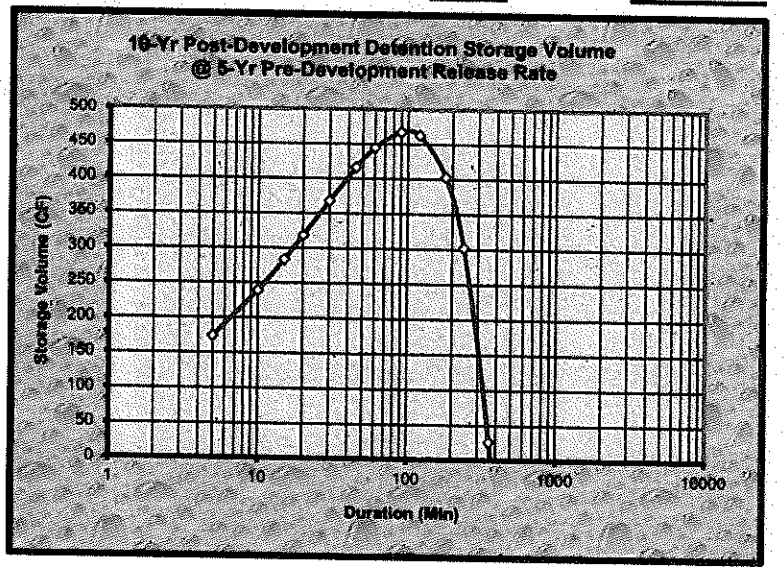
100 % void space assumed

184 ft^3 excavated volume needed

Structure	Length	Width*	Depth*
Ratios	25.00	2.00	2.00
Dimen. (ft)	**30.65**	**2.45**	**2.45**

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

10 - YEAR DESIGN STORM				DETENTION @ 15 MIN.	
Storm Duration (min)	10 - Year Intensity (in/hr)	5 - Yr. Release Qpre (cfs)	10 - Year Qpost (cfs)	Detention Rate To Storage (cfs)	Specified Storage Volume (cf)
1440	0.22	0.004	0.017	-0.013	-1364
1200	0.24	0.004	0.018	-0.011	-1011
960	0.27	0.005	0.020	-0.009	-675
720	0.30	0.005	0.023	-0.007	-361
480	0.36	0.006	0.027	-0.002	-81
360	0.41	0.007	0.031	0.001	38
240	0.49	0.009	0.037	0.007	133
180	0.56	0.010	0.042	0.012	167
120	0.67	0.012	0.050	0.020	184
90	0.76	0.013	0.057	0.027	184
60	0.90	0.016	0.068	0.038	172
45	1.02	0.018	0.077	0.047	160
30	1.22	0.022	0.092	0.062	140
20	1.46	0.026	0.110	0.080	120
15	1.66	**0.029**	0.124	0.095	107
10	1.98	0.035	0.149	0.119	89
5	2.69	0.048	0.201	0.172	65



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.

This method is available from the County Public Works web site in a computerized Excel spreadsheet format to simplify usage. http://www.dpw.co.santa-cruz.ca.us/drainage.htm

11-05

PROJECT: BMP D: Rountree Jail Facility **Calc by:** RMT **Date:** 7/14/2015

RUNOFF RETENTION BY THE STORAGE PERCOLATION METHOD

Data Entry: PRESS TAB KEY & ENTER DESIGN VALUES

SS Ver:1.0

Site Location P60 Isopleth:	1.35	Fig. SWM-2
Rational Coefficients Cpre:	0.25	
Cpost:	0.90	
Impervious Area:	3594	ft^2
Saturated Soil Permeability:	1.00	in/hr

Notes & Limitations on Use:

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

Storm Duration (min)	2 - Year Intensity (in/hr)	Qpre (cfs)	Qpost (cfs)
1440	0.14	0.003	0.011
1200	0.15	0.003	0.012
960	0.17	0.004	0.013
720	0.19	0.004	0.015
480	0.23	0.005	0.017
360	0.26	0.005	0.020
240	0.31	0.007	0.024
180	0.36	0.007	0.027
120	0.43	**0.009**	0.032
90	0.48	0.010	0.036
60	0.58	**0.012**	0.043
45	0.66	0.014	0.049
30	0.78	0.016	0.059
20	0.94	0.019	0.070
15	1.06	0.022	0.080
10	1.27	0.026	0.095
5	1.72	0.036	0.129

RETENTION @ 120 MIN.

Retention Rate To Storage (cfs)	Specified Retained Volume (cf)
0.002	-316
0.003	-197
0.004	-86
0.006	12
0.008	93
0.011	122
0.015	138
0.018	139
0.023	132
0.027	123
0.034	108
0.040	97
0.050	83
0.061	69
0.071	61
0.086	50
0.120	36

STRUCTURE DIMENSIONS FOR RETENTION

139	ft^3 storage volume calculated			
40	% void space assumed			
348	ft^3 excavated volume needed			
Structure Ratios	Length	Width*	Depth**	
	25.00	2.00	2.00	
Dimen. (ft)	**37.89**	**3.03**	**3.03**	
363	ft^2 internal surface area			
254	ft^2 effective surface area			
6.6	hrs estimated structure drainage time			

* 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

166	ft^3 storage volume calculated		
100	% void space assumed		
166	ft^3 excavated volume needed		
Structure Ratios	Length	Width*	Depth*
	25.00	2.00	2.00
Dimen. (ft)	**29.58**	**2.37**	**2.37**

DETENTION @ 60 MIN.

Detention Rate To Storage (cfs)	Specified Detained Volume (cf)
-0.001	-114
0.000	-31
0.001	44
0.002	108
0.005	153
0.008	166
0.012	166
0.015	158
0.020	143
0.024	131
0.031	112
0.037	100
0.047	84
0.058	70
0.068	61
0.083	50
0.117	35

This method is available from the County Public Works web site in a computerized Excel spreadsheet format to simplify usage. http://www.dpw.co.santa-cruz.ca.us/drainage.htm

FIG. SWM-24

Project: BMP - D
Simulation Run: Run 1 Reservoir: BMP

Start of Run:	01Jan2000, 00:00	Basin Model:	Site
End of Run:	02Jan2000, 23:59	Meteorologic Model:	Met 1
Compute Time:	14Jul2015, 15:32:33	Control Specifications:	Control 1

Volume Units: AC-FT

Computed Results

Peak Inflow :	0.16 (CFS)	Date/Time of Peak Inflow :	01Jan2000, 10:07	
Peak Outflow :	0.03 (CFS)	Date/Time of Peak Outflow :	01Jan2000, 10:56	
Total Inflow :	0.02683 (AC-FT)	Peak Storage :	0.00817 (AC-FT)	356 CF
Total Outflow :	0.02683 (AC-FT)	Peak Elevation :	(FT)	

Project: BMP - C

Simulation Run: Run 1 Reservoir: BMP

Start of Run:	01Jan2000, 00:00	Basin Model:	Site
End of Run:	02Jan2000, 23:59	Meteorologic Model:	Met 1
Compute Time:	14Jul2015, 15:21:34	Control Specifications:	Control 1

Volume Units: AC-FT

Computed Results

Peak Inflow :	0.07 (CFS)	Date/Time of Peak Inflow :	01Jan2000, 10:07
Peak Outflow :	0.01 (CFS)	Date/Time of Peak Outflow :	01Jan2000, 11:05
Total Inflow :	0.01303 (AC-FT)	Peak Storage :	0.00383 (AC-FT)
Total Outflow :	0.01303 (AC-FT)	Peak Elevation :	(FT)

167 CF

PROJECT: BMP D: Rountree Jail Facility **Calc by:** RMT **Date:** 7/14/2015

Input Parameters	
Impervious Area (sf)	938
Footprint (sf)	65
Soil Void Ratio	0.25
Rock Void Ratio	0.4
Ponding Depth (ft)	0.5
Soil Depth (ft)	2
Rock Depth (ft)	1

10yr-5hr Calculations	(SWM-24)
Storage Req. (cf)	48
Release Rate (cfs)	0.007

2yr-2hr Calculations	(SWM-17)
Storage Req. (cf)	31
Release Rate (cfs)	0.002

Required Water Quality Storage Volume
(85th Percentile Event)

Total Watershed Area		2315	SF
Impervous Area		938	SF
Impervious Area Ratio		0.41	
Runoff Coefficient		0.28	
Requred WQv		91	CF

Stage-Storage Table

	Stage (ft)	Storage (cf)	Storage (ac-ft)	Orifice Release
Bottom of Rock	0	0	0.0000	0.000
Orifice 1 Elev.	0.1	3	0.0001	0.000
	0.2	5	0.0001	0.000
	0.3	8	0.0002	0.001
	0.4	10	0.0002	0.001
	0.5	13	0.0003	0.001
	0.6	16	0.0004	0.001
	0.7	18	0.0004	0.001
	0.8	21	0.0005	0.001
	0.9	23	0.0005	0.001
Bottom of Soil	1	26	0.0006	0.001
	1.1	28	0.0006	0.001
	1.2	29	0.0007	0.001
	1.3	31	0.0007	0.001
	1.4	33	0.0007	0.001
	1.5	34	0.0008	0.001
	1.6	36	0.0008	0.001
	1.7	37	0.0009	0.001
	1.8	39	0.0009	0.001
	1.9	41	0.0009	0.001
	2	42	0.0010	0.001
	2.1	44	0.0010	0.001
	2.2	46	0.0010	0.001
	2.3	47	0.0011	0.001
	2.4	49	0.0011	0.001
	2.5	50	0.0012	0.001
	2.6	52	0.0012	0.001
	2.7	54	0.0012	0.002
	2.8	55	0.0013	0.002
Orifice 2 Elev.	2.9	57	0.0013	0.002
Top of Soil	3	59	0.0013	0.004
	3.1	65	0.0015	0.005
	3.2	72	0.0016	0.005
	3.3	78	0.0018	0.006
	3.4	85	0.0019	0.006
Max Pond Depth	3.5	91	0.0021	0.007

10 Year Storm Analysis

Storm Duration (min)	10-year Intensity (in/hr)	Detention Release Qpre (cfs)	Specified 10 - Year Qpost (cfs)	Post-Pre 10yr-5yr Rate To Storage (cfs)	Storage Volume (cf)
1440	0.223	0.001	0.004	-0.003	-356
1200	0.242	0.001	0.005	-0.003	-264
960	0.267	0.001	0.005	-0.002	-176
720	0.303	0.001	0.006	-0.002	-94
480	0.362	0.002	0.007	-0.001	-21
360	0.411	0.002	0.008	0.000	10
240	0.491	0.002	0.010	0.002	35
180	0.557	0.003	0.011	0.003	44
120	0.666	0.003	0.013	0.005	48
90	0.755	0.003	0.015	0.007	48
60	0.903	0.004	0.018	0.010	45
45	1.024	0.005	0.020	0.012	42
30	1.224	0.006	0.024	0.016	37
20	1.463	0.007	0.029	0.021	31
15	1.660	0.008	0.032	0.025	28
10	1.984	0.009	0.039	0.031	23
5	2.691	0.012	0.053	0.045	17
0	0.000	0.000	0.000	0.000	0
				Max:	48

Orifice 1 Sizing: (2 Year-2hr Release)

Orifice diameter	0.19	inch	(3/16")
Cd	0.6		
Design Flow Rate (Max)	0.002	cfs	(2 Year-2hr)
Calculated Flow Rate	0.002	cfs	
Orifice Area	0.0001917	ft^2	

Orifice 2 Sizing: (5 Year-15 Min Release)

Orifice diameter	0.50	inch	(1/2")
Cd	0.6		
Design Flow Rate (Max)	0.005	cfs	(Difference between 10 and 2 year)
Calculated Flow Rate	0.005	cfs	
Orifice Area	0.0013635	ft^2	

SUMMARY:

Storage Required From Routing via HEC-HMS:	65	CF
Total Storage Provided	91	CF

PROJECT: BMP D: Rountree Jail Facility **Calc by:** RMT **Date:** 7/14/2015

RUNOFF DETENTION BY THE MODIFIED RATIONAL METHOD

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

Site Location P60 Isopleth:	1.35		Fig. SWM-2 in County Design Criteria
Rational Coefficients Cpre:	0.25		See note # 2
Cpost:	0.90		See note # 2
Impervious Area:	938	ft^2	See note # 2 and # 4

STRUCTURE DIMENSIONS FOR DETENTION

48 ft^3 storage volume calculated

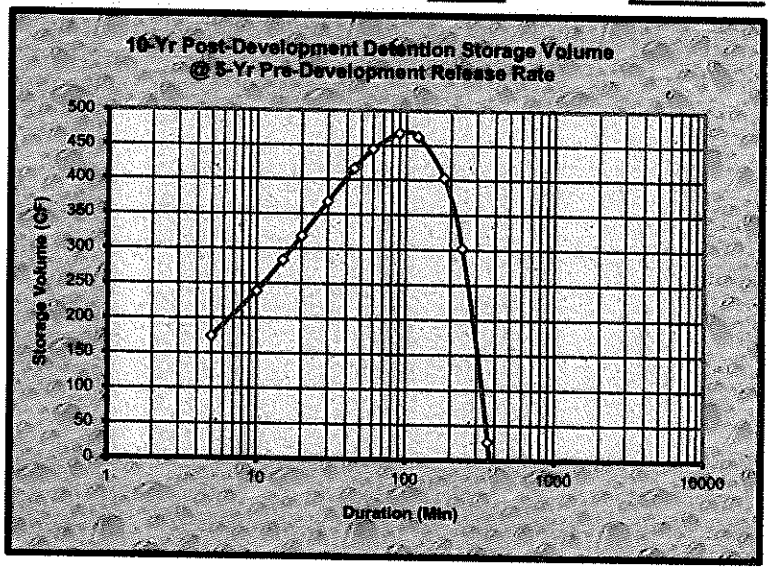
100 % void space assumed

48 ft^3 excavated volume needed

Structure	Length	Width*	Depth*
Ratios	25.00	2.00	2.00
Dimen. (ft)	**19.59**	**1.57**	**1.57**

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

10 - YEAR DESIGN STORM				DETENTION @ 15 MIN.	
Storm Duration (min)	10 - Year Intensity (in/hr)	5 - Yr. Release Qpre (cfs)	10 - Year Qpost (cfs)	Detention Rate To Storage (cfs)	Specified Storage Volume (cf)
1440	0.22	0.001	0.004	-0.003	-356
1200	0.24	0.001	0.005	-0.003	-264
960	0.27	0.001	0.005	-0.002	-176
720	0.30	0.001	0.006	-0.002	-94
480	0.36	0.002	0.007	-0.001	-21
360	0.41	0.002	0.008	0.000	10
240	0.49	0.002	0.010	0.002	35
180	0.56	0.003	0.011	0.003	44
120	0.67	0.003	0.013	0.005	48
90	0.76	0.003	0.015	0.007	48
60	0.90	0.004	0.018	0.010	45
45	1.02	0.005	0.020	0.012	42
30	1.22	0.006	0.024	0.016	37
20	1.46	0.007	0.029	0.021	31
15	1.66	**0.008**	0.032	0.025	28
10	1.98	0.009	0.039	0.031	23
5	2.69	0.012	0.053	0.045	17



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.

This method is available from the County Public Works web site in a computerized Excel spreadsheet format to simplify usage. http://www.dpw.co.santa-cruz.ca.us/drainage.htm

11-05

PROJECT: BMP D: Rountree Jail Facility **Calc by:** RMT **Date:** 7/14/2015

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 isopleth:	1.35	Fig. SWM-2
Rational Coefficients Cpre:	0.25	
Cpost:	0.90	
Impervious Area:	938	ft^2
Saturated Soil Permeability:	1.00	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.		DETENTION @ 60 MIN.	
Storm Duration (min)	2 - Year Intensity (in/hr)	Qpre (cfs)	Qpost (cfs)	Retention Rate To Storage (cfs)	Specified Retained Volume (cf)	Detention Rate To Storage (cfs)	Specified Detained Volume (cf)
1440	0.14	0.001	0.003	0.000	-132	0.000	-30
1200	0.15	0.001	0.003	0.001	-93	0.000	-8
960	0.17	0.001	0.003	0.001	-55	0.000	12
720	0.19	0.001	0.004	0.001	-21	0.001	28
480	0.23	0.001	0.005	0.002	8	0.001	40
360	0.26	0.001	0.005	0.003	20	0.002	43
240	0.31	0.002	0.006	0.004	29	0.003	43
180	0.36	0.002	0.007	0.005	31	0.004	41
120	0.43	**0.002**	0.008	0.006	31	0.005	37
90	0.48	0.003	0.009	0.007	29	0.006	34
60	0.58	**0.003**	0.011	0.009	27	0.008	29
45	0.66	0.004	0.013	0.010	24	0.010	26
30	0.78	0.004	0.015	0.013	21	0.012	22
20	0.94	0.005	0.018	0.016	18	0.015	18
15	1.06	0.006	0.021	0.018	16	0.018	16
10	1.27	0.007	0.025	0.023	13	0.022	13
5	1.72	0.009	0.034	0.031	9	0.031	9

STRUCTURE DIMENSIONS FOR RETENTION

31	ft^3 storage volume calculated			
40	% void space assumed			
77	ft^3 excavated volume needed			
Structure Ratios		Length	Width*	Depth**
Dimen. (ft)		**22.91**	**1.83**	**1.83**
133	ft^2 internal surface area			
93	ft^2 effective surface area			
4.0	hrs estimated structure drainage time			

* 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

43	ft^3 storage volume calculated			
100	% void space assumed			
43	ft^3 excavated volume needed			
Structure Ratios		Length	Width*	Depth*
Dimen. (ft)		**18.90**	**1.51**	**1.51**

This method is available from the County Public Works web site in a computerized Excel spreadsheet format to simplify usage. http://www.dpw.co.santa-cruz.ca.us/drainage.htm

FIG. SWM-24

Project: BMP - E

Simulation Run: Run 1 Reservoir: BMP

Start of Run:	01Jan2000, 00:00	Basin Model:	Site
End of Run:	02Jan2000, 23:59	Meteorologic Model:	Met 1
Compute Time:	14Jul2015, 15:37:21	Control Specifications:	Control 1

Volume Units: AC-FT

Computed Results

Peak Inflow :	0.04 (CFS)	Date/Time of Peak Inflow :	01Jan2000, 10:07
Peak Outflow :	0.01 (CFS)	Date/Time of Peak Outflow :	01Jan2000, 10:47
Total Inflow :	0.00718 (AC-FT)	Peak Storage :	0.00148 (AC-FT)
Total Outflow :	0.00718 (AC-FT)	Peak Elevation :	(FT)

65 CF

APPENDIX C

GENERAL

1. CONSTRUCTION CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL(S) HARMLESS FROM ANY AND ALL LIABILITY, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL(S).
2. ALL WORK SHALL BE PERFORMED IN CONFORMANCE WITH:
   A. ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, REGULATIONS, ORDINANCES, AND RULES, INCLUDING WITHOUT LIMITATION:
      CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATIVE CODE (CAL-OSHA)
      CALIFORNIA CODE 4216 – PROTECTION OF UNDERGROUND INFRASTRUCTURE
   B. THE 2010 CALIFORNIA BUILDING STANDARDS CODE (CCR TITLE 24), WITH AMENDMENTS ADOPTED BY THE COUNTY OF SANTA CRUZ.
   C. ALL WORK SHALL CONFORM WITH THE COUNTY OF SANTA CRUZ DESIGN CRITERIA, LATEST EDITION.
   D. ALL WORK SHALL BE PERFORMED IN CONFORMANCE WITH THE U.S. AMERICANS WITH DISABILITIES ACT.
   E. CALIFORNIA EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
   F. THE PROJECT PLANS AND SPECIFICATIONS
   G. THE PROJECT SOILS REPORT AND THE GEOTECHNICAL FEASIBILITY INVESTIGATION FOR SANTA CRUZ COUNTY MEDIUM-SECURITY DETENTION FACILITY, SANTA CRUZ COUNTY, CALIFORNIA BY HARRO, KASUNICH & ASSOCIATES, INC., DATED MAY 1989.
   H. THE MAY, 2008 EDITION OF "STANDARD SPECIFICATIONS," STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION (CALTRANS)
   I. THE MAY, 2006 EDITION OF "STANDARD PLANS," STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION (CALTRANS)
3. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH ALL CURRENTLY APPLICABLE SAFETY LAWS OF ALL APPLICABLE JURISDICTIONAL BODIES. FOR INFORMATION REGARDING THIS PROVISION, THE CONTRACTOR IS DIRECTED TO CONTACT STATE OF CALIFORNIA, DIVISION OF OCCUPATIONAL SAFETY AND HEALTH, AT PHONE (831) 443-3050.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BARRICADES, SAFETY DEVICES AND CONTROL OF TRAFFIC WITHIN THE CONSTRUCTION AREA.
5. INTENTION OF GRADING: CONSTRUCTION OF BUILDING ADDITIONS, PARKING AND ROAD EXPANSIONS, AND ASSOCIATED SITE WORK.
6. PROPERTY IS NOT SUBJECT TO INUNDATION OR 100 YEAR FLOOD LEVELS.
7. ESTIMATED START: TBD ; ESTIMATED COMPLETION: TBD.
8. SEE THE PROJECT ARBORIST'S REPORT FOR TREE PROTECTION AND REMOVAL REQUIREMENTS.
9. IF, DURING THE COURSE OF CONSTRUCTION, CULTURAL, ARCHAEOLOGICAL, HISTORICAL OR PALEONTOLOGICAL RESOURCES ARE UNCOVERED AT THE SITE (SURFACE OR SUBSURFACE RESOURCES) WORK SHALL BE HALTED IMMEDIATELY WITHIN 150 FEET OF THE FIND UNTIL IT CAN BE EVALUATED BY A QUALIFIED PROFESSIONAL ARCHEOLOGIST. THE SANTA CRUZ COUNTY PLANNING AND BUILDING INSPECTION DEPARTMENT AND A QUALIFIED ARCHAEOLOGIST (I.E. AN ARCHAEOLOGIST REGISTERED WITH THE SOCIETY OF PROFESSIONAL ARCHAEOLOGISTS) SHALL BE IMMEDIATELY CONTACTED BY THE RESPONSIBLE INDIVIDUAL PRESENT ON SITE. WHEN CONTACTED, THE PROJECT PLANNER AND THE ARCHAEOLOGIST SHALL IMMEDIATELY VISIT THE SITE TO DETERMINE THE EXTENT OF THE RESOURCES AND TO DEVELOP PROPER MITIGATION MEASURES REQUIRED FOR THE DISCOVERY.
10. ALL SURFACES EXPOSED OR EXPECTED TO BE EXPOSED DURING GRADING ACTIVITIES SHALL BE PREPARED AND MAINTAINED THROUGH THE LENGTH OF THE ENTIRE PROJECT TO PROTECT AGAINST EROSION.
11. AT ALL TIMES DURING CONSTRUCTION AND UNTIL FINAL COMPLETION, THE CONTRACTOR, WHEN HE OR HIS SUBCONTRACTORS ARE OPERATING EQUIPMENT ON THE SITE, SHALL PREVENT THE FORMATION OF AN AIRBORNE DUST NUISANCE BY WATERING AND/OR TREATING THE SITE OF THE WORK IN SUCH A MANNER THAT WILL CONFINE DUST PARTICLES TO THE IMMEDIATE SURFACE OF THE WORK. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE DONE BY DUST FROM HIS OR HER SUBCONTRACTOR.
12. ALL ELEVATIONS ARE IN FEET AND DECIMALS THEREOF.
13. A CONSTRUCTION PERMIT FROM THE REGIONAL WATER QUALITY CONTROL BOARD WILL BE REQUIRED.

EARTHWORK AND AREA OF DISTURBANCE SUMMARY

C = 3800 CY

F = 4800 CY

IMPORT = 1000 CY

ESTIMATED AREA OF DISTURBANCE = 5.6 AC

1. THE QUANTITIES PRESENTED ABOVE ARE PRELIMINARY ESTIMATES ONLY, BASED ON THE DIFFERENCE BETWEEN EXISTING GRADE AND SUBGRADE ELEVATIONS AND FINISHED GRADE AND SUBGRADE ELEVATIONS, AS SHOWN ON THE PLANS, AND ARE NOT ADJUSTED FOR CHANGES IN VOLUME DUE TO CHANGES IN SOIL DENSITY.
2. OVER-EXCAVATION IS NOT INCLUDED IN THE ABOVE ESTIMATE. CLEARING AND STRIPPING AND REMOVAL OF AC AND PCC PAVEMENTS ARE NOT INCLUDED IN THE ABOVE ESTIMATES. SITE SPOILS SUCH AS FROM UTILITY TRENCHING, FOUNDATIONS, ETC. ARE NOT INCLUDED IN ABOVE ESTIMATES.
3. THESE QUANTITIES SHALL BE USED FOR PLANNING PURPOSES ONLY. CONTRACTOR SHALL MAKE HIS/HER OWN SITE VISIT AND QUANTITY TAKE-OFFS AND SHALL BID ACCORDINGLY.
4. EARTHWORK VALUES SHOULD BE RECALCULATED DURING THE EARLY STAGES OF SITE GRADING. CONTRACTOR SHALL BE RESPONSIBLE FOR CALCULATING FINAL EARTHWORK QUANTITIES TO HIS/HER SATISFACTION PRIOR TO START OF GRADING OPERATIONS.
5. A COUNTY GRADING PERMIT WILL BE REQUIRED.

SURVEY AND EXISTING CONDITIONS

1. TOPOGRAPHY WAS PREPARED BY WHITSON ENGINEERS IN DECEMBER OF 2014.
2. PROJECT BENCHMARK: A SPIKE IN ASPHALT IN AN AERIAL PHOTO CROSS LOCATED IN TIERRA ALTA DR., 85 FEET SOUTHEASTERLY OF THE INTERSECTION OF TIERRA ALTA DR. AND ROUNTREE LANE IN WATSONVILLE, CA. ELEVATION = 36.04 FEET (PER COUNTY OF SANTA CRUZ DEPT. OF PUBLIC WORKS). LOCAL BENCHMARK: MAGNETIC NAIL AND WASHER IN ASPHALT LOCATED ON THE NORTHERLY EDGE OF A NO PARKING STALL NEAR THE MAIN ENTRANCE TO THE JAIL FACILITY, 15 FEET SOUTHERLY OF A FIRE HYDRANT. ELEVATION = 33.34 FEET. THE PROJECT DATUM IS ON THE SAME DATUM AS THE ADJACENT LANDFILL PER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS.
3. ALL "MATCH" OR "JOIN" CALLOUTS ON THE PLANS SHALL BE FIELD VERIFIED FOR EXACT LOCATION AND ELEVATION PRIOR TO CONSTRUCTION. NOTIFY THE ENGINEER IN THE CASE OF ANY FIELD DISCREPANCY.
4. THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A CURRENT, COMPLETE, AND ACCURATE RECORD OF ALL DEVIATIONS FROM THE WORK PROPOSED IN THESE PLANS AND SPECIFICATIONS, AND A RECORD DRAWING SET SHALL BE PREPARED AND PROVIDED TO THE ENGINEER AT THE COMPLETION OF WORK. CHANGES SHALL NOT BE MADE WITHOUT THE PRIOR WRITTEN APPROVAL OF THE DESIGN ENGINEER.
5. THE EXISTENCE, LOCATION AND ELEVATION OF ANY UNDERGROUND FACILITIES ARE SHOWN ON THESE PLANS IN A GENERAL WAY ONLY. NOT ALL UTILITIES MAY BE SHOWN. IT IS MANDATORY THAT THE CONTRACTOR EXPOSE AND VERIFY THE TOP AND BOTTOM OF ALL UTILITIES PRIOR TO ANY WORK ON SYSTEMS WHICH MAY BE AFFECTED BY THE EXISTING UTILITY'S LOCATION. IT IS THE RESPONSIBILITY AND DUTY OF THE CONTRACTOR TO MAKE THE FINAL DETERMINATION AS TO THE EXISTENCE, LOCATION AND ELEVATION OF ALL UTILITIES AND TO BRING ANY DISCREPANCY TO THE ATTENTION OF THE ARCHITECT.
6. BOUNDARY AND EASEMENT LOCATIONS SHOWN HEREON WERE FURNISHED BY THE COUNTY OF SANTA CRUZ PUBLIC WORKS DEPARTMENT. THIS TOPOGRAPHY MAP DOES NOT CONSTITUTE A BOUNDARY SURVEY. THERE MAY BE EASEMENTS OR OTHER RIGHTS, RECORDED OR UNRECORDED, AFFECTING THE SUBJECT PROPERTY WHICH ARE NOT SHOWN HEREON.

GRADING AND DRAINAGE

1. SITE SPECIFIC GEOTECHNICAL RECOMMENDATIONS SHALL BE PREPARED. THE SITE GRADING AND EARTHWORK SHALL BE PERFORMED IN CONFORMANCE WITH THE PROJECT GEOTECHNICAL REPORT.
2. ONSITE GRADING AND EARTHWORK, SITE PREPARATION, EXCAVATION, TRENCHING AND COMPACTION, SHALL BE OBSERVED AND TESTED BY THE GEOTECHNICAL ENGINEER DESIGNATED BY THE OWNER. ALL GRADING AND EARTHWORK SHALL BE DONE TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.
3. SHOULD THE RESULTS OF ANY COMPACTION TEST FAIL TO MEET THE MINIMUM REQUIRED DENSITY AS SPECIFIED ON THESE PLANS OR IN THE GEOTECHNICAL REPORT, THE DEFICIENCY SHALL BE CORRECTED TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER AT THE CONTRACTOR'S EXPENSE. THE EXPENSE OF RETESTING SUCH AREAS SHALL ALSO BE BORNE BY THE CONTRACTOR, AT NO COST TO THE OWNER.
4. NOTIFY THE GEOTECHNICAL ENGINEER AT LEAST FOUR (4) WORKING DAYS PRIOR TO ANY GRADING OR FOUNDATION EXCAVATION.
5. ALL SOILS UTILIZED FOR FILL PURPOSES SHALL BE APPROVED BY THE SOILS ENGINEER BEFORE COMMENCEMENT OF GRADING OPERATIONS. IMPORTED SOILS SHALL BE APPROVED BY THE SOILS ENGINEER BEFORE BEING BROUGHT TO THE SITE.
6. EXCAVATION FOR ANY PURPOSE SHALL NOT REMOVE LATERAL SUPPORT FROM ANY FOUNDATION WITHOUT FIRST UNDERPINNING OR PROTECTING THE FOUNDATION AGAINST SETTLEMENT OR LATERAL TRANSLATION. THE EXCAVATION OUTSIDE THE FOUNDATION SHALL BE BACKFILLED WITH SOIL THAT IS FREE OF ORGANIC MATERIAL, CONSTRUCTION DEBRIS, COBBLES AND BOULDERS OR WITH A CONTROLLED LOW-STRENGTH MATERIAL (CLSM). THE BACKFILL SHALL BE PLACED IN LIFTS AND COMPACTED IN A MANNER THAT DOES NOT DAMAGE THE FOUNDATION OR THE WATERPROOFING OR DAMPPROOFING MATERIAL. EXCEPTION: CLSM NEED NOT BE COMPACTED (REF. 2010 CBC 1804.1–1804.2)
7. IMPERVIOUS SURFACES ADJACENT TO STRUCTURES SHALL SLOPE A MINIMUM OF 2% AWAY FROM THE STRUCTURE FOR A MINIMUM DISTANCE OF 10 FEET, UNLESS OTHERWISE SHOWN. LANDSCAPE AREAS ADJACENT TO STRUCTURES SHALL SLOPE A MINIMUM OF 5% AWAY FROM THE STRUCTURE FOR A MINIMUM DISTANCE OF 10 FEET, UNLESS OTHERWISE SHOWN. (REF. 2010 CBC 1804.3)
8. RELATIVE COMPACTION SHALL BE EXPRESSED AS A PERCENTAGE OF THE MAXIMUM DRY DENSITY OF THE MATERIAL AS DETERMINED BY ASTM TEST D-1557. IN-PLACE DENSITY TESTS SHALL BE CONDUCTED IN ACCORDANCE WITH ASTM TESTS D-1556 AND D-6938.
9. GROUND SURFACE SHALL BE PREPARED TO RECEIVE FILL BY REMOVING STRUCTURES, OBSTRUCTIONS, TREES SHOWN TO BE REMOVED, VEGETATION, ORGANIC-LADEN TOPSOIL, LARGE ROOTS, DEBRIS, AND OTHER DELETERIOUS MATERIALS. BURIED SUBSURFACE OBJECTS ENCOUNTERED, OR VOIDS CREATED DURING SITE PREPARATION SHALL BE CALLED TO THE ATTENTION OF THE GEOTECHNICAL ENGINEER.
10. SURPLUS EXCAVATED MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFF THE SITE IN A LEGAL MANNER.
11. FOOTINGS LOCATED ADJACENT TO OTHER FOOTINGS OR RETAINING WALLS SHALL HAVE THEIR BEARING SURFACES FOUNDED BELOW A 2:1 (H:V) LINE PROJECTED UPWARD FROM THE BOTTOM EDGE OF THE ADJACENT FOOTING, WALL OR UTILITY TRENCH (UNLESS OTHERWISE RECOMMENDED BY THE GEOTECHNICAL ENGINEER).
12. THE GEOTECHNICAL ENGINEER SHALL INSPECT ALL SURFACES TO RECEIVE FILL PRIOR TO THE PLACEMENT OF ANY FILL.
13. ENGINEERED FILL SHALL BE PLACED IN LIFTS NOT EXCEEDING 8 INCHES IN LOOSE THICKNESS, MOISTURE CONDITIONED, AND COMPACTED TO A MINIMUM OF 90% RELATIVE COMPACTION.
14. CUT/FILL SLOPES SHALL BE NO STEEPER THAN TWO HORIZONTAL TO ONE VERTICAL (2h:1V) UNLESS OTHERWISE APPROVED AT THE TIME OF GRADING BY THE GEOTECHNICAL ENGINEER.
15. WHERE EXISTING GRADE IS AT A SLOPE OF 5H:1V (20%) OR STEEPER AND THE DEPTH OF THE FILL EXCEEDS 5 FEET, BENCHING SHALL BE PROVIDED. A TOE KEY SHALL BE CUT A MINIMUM DEPTH OF 2 FEET INTO UNDISTURBED SOILS TO THE BASE OF THE FILL'S TOE. THIS KEY SHALL BE A MINIMUM OF 10 FEET WIDE AND SLOPE AT NO LESS THAN 5% INTO THE SLOPE. AS THE FILL ADVANCES UP-SLOPE, BENCHES AT LEAST 3 FEET WIDE, OR TWICE THE WIDTH OF THE COMPACTION EQUIPMENT, WHICHEVER IS LESS, SHALL BE SCARIFIED INTO THE FILL/UNDISTURBED SOIL INTERFACE.
16. ON-SITE NON-ORGANIC SOIL PROPOSED FOR USE AS ENGINEERED FILL SHALL BE APPROVED BY GEOTECHNICAL ENGINEER AND BE FREE OF ORGANICS, DEBRIS, AND OTHER DELETERIOUS MATERIALS. IMPORTED SOIL USED AS GENERAL ENGINEERED FILL SHALL BE APPROVED BY THE PROJECT GEOTECHNICAL ENGINEER PRIOR TO DELIVERY.
22. IN THE EVENT THAT ANY UNUSUAL CONDITIONS ARE ENCOUNTERED DURING GRADING OPERATIONS WHICH ARE NOT COVERED BY THE SOIL INVESTIGATION OR SPECIFICATIONS, THE SOILS ENGINEER SHALL BE IMMEDIATELY NOTIFIED SUCH THAT ADDITIONAL RECOMMENDATIONS MAY BE MADE.
23. A LETTER SHALL BE SUBMITTED FROM A LICENSED SURVEYOR CERTIFYING THAT PAD ELEVATIONS ARE WITHIN 0.1 FEET OF ELEVATIONS STATED ON APPROVED PLANS, PRIOR TO DIGGING ANY FOOTINGS OR SCHEDULING ANY INSPECTIONS.
24. A "FINAL SOILS LETTER" FROM THE GEOTECHNICAL ENGINEER STATING THAT ALL EARTHWORK COMPLETED WAS IN ACCORDANCE WITH THE RECOMMENDATIONS STATED IN THE GEOTECHNICAL REPORT SHALL BE SUBMITTED PRIOR TO FINAL INSPECTION.
25. EXPORT SOIL SHALL BE TRANSPORTED TO A LEGAL DUMP OR TO A PERMITTED SITE APPROVED BY THE COUNTY. CONTRACTOR SHALL NOTIFY GRADING OFFICIAL OF PROPOSED HAUL ROUTE.

FIRE SYSTEM INFORMATION

HYDRANT FLOW TEST DATA

DATE OF TEST: 5/15/2015
LOCATION: 100 ROUNDTREE LANE

REMARKS: FLOW WAS TESTED AT THE HYDRANT NEAR THE TANKS WHILE RESIDUAL WAS MEASURED AT THE HYDRANT NEAR THE ENTRANCE.

BY: J.R. WAGNER FIRE PROTECTION INC. (888) 325-8544

DIAMETER: 2.5 INCH
STATIC: 68 PSI
RESIDUAL: 50 PSI
OBSERVED FLOW: 1,186 GPM
CALCULATED FLOW AVAILABLE AT 20 PSI: 2,015 GPM*

EXISTING FIRE SYSTEM PUMP

SINGLE PUMP
FLOW: 1,500 GPM
PRESSURE: 100 PSI

WATER TANKS

- TOTAL STORAGE: TWO – 125,000 GALLON TANKS = 250,000 GALLONS
- STORAGE DEDICATED TO FIRE PROTECTION (BOTTOM 3/4 OF TANK) = 187,500 GAL.**
- DOMESTIC AND IRRIGATION DRAW IS LIMITED TO THE TOP 1/4 OF THE TANKS.

FIREFIGHTING DEMAND ESTIMATE: (DESIGN BUILD TEAM SHALL VERIFY DEMAND DURING DESIGN)

HYDRANT DEMAND: 1,500 GPM FOR 2-HOURS (PER FIRE MARSHALL)
SPRINKLER DEMAND: 250 GPM FOR 1.5-HOURS (PER GLUMAC)
HYDRANT + SPRINKLER DEMAND IS REQUIRED SIMULTANEOUSLY: 1,750 GPM

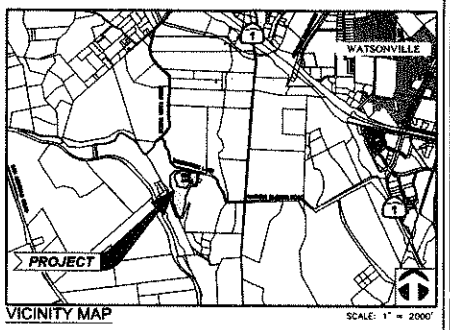
DEDICATED STORAGE PROVIDES APPROXIMATELY 107 MINUTES (1.8 HOURS) OF STORAGE AT 1,750 GPM***
TOTAL STORAGE PROVIDES APPROXIMATELY 142 MINUTES (2.4 HOURS) OF STORAGE AT 1,750 GPM

* WHILE THE FLOW AVAILABLE AT 20 PSI RESIDUAL IS CALCULATED AT 2,015 GPM BASED ON THE HYDRANT FLOW TESTING DATA, THE ACTUAL FLOW IS EXPECTED TO BE LIMITED BY THE EXISTING 1,500 GPM FIRE SYSTEM PUMP. THIS POTENTIAL DEFICIENCY SHALL BE REVIEWED BY THE FIRE MARSHAL AND MITIGATED BY THE DESIGN BUILD TEAM (IF REQUIRED).
** PERCENTAGE OF TANK DEDICATED TO FIRE PROTECTION IS ESTIMATED BASED ON WATER SYSTEM IMPROVEMENT PLANS PREPARED BY AXIOM ENGINEERS, DATED 09/11/03
*** 2-HOURS OF DEDICATED STORAGE IS NOT PROVIDED, HOWEVER, THE WELL HAS BEEN TESTED TO DRAW AND FILL THE TANKS AT 150 GPM, IF BE ACCOUNT FOR THE TANKS FILLING AT THIS RATE. 2-HOURS OF DEDICATED STORAGE IS ACHIEVED. ADDITIONALLY, OVER 2-HOURS OF STORAGE IS PROVIDED IN THE TANKS IF THE IRRIGATION AND DOMESTIC STORAGE IS INCLUDED IN THE CALCULATION.

LEGEND

- 40 — EXISTING GROUND CONTOUR
- FINISH GROUND CONTOUR
- DETENTION FACILITY BOUNDARY
- PROJECT SITE BOUNDARY (GROUND LEASE AREA)
- ADJACENT PROPERTY LINE
- EASEMENT LINE
- CENTER LINE
- BM BENCHMARK
- 32.50± FG FINISH GRADE ELEVATION
- 1.0% FINISH GRADE SLOPE
- TREE
- TREE DRIP LINE
- DRAINAGE PATH
- FLOWLINE
- SIGN
- OHP OVERHEAD UTILITY LINE(S)
- UGE UNDERGROUND ELECTRIC LINE
- UTILITY POLE SHOWING ARMS AND GUY WIRE
- LIGHT, ELECTROLIER
- GAS LINE
- GAS VALVE, IRRIGATION CONTROL VALVE
- SD EXISTING STORM DRAIN LINE
- PROPOSED STORM DRAIN LINE
- SDMH RIM=00.00 INV=00.00 STORM DRAIN MANHOLE
- STORM DRAIN INLET
- DS DOWNSPOUT
- SANITARY SEWER LINE (GRAVITY)
- SANITARY SEWER FORCE MAIN
- SSMH RIM=00.00 INV=00.00 SANITARY SEWER MANHOLE
- SSCO CLEANOUT
- UNDERGROUND TELEPHONE LINE
- W WATER LINE
- F FIRE WATER LINE
- WELL
- WATER VALVE
- POST INDICATOR VALVE
- FDC FIRE DEPARTMENT CONNECTION
- FH "X" FH FIRE HYDRANT
- HOSE BIB
- BACKFLOW PREVENTION DEVICE
- UTILITY VAULT

SITE ADDRESS	**ARCHITECT**
100 ROUNDTREE LANE WATSONVILLE, CA 95076	CLC COMPANIES 2485 NATOMAS PARK DR., SUITE 300 SACRAMENTO, CA 95833
CIVIL ENGINEER/SURVEYOR	**MECHANICAL / PLUMBING**
WHITSON ENGINEERS 2625 PORTER STREET, SUITE 2 TEL. (831) 464-9363	GLUMAC 910 GLENN DRIVE FOLSOM, CA 95630



VICINITY MAP — SCALE: 1" = 2000'

NOT FOR CONSTRUCTION

CIVIL SHEET INDEX

ABBREVIATIONS

±	PLUS OR MINUS; APPROX	FDC	FIRE DEPARTMENT CONNECTION	RCP	REINFORCED CONCRETE PIPE
@	AT	FF	FINISHED FLOOR	RT	RIGHT
AB	AGGREGATE BASE	FG	FINISHED GRADE	RW	RECYCLED WATER
AC	ASPHALT CONCRETE	FL	FLOWLINE	RWL	RAIN WATER LEADER
AD	AREA DRAIN	FS	FINISHED SURFACE	SD	STORM DRAIN
APPROX	APPROXIMATE	FR	FIRE RISER	SL	STREET LIGHT
ASB	AGGREGATE SUBBASE	FS	FINISHED SURFACE	SS	SANITARY SEWER
BC	BEGIN CURVE	GB	GRADE BREAK	STA	STATION
BVC	BEGIN VERTICAL CURVE	GBE	GB ELEVATION	SW	SIDEWALK
BVCE	BVC ELEVATION	GBS	GB STATION	TBM	TEMPORARY BENCH MARK
BVCS	BVC STATION	GM	GAS METER	TC	TOP OF CURB
BS	BOTTOM OF STAIR	GRT	GRATE	TCG	TOP OF FLUSH CURB
BW	BACK OF WALK	GV	GAS VALVE/VAULT	TG	TOP OF GRATE
C&G	CURB AND GUTTER	HP	HIGH POINT	TOP	TOP OF PIPE
CATV	CABLE TV	HORIZ.	HORIZONTAL	TS	TOP OF STAIR / TRAFFIC SIGNAL
CCSW	CURB, GUTTER AND SIDEWALK	INV	INVERT		
℄	CENTERLINE	JP	JOINT UTILITY POLE	TW	TOP OF WALL
CL	CLASS	LDG	LANDING	TYP	TYPICAL
CLR	CLEAR	LF	LINEAR FEET	UFF	UPPER FINISH FLOOR
CMP	CORRUGATED METAL PIPE	LFF	LOWER FINISH FLOOR	UG	UNDERGROUND
CO	CLEANOUT	LP	LOW POINT	U.O.N.	UNLESS OTHERWISE NOTED
CONC	CONCRETE	LT	LEFT	UP	UTILITY POLE
CONST	CONSTRUCT	MATCH	MATCH EXISTING GRADE	UNKN	UNKNOWN
CONT	CONTINUOUS	MAX	MAXIMUM	VAR	VARIES
DEMO	DEMOLISH AND DISPOSE OF	MH	MANHOLE	VERT.	VERTICAL
D.G.	DECOMPOSED GRANITE	MIN	MINIMUM	W	WATER
DI	DRAIN INLET	N.I.C.	NOT IN CONTRACT (BY OTHERS)	WM	WATER METER
DIA	DIAMETER			WV	WATER VALVE
DS	DOWNSPOUT	O.W.	ON CENTER	XFMR	TRANSFORMER
(E)	EXISTING	OG	ORIGINAL GROUND		
EC	END CURVE	(P)	PROPOSED		
EG	EXISTING GRADE	P.A.	PLANTER AREA		
EJ	EXPANSION JOINT	PB	PULL BOX		
ELEC	ELECTRIC	P.O.C.	POINT OF CONNECTION		
ELEV	ELEVATION	PP	POWER POLE		
EQ	EQUAL	PRC	POINT OF REVERSE CURVATURE		
ETW	EDGE OF TRAVELED WAY				
EVC	END VERTICAL CURVE	PVC	POLYVINYL CHLORIDE		
EVCE	EVC ELEVATION	PVI	POINT OF VERTICAL INTERSECTION		
EVCS	EVC STATION				
E.W.	EACH WAY	PTDF	PRESSURE TREATED DOUG-FIR		
EX	EXISTING	R	RADIUS		
FC	FACE OF CURB	R.C.	RELATIVE COMPACTION		

DIGALERT 811

0 1 2 INCHES 3

CGL
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SACRAMENTO, CA 95833

WHITSON ENGINEERS
2625 Porter Street – Suite 2 Soquel, CA 95060
831.464.9363 – Fax 831.462.3744
Civil Engineering – Land Surveying – Project Management
REGISTERED PROFESSIONAL ENGINEER RICHARD P. WHITSON No. 55219 CIVIL STATE OF CALIFORNIA

WE PROJECT NO. 3193.03

100% CRITERIA DOCUMENTS

NO	DESCRIPTION	DATE

SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

100 ROUNTREE LANE WASTONVILLE, CA

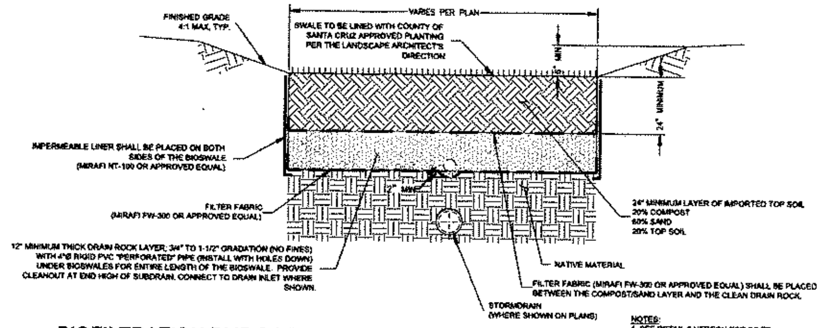
CIVIL SITE COVER SHEET

PROJECT NUMBER 40222
DATE 7/15/2015
APN: 052-531-03

C0.1

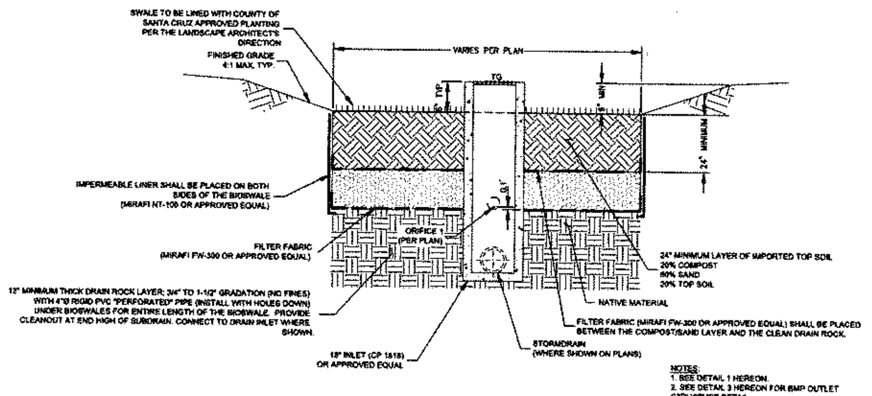
SCALE: NTS

2/3/2016 11:12:21 AM



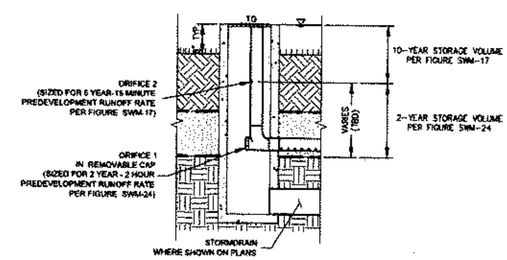
① **BIOFILTRATION BMP DETAIL**

NO SCALE



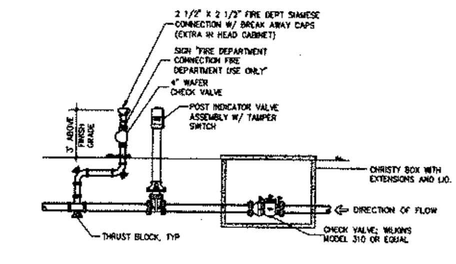
② **BIOFILTRATION BMP: INLET CONDITION DETAIL**

NO SCALE



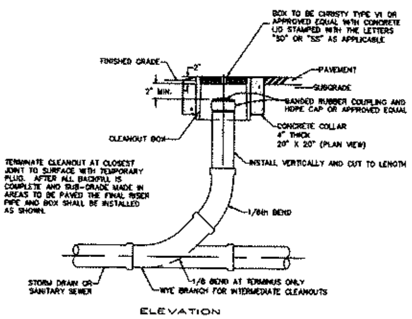
③ **BMP OUTLET STRUCTURE DETAIL**

NO SCALE



⑤ **FIRE DEPARTMENT CONNECTION**

NO SCALE



④ **SEWER/STORM DRAIN CLEAN OUT**

NTS

0 1 2 INCHES 3

DIGALERT 811

NOT FOR CONSTRUCTION

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SACRAMENTO, CA 95833

WHITSON ENGINEERS

REGISTERED PROFESSIONAL ENGINEER RICHARD P. WEBER No. 56219 CIVIL STATE OF CALIFORNIA

WE PROJECT NO. 3183.03

100% CRITERIA DOCUMENTS

NO.	DESCRIPTION	DATE

SANTA CRUZ COUNTY
ROUNTREE
REHABILITATION AND
RE-ENTRY FACILITY

100 ROUNTREE LANE
WASTONVILLE, CA

CIVIL SITE
DETAILS

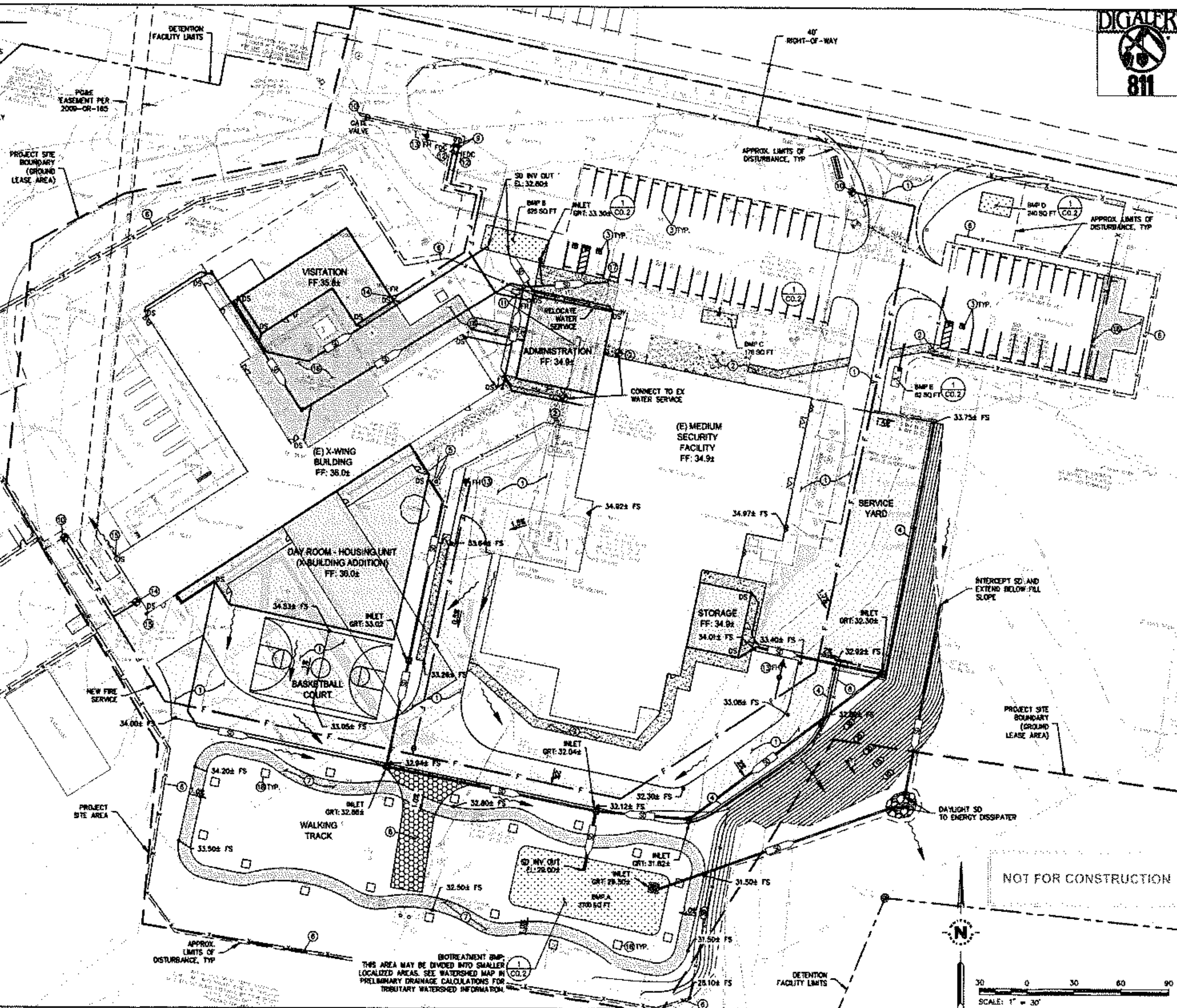
PROJECT NUMBER	40222
DATE	7/15/2015
APN: 052-531-03	

C0.2

SCALE: NTS

GRADING KEY NOTES

1. NEW HARDSCAPE
2. NEW SIDEWALK
3. RESTRIPE PARKING LOT; SEE ARCHITECTURE PLANS
4. NEW CONCRETE CURB AND GUTTER
5. RELOCATE OR REPLACE EXISTING SSMH
6. NEW FENCE; SEE ARCHITECTURAL PLANS
7. NEW PERVIOUS CONCRETE WALKING TRACK
8. NEW GRASS PAVER SEPTIC TANK ACCESS DRIVEWAY
9. NEW POST INDICATOR VALVE; SEE DETAIL 5 ON SHEET C0.2
10. CONNECT TO EXISTING 6" WATER LINE
11. RELOCATE EXISTING WATER VAULT
12. NEW FIRE DEPARTMENT CONNECTION; SEE DETAIL 5 ON SHEET C0.2
13. NEW FIRE HYDRANT
14. FIRE SERVICE POINT OF CONNECTION; SEE MECHANICAL PLANS FOR CONTINUATION
15. PROVIDE SPLASH BLOCK OR TIE DOWNSPOUT INTO EXISTING STORM DRAIN SYSTEM, IF POSSIBLE
16. PERVIOUS CONCRETE PAVEMENT
17. CONNECT STORMDRAIN TO EXISTING STORMDRAIN DROP BOX
18. EXERCISE STATIONS



NOTE:
STOCK PILE EXISTING BRICK REMOVED AS PART OF THE PROJECT, AS DIRECTED BY THE OWNER

DIGALERT 811

CGL A Hunt Company

CGL COMPANIES
2485 NATOMAS PARK DR., SUITE 300
SACRAMENTO, CA 95833

WHITSON ENGINEERS

REGISTERED PROFESSIONAL ENGINEER RICHARD P. WEBER CIVIL STATE OF CALIFORNIA

WE PROJECT NO. 3193.03

100% CRITERIA DOCUMENTS

SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

100 ROUNTREE LANE WASTONVILLE, CA

SCHEMATIC GRADING, DRAINAGE & UTILITY PLAN

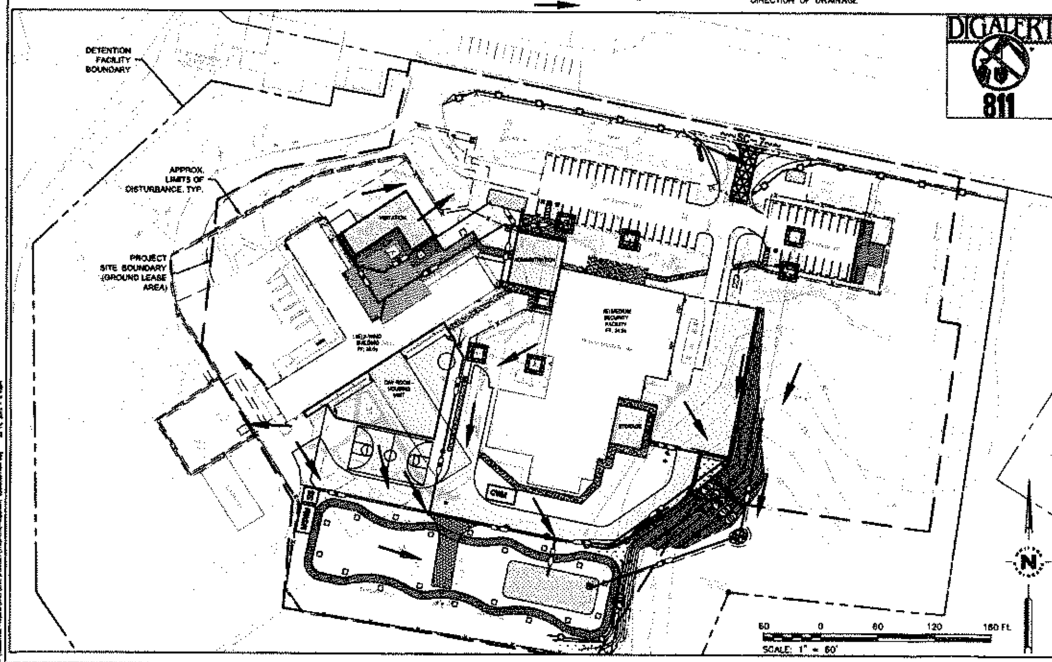
PROJECT NUMBER	40222
DATE	7/15/2015
APN: 052-531-03	
C1.1	
SCALE:	1" = 30'

EROSION CONTROL MEASURES

1. THIS PLAN SHALL BE USED IN CONJUNCTION WITH THE PROJECT STORM WATER POLLUTION PREVENTION PLAN (SWPPP), WDID NUMBER: ______ THE CONTRACTOR SHALL BE RESPONSIBLE FOR UPDATING AND IMPLEMENTING ALL ASPECTS OF THE PROJECT SWPPP. IF REQUIREMENTS STATED HEREON CONFLICT WITH THE PROJECT SWPPP, THE STRICTER REQUIREMENT SHALL GOVERN.
2. TOTAL DISTURBANCE AREA: 5.6 ACRES.
3. THIS PROJECT WILL REQUIRE A PERMIT FROM THE REGIONAL WATER QUALITY CONTROL BOARD.
4. THE CONTRACTOR'S QSP SHALL DETERMINE STOCK PILE AREAS AND LOCATIONS FOR EQUIPMENT STORAGE AND STAGING FOR EACH PHASE OF THE PROJECT. STAGING AREAS MUST BE APPROVED BY THE COUNTY. THE CONTRACTOR SHALL SUBMIT AN EQUIPMENT STORAGE STOCKPILING, STAGING AREA AND PHASING PLAN SHALL BE SUBMITTED TO AND APPROVED BY THE COUNTY PRIOR TO BEGINNING WORK.
5. PRIOR TO PROJECT APPROVAL, ALL DISTURBED AREAS ARE REQUIRED TO BE RESEEDED WITH NON-INVASIVE GRASS APPROVED BY THE COUNTY OR OTHER GROUNDCOVER SPECIES AND COVERED WITH TWO TO THREE INCHES OF STERILE STRAW. THIS MUST BE COMPLETED PRIOR TO THE OCTOBER 15TH WINTER GRADING SEASON.
6. EROSION IS TO BE CONTROLLED AT ALL TIMES ALTHOUGH SPECIFIC MEASURES SHOWN ARE TO BE IMPLEMENTED AT A MINIMUM BETWEEN OCTOBER 15TH AND APRIL 15TH. THE INTENT OF SITE EROSION CONTROL MEASURES IS TO PREVENT ON-SITE EROSION, AND TO PREVENT SEDIMENT FROM LEAVING THE SITE OR ENTERING ANY WATERCOURSE OR RECEIVING INLET. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ANY ADDITIONAL MEASURES NECESSARY TO CONTROL SITE EROSION AND PREVENT SEDIMENT TRANSPORT OFF-SITE ARE IMPLEMENTED.
7. UNNECESSARY GRADING AND DISTURBING OF SOIL SHALL BE AVOIDED (SEE SS-2).
8. RUNOFF FROM THE CONSTRUCTION SITE MUST NOT BE ALLOWED TO FLOW OVER ANY FILL SLOPES.
9. ALL EXCAVATED MATERIAL NOT SUITABLE FOR FILL OR OTHER USE ON-SITE SHALL BE REMOVED TO AN APPROVED DISPOSAL SITE.
10. FOR ON-SITE CONSTRUCTION & STAGING AREAS: SITE HOUSEKEEPING, MATERIALS MANAGEMENT, & EQUIPMENT MANAGEMENT SHALL BE CONSISTENT WITH THE REQUIREMENTS OF THE APPROPRIATE CALTRANS OR COUNTY BMP. THE CONTRACTOR SHALL PROVIDE A SPILL PREVENTION AND RESPONSE PLAN INCLUDING ALL APPROPRIATE PRODUCTS THAT WILL BE AVAILABLE AT THE PROJECT SITE DURING THE COURSE OF CONSTRUCTION ACTIVITIES.
11. ROADWAYS ADJACENT TO THE PROJECT SHALL BE KEPT CLEAN AND FREE OF DUST. ANY SOIL OR OTHER ERODIBLE MATERIAL STOCKPILED ON-SITE SHALL BE COVERED WITH PLASTIC (AND ALSO SURROUNDED WITH A SEDIMENT BARRIER IF NEEDED) TO PREVENT SEDIMENT TRANSPORT OFF-SITE.
12. SEDIMENT BARRIERS SHALL BE CONSTRUCTED ALONG THE BOTTOM OF ALL GRADED SLOPES OR WHERE OTHERWISE SHOWN ON THE EROSIONS CONTROL PLAN. SEDIMENT BARRIERS SHALL CONSIST OF SILT FENCE (SC-1) OR FIBER ROLLS (SC-5).
13. STORM DRAIN INLETS SHALL BE PROTECTED FROM SEDIMENT DURING CONSTRUCTION PER CALTRANS BMP SC-10. IF THE CATCH BASIN IS ABOVE GRADE, COVER OR PLACE SILT FABRIC UNDER GRATE. IF CATCH BASIN IS AT GRADE AND RECEIVING STORMWATER, SURROUND WITH SEDIMENT BARRIER. SEDIMENT BARRIER SHALL CONSIST OF GRAVEL BAGS IF INLET IS LOCATED IN A PAVED AREA. SEDIMENT BARRIER SHALL CONSIST OF SILT FENCE (SC-1) OR FIBER ROLL (SC-5) IF IN AN UNPAVED AREA.
14. ON ALL FINISH GRADED SLOPES, ON- AND OFF-SITE, EXPOSED DURING CONSTRUCTION ACTIVITIES (IF NOT PERMANENTLY LANDSCAPED PER PLAN) SHALL BE PROTECTED PROTECTED FROM EROSION AND SEEDED. SEEDING MAY BE OMITTED FOR AREAS THAT ARE TO RECEIVE PERMANENT LANDSCAPING (IF APPROVED BY THE COUNTY), SO LONG AS SEDIMENT IN THESE AREAS MAY BE PROTECTED FROM EROSION & SEDIMENT TRANSPORT WITHOUT THE USE OF SEEDING AS A TEMPORARY MEASURE. THE SEED MIX SHALL BE APPROVED BY THE COUNTY REPRESENTATIVE OR PROJECT BIOLOGIST (IF APPLICABLE) AND APPLIED AT A RATE OF 45 LBS/ACRE.
15. BIODEGRADABLE EROSION CONTROL BLANKETS SHALL BE INSTALLED WHERE SLOPES EXCEED 3:1 AND WHERE SHOWN ON PLANS. BLANKET TYPE SHALL BE A STRAW/COCONUT FIBER MATERIAL SUCH AS NORTH AMERICAN GREEN SC-150BN OR APPROVED EQUAL AS APPROVED BY THE PROJECT BIOLOGIST. SITE PREPARATION AND BLANKET INSTALLATION SHALL BE PER CALTRANS BMP SS-7, COUNTY OF SANTA CRUZ EC-1, OR MANUFACTURER'S RECOMMENDATIONS, WHICHEVER IS MORE STRINGENT. BLANKET COVERAGE SHALL INCLUDE ALL DISTURBED SOIL REMAINING AFTER CONSTRUCTION. REPLANTING AND SEEDING SHALL BE DONE PER LANDSCAPE PLANS AND AS RECOMMENDED BY THE PROJECT BIOLOGIST).
16. CONCRETE WASTE SHALL BE MANAGED PER CALTRANS BMP WM-8. REGULATIONS GOVERNING CONCRETE WASHOUT STIPULATE A MINIMUM SETBACK OF 150' FROM WATER BODIES AND 50' FROM STORM DRAIN INLETS.
17. A SITE ENTRANCE AND STABILIZED ROADWAY SHALL BE CONSTRUCTED PER CALTRANS BMP TC-1.
18. NO MAINTENANCE OF EQUIPMENT OR MACHINERY SHALL TAKE PLACE ON-SITE.
19. 48 HOUR NOTICE SHALL BE GIVEN TO ENVIRONMENTAL PLANNING AT (831) 454-3168 PRIOR TO COMMENCING WORK, AND UPON COMPLETION OF GRADING AND EROSION CONTROL. FAILURE TO COMPLY MAY RESULT IN ISSUANCE OF A STOP WORK ORDER.

LEGEND

SYMBOL	CALTRANS BMP #	CALTRANS STD. PLAN	DESCRIPTION
	SS-9	-	EARTH DIKES, DRAINAGE SWALES AND LINED DITCHES
	SC-1, SC-5, SC-6	T51, T56, T60, T66	LINEAR SEDIMENT BARRIER: FIBER ROLLS, SILT FENCE, OR COMPOST SOCK (CONTRACTOR'S OPTION)
	SC-1	T51, T60	SILT FENCE
~SC-7~	SC-7	-	STREET SWEEPING
	SC-10	-	INLET PROTECTION
CWM	WM-8	T61, T62, T63, T64	CONCRETE WASTE MANAGEMENT (WASHOUT) AREA
	SS-3, SS-4, SS-5, SS-6, SS-7, SS-8	T59	SOIL STABILIZATION (PROVIDE ON ALL DISTURBED SOILS) TEMPORARY STABILIZATION PER CIVIL PLANS PERMANENT STABILIZATION PER LANDSCAPE DWGS
	TC-1, TC-3	T58	STABILIZED CONSTRUCTION ENTRANCE/EXIT OR TIRE WASH
MSWM	WM-1	-	MATERIAL STORAGE AND WASTE MANAGEMENT AREA
WM-3	WM-3	T53	TEMPORARY STOCKPILES
SS	WM-9	-	SANITARY FACILITIES
	-	-	DIRECTION OF DRAINAGE



BMP NOTES:

THE FOLLOWING CALTRANS BMPS SHALL BE IN PLACE ON SITE AS DESCRIBED IN THE BMP FACT SHEET UNLESS OTHERWISE DIRECTED BY THE PROJECT PLANS. CALTRANS BMP FACT SHEETS CAN BE FOUND AT THE FOLLOWING WEBSITE:
(NOTE THAT THE URL BELOW IS CASE SENSITIVE AND MUST BE TYPED EXACTLY)
HTTPS://www.dot.ca.gov/hq/construc/stormwater/factsheets.htm

SS-1	SCHEDULING	NS-7	POTABLE WATER/ IRRIGATION
SS-2	PRESERVATION OF EXISTING VEGETATION	NS-8	VEHICLE AND EQUIPMENT CLEANING
SS-7	GEOTEXTILES, PLASTIC COVERS, & EROSION CONTROL BLANKETS	NS-9	VEHICLE AND EQUIPMENT FUELING
SS-8	WOOD MULCHING	NS-10	VEHICLE AND EQUIPMENT MAINTENANCE
SS-9	EARTH DIKES/ DRAINAGE SWALES & LINED DITCHES	NS-11	PILE DRIVING OPERATIONS (SHEET PILE)
SS-10	OUTLET PROTECTION/ VELOCITY DISSIPATION DEVICES	NS-12	CONCRETE CURING
SC-1	SILT FENCE	NS-14	CONCRETE FINISHING
SC-2	SEDIMENT/ DESILTING BASIN (BAKER TANKS)	WM-1	MATERIAL DELIVERY AND STORAGE
SC-5	FIBER ROLLS	WM-2	MATERIAL USE
SC-7	STREET SWEEPING & VACUUMING	WM-3	STOCKPILE MANAGEMENT
SC-10	STORM DRAIN INLET PROTECTION	WM-4	SPILL PREVENTION AND CONTROL
WE-1	WIND EROSION CONTROL	WM-5	SOLID WASTE MANAGEMENT
TC-1	STABILIZED CONSTRUCTION ENTRANCE/ EXIT (IF NEEDED)	WM-6	HAZARDOUS WASTE MANAGEMENT
NS-1	WATER CONSERVATION PRACTICES	WM-8	CONCRETE WASTE MANAGEMENT
NS-2	DEWATERING OPERATIONS	WM-9	SEPTIC/ SANITARY WASTE MANAGEMENT
NS-3	PAVING & GRINDING OPERATIONS	WM-10	LIQUID WASTE MANAGEMENT
NS-6	ILLICIT CONNECTION/ ILLEGAL DISCHARGE DETECTION AND REPORTING		

NOTE:
PER THE COUNTY OF SANTA CRUZ CONSTRUCTION SITE STORMWATER POLLUTION CONTROL BMP MANUAL, THE PROJECT QSP, MAY USE THE COUNTY OF SANTA CRUZ STANDARD BMP DETAILS SHOWN ON SHEET C2.2 IN LIEU OF THE CALTRANS STANDARD BMP DETAILS AT HIS/HER DISCRETION.

POST-CONSTRUCTION INSPECTION AND MAINTENANCE REQUIREMENTS

GENERAL:
THE OWNER OF THE REAL PROPERTY AND IMPROVEMENTS SHOWN WITHIN THIS PLAN SET SHALL BE RESPONSIBLE FOR INSPECTING AND MAINTAINING ALL STORM WATER RELATED IMPROVEMENTS ANNUALLY, PRIOR TO THE RAINY SEASON, AND MAINTAINING ALL STORMWATER RELATED IMPROVEMENTS AS NECESSARY FOR ENSURING PROPER PERFORMANCE. THE FOLLOWING RECOMMENDATIONS ARE MINIMUM GUIDANCE FOR INSPECTION AND MAINTENANCE. DISPOSAL OF ALL COLLECTED WASTE SHALL BE IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.

STORM DRAIN INLETS, STORM DRAIN MANHOLES, AND JUNCTION BOXES:
INSPECTION AND MAINTENANCE

- STORM DRAIN INLETS AND JUNCTION BOXES SHALL BE INSPECTED ANNUALLY PRIOR TO OCTOBER 1ST. THEY SHALL ALSO BE INSPECTED WHEN IT IS KNOWN THAT AN EVENT HAS WASHED SEDIMENT OR DEBRIS INTO THE SYSTEM, AND/OR WHEN POOR PERFORMANCE IS NOTED.
- IMMEDIATELY REPAIR ANY DETERIORATION THREATENING THE STRUCTURAL INTEGRITY OF THE SYSTEM.
- DEBRIS AND SEDIMENT SHALL BE REMOVED WHEN THE DEPTH OF THE DEBRIS AND SEDIMENT REACHES THREE OR MORE INCHES.
- COLLECTED DEBRIS AND SEDIMENT SHALL BE STORED IN APPROPRIATE CONTAINERS IN A MANNER THAT PREVENTS DISCHARGE INTO THE STORM DRAIN SYSTEM.

BIOTREATMENT AREAS AND VEGETATED SWALES:
INSPECTION AND MAINTENANCE

- PROPER MAINTENANCE INCLUDES MOWING, WEED CONTROL, REMOVAL OF TRASH AND DEBRIS, WATERING DURING THE DRY SEASON, AND RESEEDING OF NON-VEGETATED AREAS.
- REMOVE GRASS CUTTINGS AFTER MOWING GRASS
- VEGETATION, LARGE SHRUBS OR TREES THAT INTERFERE WITH LANDSCAPE SWALE OPERATION SHALL BE PRUNED.
- INVASIVE VEGETATION CONTRIBUTING UP TO 25% OF VEGETATION OF ALL SPECIES SHALL BE REMOVED AND REPLACED.
- FALLEN LEAVES AND DEBRIS FROM DECIDUOUS PLANT FOLIAGE SHALL BE REMOVED.
- INSPECT SWALES AT LEAST TWICE ANNUALLY FOR DAMAGE TO VEGETATION, EROSION, SEDIMENT ACCUMULATION AND PONDING WATER STANDING LONGER THAN 48 HOURS.
- DEBRIS IN QUANTITIES THAT INHIBIT OPERATION SHALL BE REMOVED ROUTINELY (NO LESS THAN QUARTERLY), OR UPON DISCOVERY.
- PERIODIC LITTER COLLECTION AND REMOVAL WILL BE NECESSARY IF THE SWALE IS LOCATED ADJACENT TO A MAIN ROAD.
- SEDIMENTS SHALL BE REMOVED WHEN DEPTHS EXCEED 3 INCHES.
- SIDE SLOPES SHALL BE MAINTAINED TO PREVENT EROSION THAT INTRODUCES SEDIMENT INTO THE SWALE.
- SWALE OUTLET SHALL MAINTAIN SHEET FLOW OF WATER EXITING THE SWALE UNLESS A COLLECTION DRAIN IS USED.
- IF A SPILL OCCURS AND HAZARDOUS MATERIALS CONTAMINATE SOILS IN VEGETATED SWALES, THE AFFECTED AREAS SHALL BE REMOVED IMMEDIATELY AND THE APPROPRIATE SOILS AND MATERIALS REPLACED AS SOON AS POSSIBLE.
- INSECTS AND RODENTS SHALL NOT BE HARBORED IN THE VEGETATED SWALES. PEST CONTROL MEASURES SHALL BE TAKEN WHEN INSECTS/RODENTS ARE FOUND TO BE PRESENT.
- IF SPRAYS ARE CONSIDERED, THEN A MOSQUITO LARVACIDE, SUCH AS BACILLUS THURENGENSIS OR ALTOSIDE FORMULATIONS MAY BE APPLIED ONLY IF ABSOLUTELY NECESSARY, APPROVED BY THE COUNTY, AND, APPLIED BY AN APPROPRIATELY LICENSED INDIVIDUAL OR CONTRACTOR.

NOT FOR CONSTRUCTION

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SACRAMENTO, CA 95833

WHITSON ENGINEERS
REGISTERED PROFESSIONAL ENGINEER RICHARD P. WEBER No. 55219 CIVIL STATE OF CALIFORNIA
WE PROJECT NO. 3193.03

100% CRITERIA DOCUMENTS

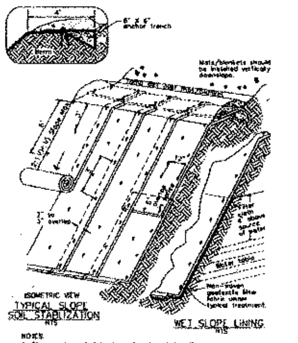
SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

100 ROUNTREE LANE WASTONVILLE, CA

TEMPORARY WATER POLLUTION CONTROL PLAN

PROJECT NUMBER	40222
DATE	7/15/2015
APN: 052-531-03	
C2.1	
SCALE:	1" = 60'

Figure EC-1 Erosion Control Blankets



NOTES:
1. Slope surfaces shall be free of rocks, clods, sticks and grass. Mats/blankets shall have good soil contact.
2. Lay blankets loosely and stake or staple to maintain direct contact with the soil. Do not stretch.
3. Install per manufacturer's recommendations

TYPICAL INSTALLATION DETAIL

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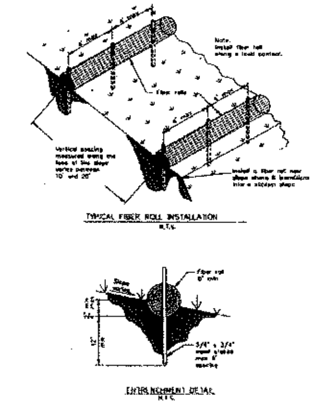
Figure SC-1 Fiber Rolls



15

Figure SC-2 Silt Fence

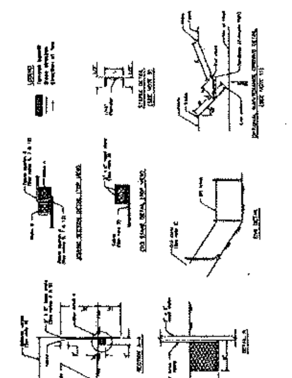


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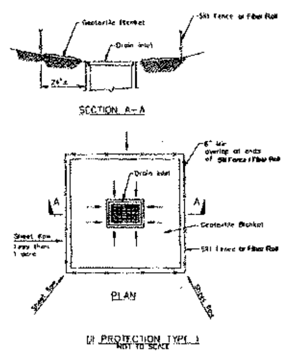
Figure SC-3 Storm Drain Inlet Protection



NOTES:
1. For use in areas where grading has been completed and final soil stabilization and seeding are pending.
2. Not applicable in paved areas.
3. Not applicable with concentrated flows.

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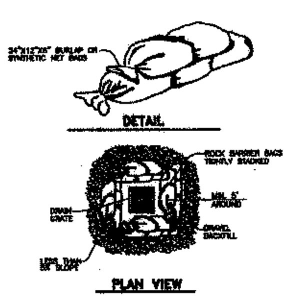
Figure SC-4 Storm Drain Inlet Protection



NOTES:
1. FILL ROCK BARRIER BAGS ¾ FULL OF ¾" ROCK.
2. PLACE BAGS SUCH THAT NO GAPS ARE EVIDENT IN A SINGLE OR DOUBLE LAYER. STAMP ENTIRE LAYER INTO PLACE PRIOR TO STARTING THE NEXT LAYER.
3. ROCK BARRIER BAGS FOR CATCH BASIN SEDIMENT BARRIERS ARE TO BE USED FOR SMALL, NEARLY LEVEL DRAINAGE AREAS. (LESS THAN 5%).

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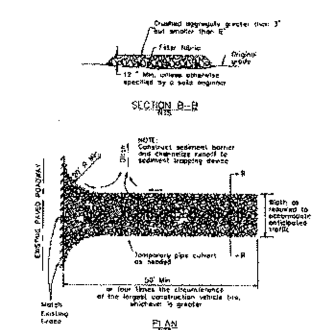
Figure SC-5 Stabilized Construction Exit



19 NOT FOR CONSTRUCTION

HOUSEKEEPING NOTES:

A. CONSTRUCTION MATERIALS
1. ALL LOOSE STOCKPILED CONSTRUCTION MATERIALS THAT ARE NOT ACTIVELY BEING USED (I.E. SOIL, SPOILS, AGGREGATE, FLY-ASH, STUCCO, HYDRATED LIME, ETC.) SHALL BE COVERED AND BERMED.
2. ALL CHEMICALS SHALL BE STORED IN WATERTIGHT CONTAINERS (WITH APPROPRIATE SECONDARY CONTAINMENT TO PREVENT ANY SPILLAGE OR LEAKAGE) OR IN A STORAGE SHED (COMPLETELY ENCLOSED).
3. EXPOSURE OF CONSTRUCTION MATERIALS TO PRECIPITATION SHALL BE MINIMIZED. THIS DOES NOT INCLUDE MATERIALS AND EQUIPMENT THAT ARE DESIGNED TO BE OUTDOORS AND EXPOSED TO ENVIRONMENTAL CONDITIONS (I.E. POLES, EQUIPMENT PADS, CABINETS, CONDUCTORS, INSULATORS, BRICKS, ETC.).
4. BEST MANAGEMENT PRACTICES TO PREVENT THE OFF-SITE TRACKING OF LOOSE CONSTRUCTION AND LANDSCAPE MATERIALS SHALL BE IMPLEMENTED.

B. WASTE MANAGEMENT
1. DISPOSAL OF ANY RINSE OR WASH WATERS OR MATERIALS ON IMPERVIOUS OR PERVIOUS SITE SURFACES OR INTO THE STORM DRAIN SYSTEM SHALL BE PREVENTED.
2. SANITATION FACILITIES SHALL BE CONTAINED (E.G., PORTABLE TOILETS) TO PREVENT DISCHARGES OF POLLUTANTS TO THE STORM WATER DRAINAGE SYSTEM OR RECEIVING WATER, AND SHALL BE LOCATED A MINIMUM OF 20 FEET AWAY FROM AN INLET, STREET OR DRIVEWAY, STREAM, RIPARIAN AREA OR OTHER DRAINAGE FACILITY.
3. SANITATION FACILITIES SHALL BE INSPECTED REGULARLY FOR LEAKS AND SPILLS AND CLEANED OR REPLACED AS NECESSARY.
4. COVER WASTE DISPOSAL CONTAINERS AT THE END OF EVERY BUSINESS DAY AND DURING A RAIN EVENT.
5. DISCHARGES FROM WASTE DISPOSAL CONTAINERS TO THE STORM WATER DRAINAGE SYSTEM OR RECEIVING WATER SHALL BE PREVENTED.
6. STOCKPILED WASTE MATERIAL SHALL BE CONTAINED AND SECURELY PROTECTED FROM WIND AND RAIN AT ALL TIMES UNLESS ACTIVELY BEING USED.
7. PROCEDURES THAT EFFECTIVELY ADDRESS HAZARDOUS AND NON-HAZARDOUS SPILLS SHALL BE IMPLEMENTED.
8. EQUIPMENT AND MATERIALS FOR CLEANUP OF SPILLS SHALL BE AVAILABLE ON SITE AND THAT SPILLS AND LEAKS SHALL BE CLEANED UP IMMEDIATELY AND DISPOSED OF PROPERLY; AND
9. CONCRETE WASHOUT AREAS AND OTHER WASHOUT AREAS THAT MAY CONTAIN ADDITIONAL POLLUTANTS SHALL BE CONTAINED SO THERE IS NO DISCHARGE INTO THE UNDERLYING SOIL AND ONTO THE SURROUNDING AREAS.

C. VEHICLE STORAGE AND MAINTENANCE
1. MEASURES SHALL BE TAKEN TO PREVENT OIL, GREASE, OR FUEL TO LEAK IN TO THE GROUND, STORM DRAINS OR SURFACE WATERS.
2. ALL EQUIPMENT OR VEHICLES, WHICH ARE TO BE FUELED, MAINTAINED AND STORED ONSITE SHALL BE IN A DESIGNATED AREA FITTED WITH APPROPRIATE BMPS.
3. LEAKS SHALL BE IMMEDIATELY CLEANED AND LEAKED MATERIALS SHALL BE DISPOSED OF PROPERLY.

D. LANDSCAPE MATERIALS
1. CONTAIN STOCKPILED MATERIALS SUCH AS MULCHES AND TOPSOIL WHEN THEY ARE NOT ACTIVELY BEING USED.
2. CONTAIN FERTILIZERS AND OTHER LANDSCAPE MATERIALS WHEN THEY ARE NOT ACTIVELY BEING USED.
3. DISCONTINUE THE APPLICATION OF ANY ERODIBLE LANDSCAPE MATERIAL WITHIN 2 DAYS BEFORE A FORECASTED RAIN EVENT OR DURING PERIODS OF PRECIPITATION.
4. APPLY ERODIBLE LANDSCAPE MATERIAL AT QUANTITIES AND APPLICATION RATES ACCORDING TO MANUFACTURE RECOMMENDATIONS OR BASED ON WRITTEN SPECIFICATIONS BY KNOWLEDGEABLE AND EXPERIENCED FIELD PERSONNEL.
5. STACK ERODIBLE LANDSCAPE MATERIAL ON PALLETS AND COVERING OR STORING SUCH MATERIALS WHEN NOT BEING USED OR APPLIED.

EROSION CONTROL NOTES:

1. THE CONTRACTOR SHALL PREPARE A PHASED PLAN FOR CONTROLLING EROSION, SEDIMENT, DRAINAGE, AND WASTE DURING THE VARIOUS PHASES OF CONSTRUCTION. THE PLAN SHALL INCLUDE TEMPORARY PHASED GRADING, IF APPLICABLE. THE PLAN SHALL INCLUDE AN INSPECTION SCHEDULE BY THE PROJECT QSP THAT INCLUDES INSPECTION OF THE EROSION, SEDIMENT, AND DRAINAGE CONTROLS BEFORE PREDICTED RAINFALL EVENTS IN EXCESSES OF 0.5 INCHES, AS WELL AS DURING THE RAINFALL EVENTS. THE INSPECTIONS SHALL BE PHOTO DOCUMENTED AND PROVIDED TO THE COUNTY PLANNING DEPARTMENT WITHIN 1 WEEK OF THE INSPECTIONS. THE INSPECTION DOCUMENTATION SHALL INCLUDE THE REVIEW OF THE ADEQUACY OF THE EROSION, SEDIMENT AND DRAINAGE CONTROL ONSITE AS WELL AS THE SITE HOUSEKEEPING FOR COMPLIANCE WITH THE PROJECT SWPPP. ALL STORMWATER INSPECTIONS PERFORMED FOR COMPLIANCE WITH THE SWPPP SHALL BE FORWARDED TO THE PLANNING DEPARTMENT WITHIN 1 WEEK OF THE INSPECTION.
2. A STREET SWEEPING SCHEDULE IN CONFORMANCE WITH CALTRANS BMP SC-7 SHALL BE PROVIDED TO THE COUNTY FOR APPROVAL.

QSD /QSP SCOPE OF WORK

A SWPPP IS REQUIRED TO BE PREPARED BY THE DESIGN BUILD CONTRACTOR.

THE CONTRACTOR SHALL:
1. SERVE AS THE QUALIFIED SWPPP PRACTITIONER (QSP), AND ALSO THE QUALIFIED SWPPP DEVELOPER (QSD) IF QSD SERVICES ARE REQUIRED DURING CONSTRUCTION.
2. TRAIN ITS EMPLOYEES AND SUBCONTRACTORS AS REQUIRED BY THE CONSTRUCTION GENERAL PERMIT.
3. MAINTAIN THE FIELD COPY SWPPP BINDER.
4. PERFORM ALL STORM WATER INSPECTIONS, SAMPLING AND ANALYSIS.
5. IMPLEMENT THE RAIN EVENT ACTION PLANS (REAPS).
6. PROVIDE A SPILL RESPONSE PLAN (TYPICALLY PART OF THE CONTRACTOR'S IIPP).
7. PROVIDE A STORMWATER ANNUAL REPORT TO THE OWNER EACH YEAR, AND PRIOR TO PROJECT COMPLETION.
8. PROVIDE NOTICE OF TERMINATION DOCUMENTATION TO THE OWNER AT PROJECT COMPLETION.
9. SERVE AS DATA SUBMITTER FOR THE OWNER FOR ON-LINE SUBMITTALS THROUGH THE STATE'S WEBSITE (SMARTS).
10. ASSIST THE OWNER IN COORDINATING WITH THE REGIONAL WATER QUALITY CONTROL BOARD AND STATE WATER RESOURCES CONTROL BOARD, AS NEEDED.
11. IMPLEMENT ALL BEST MANAGEMENT PRACTICES (BMPS) AS NECESSARY TO PROTECT WATER QUALITY, AS REQUIRED BY THE CONSTRUCTION GENERAL PERMIT, AND AS OUTLINED IN THE PROJECT SWPPP.
12. PAY FOR NON-STORMWATER TESTING, IF REQUIRED DUE TO LEAKS OR SPILLS.
13. BE RESPONSIBLE FOR ANY FINES IMPOSED FOR FAILURE TO COMPLY WITH THE CONSTRUCTION GENERAL PERMIT OR OTHER LAWS, REGULATIONS, OR REQUIREMENTS OF THE VARIOUS JURISDICTIONS HAVING AUTHORITY.

NOTE:

PER THE COUNTY OF SANTA CRUZ CONSTRUCTION SITE STORMWATER POLLUTION CONTROL BMP MANUAL, THE PROJECT QSP, MAY USE THE BMP DETAILS HEREON IN LIEU OF THE CALTRANS STANDARD BMP DETAILS AT HIS/HER DISCRETION.

CGL A Hunt Company

CGL COMPANIES
2485 NATOMAS PARK DR., SUITE 300
SACRAMENTO, CA 95833

WHITSON ENGINEERS

REGISTERED PROFESSIONAL ENGINEER · RICHARD P. WEBER · No. 35319 · CIVIL · STATE OF CALIFORNIA

WE PROJECT NO. 3193.03

100% CRITERIA DOCUMENTS

NO.	DESCRIPTION	DATE

SANTA CRUZ COUNTY ROUNTREE REHABILITATION AND RE-ENTRY FACILITY

100 ROUNTREE LANE
WASTONVILLE, CA

TEMPORARY WATER POLLUTION CONTROL PLAN NOTES

PROJECT NUMBER	40222
DATE	7/15/2015
APN: 052-531-03	
	C2.2
SCALE	NTS

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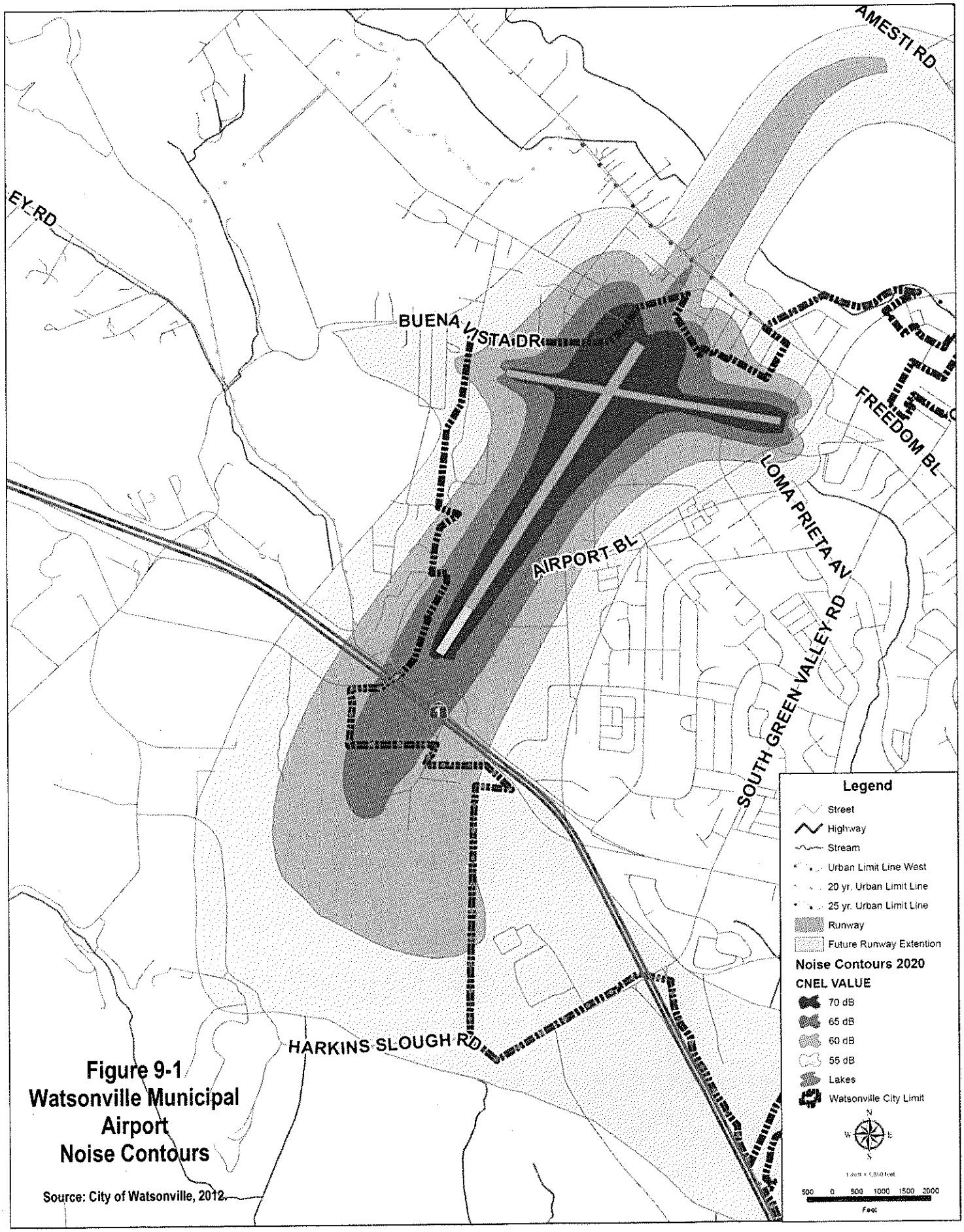

Figure 9-1
Watsonville Municipal Airport Noise Contours

Source: City of Watsonville, 2012.

WE WHITSON ENGINEERS
2425 Porter Street • Suite 2 • Soquel, California 95073
831 464-9363 • Fax 831 464-2316

Job No.: 3193.03

MEMORANDUM

DATE: August 24, 2015

TO: Michael Lynch, AIA
CGL Companies

FROM: Rodney Trujillo, P.E. RT

Cc: Cameron Glass – CGL Companies
Tom Russel – Moss & Associates

SUBJECT: Rountree Jail Facility
Septic System Condition

The X-building sewage effluent drains to an existing onsite septic system. Preliminary Sewage Disposal System Plan prepared by Steve Brooks R.E.H.S Consultant ("record drawings"), date unknown, show a 6" sewer lateral from the building that connects to a diversion manhole. The diversion manhole distributes effluent to two rows of septic tanks with a 21,000 gallon total capacity before draining to a 2,000 gallon pump tank. A single pump forces effluent to existing leach fields that are located at the northwest corner of the site.

The previous use for the X-building housed 162 inmates at full capacity. The proposed use for the rehabilitation project reduces the number of beds from 162 to 64 beds. The occupancy reduction results in a substantial effluent generation reduction for the facility. Therefore, expansion of the existing septic system for the new use is not proposed.

The septic system lines and leach fields were inspected and videoed by Mr. Rooter. Based on my conversation with Albert of Mr. Rooter the system is in serviceable condition but they recommend that one leach field should be cleaned by "HydroScrubing" in conjunction with treatment with natural enzymes.

Based on conversations with Pat Delia of the County General Services Department who performs maintenance on the septic system, it is also recommended that the existing diversion valve be replaced and the single effluent pump be replaced with a duplex pump with alarm and pump controller.