



City of Santa Barbara California

PLANNING COMMISSION STAFF REPORT

REPORT DATE: April 15, 2010
AGENDA DATE: April 22, 2009
PROJECT ADDRESS: 1150 San Roque Road (MST2009-00517)
 Cater Water Treatment Plant – Advanced Treatment Project
TO: Planning Commission
FROM: Planning Division, (805) 564-5470
 Danny Kato, Senior Planner
 Pat Saley, Contract Planner

I. SUBJECT

The project includes three new water treatment structures and the relocation of five parking spaces at the existing Cater Water Treatment Plant. The new enclosed structures total 7,999 square feet and include a 3,460 square foot Ozone Contactor/Generation Building, a 1,163 square foot Chemical/CO₂ Feed Building and a 3,376 square foot Dewatering System Building. The proposed project will assist South Coast water agencies, including the City of Santa Barbara, Montecito Water District, and Carpinteria Valley Water District, comply with more stringent U.S. Environmental Protection Agency (EPA) regulations for drinking water.

II. EXECUTIVE SUMMARY

The City of Santa Barbara owns and operates the Cater Water Treatment Plant, which is located at 1150 San Roque Road (see Vicinity Map, Figure 1). Cater treats drinking water for Santa Barbara, as well as Montecito and Carpinteria. Drinking water regulations are prescribed by the Environmental Protection Agency and more stringent regulations, the Stage 2 Disinfection By-product Rule, will go into effect in 2012. The Stage 2 Rule will limit the level of disinfection by-products in drinking water, which are known carcinogens if consumed in high doses over a lifetime.

The City, and Montecito and Carpinteria Valley Water Districts, desired a centralized solution that would enable each water agency to comply with the upcoming Stage 2 Rule. The result is the Advanced Treatment Project that will alter Cater's water treatment scheme to reduce the disinfection by-products as prescribed by the new Stage 2 Rule. The proposed project includes 7,999 square feet of new enclosed structures to house the equipment and chemicals needed for the new process.

III. REQUIRED APPLICATIONS

The discretionary applications required for this project are:

1. A Front Setback Modification to allow a building to encroach into the double setback requirement of 70 feet (SBMC §28.15.085);



2. An Interior Setback Modification to allow a new building to encroach into the double setback requirement of 30 feet (SBMC §28.15.085);
3. A Parking Modification to allow fewer than the required 50 spaces based on 1 space per 500 sq. ft. (SBMC 28.90.100); and
4. A Conditional Use Permit Amendment to allow additions to an existing public or quasi-public facility in any zone (SBMC §28.94.030.W).

IV. RECOMMENDATION

The proposed project, with approval of the modifications, conforms to the City's Zoning and Building Ordinances and policies of the General Plan. In addition, the size and massing of the project are consistent with the surrounding neighborhood. Therefore, Staff recommends that the Planning Commission approve the project, making the findings outlined in Section X of this report, and subject to the conditions of approval in Exhibit A.

APPLICATION DEEMED COMPLETE: February 26, 2010

DATE ACTION REQUIRED: April 26, 2010

V. BACKGROUND

Plant History - The Cater Water Treatment Plant was built and put into operation in 1964 to treat Cachuma water for Santa Barbara residents. It was expanded in 1980 to provide water treatment for Montecito and Carpinteria Valley Water District customers. Water is supplied from two primary sources, Gibraltar Reservoir and Lake Cachuma, both of which collect and store water from the Santa Ynez River watershed. Water is conveyed by gravity flow from Gibraltar Reservoir and Lake Cachuma to Lauro Reservoir located near Cater. Lauro Reservoir serves as the immediate raw water storage facility for Cater. Cater has a maximum production capacity of 37 million gallons per day (MGD), and averages approximately 20 MGD throughout the year. Over the years, upgrades to the plant have occurred, with the most recent occurring in 2002 when a Conditional Use Permit was approved to accommodate changes related to new water regulations and standards mandated by the Federal Safe Drinking Water Act.

South Coast Water Treatment - Drinking water regulations are prescribed by the U.S. Environmental Protection Agency (EPA), and enforced by the California Department of Public Health. More stringent regulations will go into effect in 2012, specifically the Stage 2 Disinfection By-product Rule (Stage 2 Rule). This new regulation will limit the allowable levels of disinfection by-products in drinking water. These by-products are created when chlorine, added to the water for disinfection, reacts with naturally occurring organic material in the water. Under Cater's current water treatment scheme, South Coast water agencies would not consistently be able to comply with the pending Stage 2 Rule; therefore, plant upgrades are necessary.

Changes to Drinking Water Regulations - The South Coast water agencies all currently comply with EPA drinking water standards, although the Carpinteria Valley Water District has twice violated the limits for disinfection by-products, specifically total trihalomethanes (TTHMs). In 2006, the EPA promulgated the new more stringent Stage 2 Rule, with compliance required by October 1, 2012.

The Stage 2 Rule is the final rule in the series intended to reduce potential cancer and reproductive and developmental health risks related to consuming large quantities of TTHMs over a lifetime.

The current regulation (Stage 1) requires that the system-wide average for the 37 water sampling stations meets the allowable limits for TTHMs based on an annual average. Under the new Stage 2 Rule, eight new pre-determined sample stations having known high levels of TTHMs have to be included in the system-wide sampling for TTHMs. Under the Stage 2 Rule, the annual quarterly average for each individual sample station will have to comply with the allowable TTHM levels (rather than averaging all stations), resulting in a more stringent regulation.

Effect of Zaca Fire in summer 2007 – During the summer of 2007, the Zaca Fire scorched a considerable amount of the watersheds around Cachuma and Gibraltar, the primary sources of water for Cater. This fire resulted in increased Total Organic Carbon (TOC) loads in the water that is treated at Cater, and additional chemicals are required to remove the increased TOC. The result is a significant increase in sludge production. The increased volume of sludge necessitated the installation of a mechanical dewatering system at the plant, as opposed to pre-Zaca Fire conditions where the amount of sludge produced could easily be managed using passive sludge-drying basins. The dewatering system is currently located onsite and is proposed to be enclosed in a new 3,376 square foot building as a part of this project. Water engineers expect that the increased TOC load associated with the Zaca Fire will diminish over time.

VI. PROJECT DESCRIPTION

Santa Barbara, Montecito, and Carpinteria Valley Water Districts are all in favor of a centralized solution that will best ensure consistent compliance with the upcoming Stage 2 Rule. Exhaustive investigations and pilot studies have been performed to determine the best project alternative to meet the new rule. The result is the Advanced Treatment Project that will alter Cater's water treatment scheme by including ozonation as a pretreatment process in lieu of chlorine, and will adjust Cater's water chemistry through the addition of other chemical compounds.

The proposed upgrades at Cater involve switching from chlorine to ozone as a preoxidant. Ozone will change the nature of the TOC in the water to make it more amenable to filtration during the pretreatment process. The result will be considerably lower disinfection by-products in the potable water, and consistent compliance with the Stage 2 Rule. The project will not expand the capacity of the plant nor does it include any changes to the number of employees, parking spaces, and/or use of the facility for meetings or classes. The proposed site plan (Exhibit B) and applicant's letter (Exhibit C) are attached to this report. A table showing the existing and proposed processes and buildings at the plant is provided in Exhibit D.

Ozonation - Ozone is a strong oxidant that has been used in water treatment for over 100 years. Ozonation is an expensive process, which is why chlorine has been traditionally used in the United States. With the implementation of more stringent drinking water regulations that target disinfection by-products associated with chlorine, more water agencies throughout the United States are altering their water treatment processes to include ozonation. In 1985, there were approximately 15 treatment plants in the United States using ozone in the treatment process. Today, there are over 400 water treatment plants using ozone, and the number is growing. An attachment to the applicant's letter (Exhibit C) explains the Ozonation process in more detail.

Project specifics - The specifics of the proposed project are:

- **Square footage increase** - The existing plant has 20,051 square feet of interior space. The project proposes an additional 7,999 square feet of proposed buildings to house equipment, plant processes, and chemicals related to the treatment process. Other open enclosures to screen equipment and storage areas are also proposed, as shown on the site plan (Exhibit B). No additional office space is proposed in this project. The proposed and existing interior space is shown in Table 1 below.

**Table 1
 Building Area at Cater Treatment Plant**

Proposed Buildings	Square Footage
Ozone Contactor/Generation Building	3,460 sq. ft.
Chemical/Carbon Dioxide Feed Building	1,163 sq. ft.
Dewatering System Building (existing use)	3,376 sq. ft.
Total New Structures Proposed at Cater	7,999 sq. ft.
Existing at Cater	20,051 sq. ft.
Total - Proposed and Existing at Cater	28,050 sq. ft.

The Ozone Contactor/Generation Building will take the oxygen (O₂) and convert it to ozone (O₃) which will be “bubbled” through the raw water to help remove organic compounds. The Chemical/Carbon Dioxide Building will house CO₂ that will help to lower the pH of the water to meet water regulations. The Dewatering Building will house existing mechanical equipment that is necessary to remove the Total Organic Carbon loads in the water that have increased since the Zaca Fire.

- **Fencing** - New fencing that will match the existing will be included on the northern and western sides of the property to enclose the new Ozone Contactor and Carbon Dioxide buildings described immediately above.
- **Landscaping** - Additional landscaping is proposed around the buildings to improve the aesthetics and soften private and public views of the plant. The new landscaping will be similar to existing. Also, the approved landscape plan for the 2002 CUP included about 30-40 new oak seedlings, some of which are located where the new buildings are proposed. A meeting was held onsite on March 24, 2010 with the landscape architect and City Arborist, as the Parks & Recreation Department has jurisdiction over the removal of any oak trees of 4” caliper and greater within the front setback. One 6” oak that is proposed for removal is within this area. The applicant proposes to retain the rest of the larger oak trees and relocate the smaller trees onsite and across San Roque Road on the 4-acre parcel the City also owns. Efforts are also being made to donate the smaller trees to other organizations and agencies (e.g., Goleta Valley Beautiful and Cachuma Operations and Maintenance Board).

The City Arborist has reviewed the March 29, 2010 tree relocation plan and stated that the oak tree removals and relocations are acceptable subject to certain conditions that have been incorporated into the landscape plans and Exhibit A (Conditions of Approval). He also stated that the tree plan does not need to get Street Tree Advisory Committee nor Parks and Recreation Commission approval.

- **Lighting** - Some additional lighting will be necessary at the northern end of the site near the Chemical/Carbon Dioxide Building. The lighting is only intended to be used for performing emergency work at night. The fixtures will be designed to illuminate only the work area, in compliance with the City's Outdoor Lighting Ordinance (SBMC Section 22.75).
- **Noise** - All proposed noise-generating processes will be enclosed in buildings, including the dewatering activity that is currently in an open area. Transport trucks for the sludge are proposed to be loaded using a conveyer system from inside the building instead of the existing system that uses skip loaders with back-up beepers. The proposed processes will not generate noise greater than current levels. A noise study has been prepared and is discussed in the Environmental Assessment section of this report.
- **Truck Trips** - The proposed project is expected to result in a nominal change in overall truck trips (up to 5%) that are currently made to Cater on a weekly and monthly basis. When the water quality conditions resulting from the Zaca Fire abate, the number of truck deliveries should decrease to below existing levels.
- **Parking spaces** - The proposed project does not require any additional staff. The project displaces twelve parking spaces, but re-establishes the same number of spaces on the interior of the site (33 spaces total). The interior spaces will be designated for employee and City vehicle parking.
- **Construction timeline** – The project has been approved for a low-interest State Revolving Fund (SRF) loan. One of the requirements of the SRF loan is the submittal of final plans and specifications to the California Department of Public Health by June 30 2010. Construction is anticipated to begin in November 2010 and be complete by April 1, 2012.

Project Equipment and Process Changes – Exhibit D is a table that outlines the proposed operational changes to the plant, the reasons and benefits of each as well as the constraints that factored into the proposed design to meet the Stage 2 Rule.

VII. SITE INFORMATION AND PROJECT STATISTICS

Applicant:	Joe Wilcox, KBZ Architects	Property Owner:	City of Santa Barbara		
Parcel Number:	055-171-007	Lot Area:	12.3 acres		
General Plan:	Open Space	Zoning:	A-1, One Family Residence Zone		
Existing Use:	Water treatment plant	Topography:	Developed area is flat with steep slopes to north and west		
Building Area	Existing		Proposed		
	20,051 sf	3.7%	28,050 sf	5.3%	
Adjacent Land Uses:	North – Open space (federal land), residential and Lauro Canyon Reservoir South – Open space, San Roque Road, residential East – San Roque Road, residential and Laurel Canyon West – San Roque Creek, Stevens Park and residential				

VIII. ZONING ORDINANCE CONSISTENCY

Standard	Requirement	Existing	Proposed
Setbacks			
-Front	70 feet (double setback)	35 feet (main bldg)	33 feet (new bldg)
-Interior	30 feet (double setback)	60 feet	20 feet
-Rear	30 feet (double setback)	N/A	N/A
Building Height	30 feet	22 feet	24 feet
Parking	50 spaces	33 spaces	33 spaces
Lot Coverage			
-Building	25% for non-residential buildings	3.2%	5.3%
-Paving/Driveway	N/A	17.2%	18.5%
-Landscaping	N/A	52.8%	48.9%

The proposed project would meet the requirements of the A-1, Single Family Zone, with the exception of the use, which requires a Conditional Use Permit, and modifications needed for interior and front setbacks and parking requirements.

The proposed upgrade of the Cater plant has been a challenge to design as there are many design constraints, the most important of which is to continue moving water through the system by gravity flow. Existing infrastructure and buildings at the site also constrain the location of new buildings. While the site is surrounded on three sides by public land, the zoning setback requirements for non-residential uses in a residential zone require double setbacks. So, while the nearest residence is 515 feet from the closest new structure (over a City block away), the double setback requirements necessitate a modification of front and interior setbacks.

Front Setback Modification – The proposed project includes a new building located a minimum of 33 feet from the front setback, where 70 feet is the minimum required setback for a non-residential use in a residential zone. Existing development on site has a similar setback (35 feet). The double setback for a non-residential use in a residential zone is intended to protect and buffer the conditional use from adjacent homes. In this case, the closest residential structure is 515 feet away from the site. The Architectural Board of Review made findings indicating that they thought the design and details of the new buildings were compatible with the surrounding area (See Section IX). Staff supports the requested setback modification because it is appropriate given the specifics of the proposed project, its design and its distance from residential uses.

Interior Setback Modification – The proposed project includes a new building located 20 feet from the north property line where 30 feet is the minimum required setback for a non-residential use in a residential zone. The land to the north of the project site (see Vicinity Map) is owned by the Bureau of Reclamation and is mostly undeveloped. ABR made findings indicating that the design of the new buildings was compatible with the surrounding area. Staff supports the requested setback modification for these reasons.

Parking Modification – There are 33 existing parking spaces onsite to serve employees, visitors, and those attending occasional classes and meetings at the site. The proposed project, while adding 7,999 square feet, would not result in a change in staffing or use of the plant. Per the City’s Zoning

Ordinance, 17 new spaces are required for the additional square footage; however, the applicant is requesting a modification to retain the existing number of spaces (33), as that number adequately satisfies the existing and projected future parking demand. Transportation staff has reviewed the proposal and has concluded that the existing parking is sufficient.

IX. ISSUES

A. DESIGN REVIEW

This project was reviewed by the Architectural Board of Review (ABR) on three separate occasions, most recently on March 22, 2010 (see Exhibit E). During the initial review on November 30, 2009, ABR was critical of the style and location of the new structures. The plans were revised to locate the buildings farther from the street and the design was modified. This new design was reviewed by the ABR on December 14, 2009. At this meeting, the ABR's comments were favorable and they asked that the project come back to them for review just prior to the Planning Commission hearing. On March 22, 2010, the ABR again reviewed the project and had only minor suggestions. They also made findings relating to the project's compatibility with the area as discussed under "Neighborhood Compatibility" below.

B. COMPLIANCE WITH THE GENERAL PLAN

The Cater plant was built in 1964, the same year the City's first General Plan was adopted. The General Plan Land Use Element does not have a designation for public utilities and the plant site is designated Open Space. The Cater plant is located in the Foothill neighborhood of the City, which is described in the General Plan as "an area developed with single-family homes, although much of the land area is vacant at the present time."

The Plan's discussion of Water Supply notes that water from the Santa Ynez River is impounded in reservoirs and diverted to the South Coast for "distribution by the City Water Department." There is no other mention of the water system in the General Plan.

Project objectives for facility upgrades are to improve drinking water quality and reduce noise levels by enclosing some existing noise-producing uses. The proposal is consistent with Land Use Element Goal 2 that calls for providing adequate public services and facilities to all residents of the community, and with a Conservation Element Goal that directs that existing water resources be maintained and future water resources of the City be protected.

The Cater plant is a use that is vital to the community. The proposed upgrade is intended to improve drinking water quality for all residents and visitors. The design and operation has been modified to be as compatible as possible with adjacent residential uses. Cater staff continues to work with neighbors to reduce the plant's effect on the local community.

Relevant policies from the General Plan are included in Exhibit F.

C. NEIGHBORHOOD COMPATIBILITY

The project site is located in the Foothill neighborhood and is largely surrounded by public property: Lauro Reservoir and other U.S. Bureau of Reclamation land on the east, Stevens Park to the west, Laurel Canyon Park to the southwest and County property to the northwest

including the Jesusita Trail parking area and trailhead. Residential uses abut the site to the south, with the closest residence located 515 feet from the Cater property.

While the plant is located on land zoned for residential uses, it is buffered from most of those uses by publicly owned open space. The ABR reviewed the plans on three occasions to ensure that the design and location of new buildings is as unobtrusive as possible and compatible with its setting. On March 22, 2010, ABR made the following compatibility findings:

1. The project's design is compatible with the City and successfully incorporates the architectural elements appropriate for the character of the neighborhood;
2. The project's mass, size, bulk, height and scale are appropriate for the site and the neighborhood;
3. The project's design does not block established public views of mountains or the ocean; and
4. The project's design provides an appropriate amount of open space and landscaping.

Cater's staff continues to work with neighbors to reduce noise and other effects of this use, with the most recent meeting occurring on April 1, 2010. The new proposed buildings are a maximum of 24 feet in height, which is consistent with buildings already at the site and with neighboring residences. Blockage of views of the mountains from the road is minimal and has been considered by the ABR in their review. A letter from the neighbors to the west of the site is included as Exhibit G.

D. ENVIRONMENTAL REVIEW

City staff has reviewed in depth the potential environmental concerns of the project including those discussed below and visual resources, which are addressed in Section C - Neighborhood Compatibility above. City environmental staff has determined that the project does not have the potential to significantly impact environmental resources. The project does not involve an increase in capacity or staff at the plant, the new building square footage is less than 10,000 square feet, and the project is entirely located in previously disturbed areas. Therefore, the project qualifies for a Categorical Exemption related to construction of small structures pursuant to Section 15303 of the California Environmental Quality Act Guidelines. Further explanation of each of the following environmental issues is provided in the applicant's letter, Exhibit C.

Noise - A site-specific noise study was prepared to address the operational noise levels at the plant once the proposed project is complete¹. The noise study determined that the plant would comply with City of Santa Barbara Noise Ordinance requirements of 60 dBA CNEL at the nearest residential property line during normal weekday operations and during the noisiest bi-weekly sludge loading operations with the new project. Enclosure of dewatering operations, reorientation of the dewatering operation to avoid back-up beeping, use of air blowers instead of air compressors, and use of absorbent materials in enclosures will result in significant reductions in noise levels at the plant as a result of the project.

¹ "Noise Measurements Conducted during Sludge De-Watering Operations at Cater Treatment Plant in Santa Barbara, CA (AAAI Project 29120)," by Acoustical Analysis Associates, Inc., January 11, 2010. Copy on file in City Planning office.

Noise has been a sensitive issue for some residential properties near the plant, particularly those across the canyon to the west. One aspect of the proposed project that is not directly related to the change to Ozonation as a pretreatment is the construction of a 3,376 square foot Dewatering System Building. The dewatering is currently done outside, and the new Dewatering System building will enclose those operations, thereby reducing ambient noise. Transport trucks are proposed to be loaded using a conveyer system from inside the building instead of the existing system that uses skip loaders with back-up beepers.

While the study found that existing and projected future operational noise would meet City noise standards, three suggestions were included in the noise study to further reduce noise at and around the treatment plant. These suggestions have been included in the recommended conditions of approval for the project (Exhibit A).

Finally, the existing plant superintendent has worked closely with neighbors to reduce existing noise generated at Cater to the extent feasible. Internal traffic patterns have been changed, back-up beeper volumes have been reduced to the lowest legal level and vehicles are parked overnight facing out so that backing up is not necessary in the morning. According to the noise study (p. 10), "Even though the City CNEL standard is met at nearby residences, the [City] intends to be a good neighbor and continue to explore means to reduce noise levels from the dewatering [and other plant] activity."

Energy use - The annual energy use at Cater with implementation of the Ozone Project is expected to increase from 329 kWh to 450 kWh/year. In an effort to increase the plant's energy efficiency, four potential alternatives for reducing electricity consumption were studied for possible implementation as described in the applicant's letter, Exhibit C. One of these alternatives is being pursued with the Bureau of Reclamation, two are not economically feasible at this time and the fourth, Variable Frequency Drives, is already employed at the plant.

Risk of upset - Staff requested information about the potential risk of upset associated with the proposed use of ozone and other new chemicals at Cater. Ozone (O_3) would be generated at the plant from oxygen (O_2), then used to pretreat the water. Any remaining ozone would be recaptured and destroyed onsite. A description of the chemicals, their purpose, potential risk, prevention and remediation is provided in Table 3 to Exhibit C.

Operational Traffic - It is difficult to accurately quantify the anticipated truck deliveries, as the truck trips will depend on the treatment scheme exercised by Cater Water Treatment operators, which is determined by many variables². Nevertheless, it is anticipated that the number of truck trips could possibly increase by up to 5% in the short-term until the effect of the Zaca Fire on raw water quality abates when truck trips are expected to decline. These added trips would not significantly affect any intersections in the City with impacted levels of service.

Air emissions - The project would not result in any ozone being released to the atmosphere. City staff has consulted with the Air Pollution Control District concerning the project. Given that the new treatment process will not have new pollutant emissions, the project qualifies for

² These variables include chemical use, availability, concentrations, costs, safety, and the quality of the raw water from the Santa Ynez Watershed, which water quality experts predict will return to pre-Zaca Fire conditions within a few years.

an exemption from air permits and would not be considered a new stationary source. The small amount of emissions resulting from any increase in traffic the project would create is minor in nature (see "Operational Traffic" discussion above).

X. FINDINGS

The Stage 2 Rule is the final rule in the series intended to reduce potential cancer and reproductive and developmental health risks related to consuming large quantities of TTHMs over a lifetime. A Conditional Use Permit Amendment and three modifications are required to achieve the upgrade and ensure the Cater Water Treatment Plant will be in compliance with the Stage 2 Rule when it goes into effect in 2012. The project has incorporated architectural, landscape, energy and acoustical measures to ensure compatibility with surrounding residential uses.

Modification Finding – Setbacks (SBMC §28.15.085.A, §28.92.110.A.2):

The modifications for front and interior setbacks are consistent with the purposes and intent of the Zoning Ordinance and are necessary to secure an appropriate improvement on the lot. The new Ozone Contactor and Generation Building will have a setback of 33 feet from the front property line, similar to the regular A-1 setback requirement, and would be sufficiently separated from nearby residences and screened to ensure compatibility. The Chemical/CO₂ Feed Building is proposed to be located 20 feet from the north property line where 30 feet is the minimum required setback for a non-residential use in a residential zone. The land to the north of the project site is owned by the Bureau of Reclamation and is mostly undeveloped. ABR made findings indicating that they thought the design and details of the new buildings were compatible with the surrounding area.

Modification Finding – Parking (SBMC §28.90.100, §28.92.110.A.1):

The modification of parking requirements is consistent with the purposes and intent of the Zoning Ordinance and is necessary to secure an appropriate improvement on the lot because the capacity and staffing of the plant will not change with the proposed project and the existing parking meets current demand. The design of the Cater Treatment Plant and the nature of its use do not allow for a meaningful estimate of parking demand based on the square footage of the facility. Therefore, strict application of the parking ordinance's parking requirements based on square footage requirements is not appropriate in this case.

Conditional Use Permit Findings (SBMC §28.94.020):

1. The proposed use is deemed essential and desirable to the public health, convenience and welfare and is in harmony with the various elements and objectives of the Comprehensive General Plan as described in Section IX.B of the staff report;
2. Such use will not be materially detrimental to the public peace, health, safety, comfort and general welfare and will not materially affect property values in the particular neighborhood involved, as discussed in Section IX of the staff report;
3. The total area of the site (12.3 acres) and the setbacks of all facilities from property and street lines are of sufficient magnitude, in view of the character of the land and of the proposed development, that significant detrimental impact on surrounding properties is avoided. The nearest residence is 515 feet from the site and would not be impacted by the proposed project;

4. Adequate access and off-street parking including parking for guests are provided in a manner and amount so that the demands of the development for such facilities are adequately met without altering the character of the public streets in the area at any time, as discussed in Section VIII (Zoning Ordinance Consistency) of the staff report; and
5. The appearance of the developed site in terms of the arrangement, height, scale and architectural style of the buildings, location of parking areas, landscaping and other features is compatible with the character of the area, as discussed in Sections IX.A (Design Review) and IX.C (Neighborhood Compatibility) of the staff report.

Exhibits:

- A. Conditions of Approval
- B. Site Plan
- C. Applicant's letter, March 22, 2010 with attachments:
 - Ozonation Process
 - DART submittal letter – 3/24/10
- D. Table with Proposed Changes to Plant
- E. ABR Minutes - March 22, 2010
- F. Applicable General Plan Policies
- G. Letter from neighbors to west of site – 4/7/10

PLANNING COMMISSION CONDITIONS OF APPROVAL

CATER WATER TREATMENT PLANT – ADVANCED TREATMENT PROJECT
1150 SAN ROQUE ROAD
SETBACK AND PARKING MODIFICATIONS
CONDITIONAL USE PERMIT AMENDMENT
APRIL 15, 2010

In consideration of the project approval granted by the Planning Commission and for the benefit of the owner(s) and occupant(s) of the Real Property, the owners and occupants of adjacent real property and the public generally, the following terms and conditions are imposed on the use, possession, and enjoyment of the Real Property:

- A. **Design Review.** The project is subject to the review and approval of the Architectural Board of Review (ABR). ABR shall not grant preliminary approval of the project until the following Planning Commission land use conditions have been satisfied.
1. **Tree Removal and Replacement.** As shown on the March 29, 2010 tree relocation plan, all trees removed, except fruit trees and street trees approved for removal without replacement by the Parks Department, shall be relocated on-site with like species, in order to maintain the site's visual appearance and reduce impacts resulting from the loss of trees.
 2. **Tree Protection Measures.** The landscape plan shall include the following tree protection measures, intended to minimize impacts on trees:
 - a. **Landscaping Under Trees.** Landscaping under the tree(s) shall be compatible with the preservation of the tree(s).
 - b. **Oak Tree Protection Measures.** The following provisions shall apply to existing oak trees on site:
 - (1) Landscaping provided under the oak tree(s) shall be compatible with preservation of the trees as determined by the ABR. No irrigation system shall be installed under the dripline of any oak tree.
 - (2) Oak trees greater than four inches (4") in diameter at four feet (4') above grade removed as a result of the project shall be relocated on site or elsewhere as outlined in the March 29, 2010 tree relocation plan.
 3. **Irrigation System.** The irrigation system shall be designed and maintained with the most current technology to prevent a system failure, and watering of vegetation on the steep slope to the north shall be kept to the minimum necessary for plant survival. The drip system along the slope shall be removed after one full season of plant growth.
 4. **Minimize Visual Effects of Paving.** Minimize the amount and visual effect of any new paving, including the view from residential areas in the vicinity of the plant.
 5. **Screened Check Valve/Backflow.** The check valve or anti-backflow devices for fire sprinkler and/or irrigation systems shall be provided in a location screened from public view or included in the exterior wall of the building.

6. **Noise and visual screening.** Add “wing walls” as needed to provide visual and acoustical screening of heavy trucks and vehicles idling engines while loading/unloading sludge materials and/or queueing (Noise Study suggestion, p. 10).
 7. **Building Height Restriction.** The height of any structure proposed as a part of this application shall not exceed 24 feet above existing grade.
- B. **Continuing Conditions.** The following conditions shall be observed for as long as the Real Property is developed and operated with the improvements approved by this action of the Planning Commission.
1. **Approved Development.** The development of the Real Property approved by the Planning Commission on April 22, 2010 is limited to approximately 7,999 square feet of enclosed building area and the improvements shown on the approved plan signed by the chairman of the Planning Commission on said date and on file at the City of Santa Barbara.
 2. **Uninterrupted Water Flow.** The Owner shall provide for the uninterrupted flow of water onto the Real Property including, but not limited to, swales, natural watercourses, conduits and any access road, as appropriate.
 3. **Recreational Vehicle Storage Prohibition.** No recreational vehicles, boats, or trailers shall be stored on the Real Property.
 4. **Landscape Plan Compliance.** The Owner shall comply with the Landscape Plan approved by the ABR. Such plan shall not be modified unless prior written approval is obtained from the ABR. The landscaping on the Real Property shall be provided and maintained in accordance with said landscape plan. If said landscaping is removed for any reason without approval by the ABR, the owner is responsible for its immediate replacement. The following tree protection shall be incorporated:
Oak Tree Protection. The existing oak trees shown to be retained on the Landscape Plan and March 29, 2010 tree relocation plan shall be preserved, protected, and maintained. The trees that are shown to be relocated shall be placed onsite and across the street on City property to the extent feasible and offered to other public agencies and non-profits for replanting. The following provisions shall apply to any oak trees to remain on the property:
 - a. During construction, protection measures shall be provided, including but not limited to fencing of the area surrounding the trees.
 - b. No irrigation systems shall be installed within three feet of the drip line of any oak tree.
 - c. The use of herbicides or fertilizer shall be prohibited within the drip line of any oak tree.
 5. **Storm Water Pollution Control and Drainage Systems Maintenance.** Owner shall maintain the drainage system and storm water pollution control devices

intended to intercept siltation and other potential pollutants (including, but not limited to, hydrocarbons, fecal bacteria, herbicides, fertilizers, etc.) in a functioning state (and in accordance with the Operations and Maintenance Procedure Plan prepared in accordance with the Storm Water Management Plan BMP Guidance Manual). Should any of the project's surface or subsurface drainage structures or storm water pollution control methods fail to capture, infiltrate, and/or treat water, or result in increased erosion, the Owner shall be responsible for any necessary repairs to the system and restoration of the eroded area. Should repairs or restoration become necessary, prior to the commencement of such repair or restoration work, the applicant shall submit a repair and restoration plan to the Community Development Director to determine if an amendment or a new Building Permit is required to authorize such work. The Owner is responsible for the adequacy of any project-related drainage facilities and for the continued maintenance thereof in a manner that will preclude any hazard to life, health, or damage to the Real Property or any adjoining property.

6. **Pesticide or Fertilizer Usage Near San Roque Creek.** The use of pesticides or fertilizer shall be prohibited on the north slope of the lot which drains directly into San Roque Creek.
 7. **BMP Training.** Employee training shall be provided on the implementation of Best Management Practices (BMPs) in order to prevent or reduce the discharge of pollutants to storm water from buildings and ground maintenance. The training shall include using good housekeeping practices, preventive maintenance and spill prevention and control at outdoor loading/ unloading areas in order to keep debris from entering the storm water collection system.
- C. **Public Works Requirements Prior to Building Permit Issuance.** The Owner shall submit the following, or evidence of completion of the following to the Public Works Department for review and approval, prior to the issuance of a Building Permit for the project.
1. **Drainage Calculations.** The Owner shall submit drainage calculations prepared by a registered civil engineer or licensed architect demonstrating that the new development will not increase runoff amounts above existing conditions for a 25-year storm event. Any increase in runoff shall be retained on-site.
 2. **Drainage and Water Quality.** Project drainage shall be designed, installed, and maintained such that stormwater runoff from the first inch of rain from any storm event shall be retained and treated onsite in accordance with the City's NPDES Storm Water Management Permit. Runoff should be directed into a passive water treatment method such as a bioswale, landscape feature (planter beds and/or lawns), infiltration trench, etc. Project plans for grading, drainage, stormwater treatment methods, and project development, shall be subject to review and approval by City Building Division and Public Works Department. Sufficient engineered design and adequate measures shall be employed to ensure that no significant construction-related or long-term effects from increased runoff, erosion and sedimentation, urban water pollutants, or groundwater pollutants would result from the project.

The Owner shall maintain the drainage system and storm water pollution control methods in a functioning state.

- D. **Community Development Requirements with Building or Public Works Permit Application.** The following shall be submitted with the application for any Building or Public Works permit and finalized prior to Building or Public Works Permit issuance:
1. **Neighborhood Notification Prior to Construction.** At least twenty (20) days prior to commencement of construction, the contractor shall provide written notice to all property owners, businesses, and residents within 300 feet of the project area and to the homeowners across the canyon to the west. The notice shall contain a description of the project, the construction schedule, including days and hours of construction, the name and phone number of the City Water Resources Manager and Contractor(s), site rules and Conditions of Approval pertaining to construction activities and any additional information that will assist the Building Inspectors, Police Officers and the public in addressing problems that may arise during construction. The language of the notice and the mailing list shall be reviewed and approved by the Planning Division prior to being distributed. An affidavit signed by the person(s) who compiled the mailing list shall be submitted to the Planning Division.
 2. **Contractor and Subcontractor Notification.** The Owner shall notify in writing all contractors and subcontractors of the site rules, restrictions, and Conditions of Approval. Submit a copy of the notice to the Planning Division.
 3. **City Arborist Tree Removal Approval.** Submit to the Planning Division verification of approval from the City Arborist for the removal and on-site relocation of oak trees with a trunk diameter greater than four (4) inches at a point twenty-four (24) inches above the ground) in the front yard setback.
 4. **Arborist's Monitoring.** Submit to the Planning Division an executed contract with a qualified arborist for monitoring of all boxing and relocating of oak trees during construction. The contract shall include a schedule for the arborist's presence during grading and construction activities, and is subject to the review and approval of the Planning Division and the City arborist, if appropriate.
- E. **Building Permit Plan Requirements.** The following requirements/notes shall be incorporated into the construction plans submitted to the Building and Safety Division for Building permits.
1. **Design Review Requirements.** Plans shall show all design, landscape and tree protection elements, as approved by the ABR, outlined in Section A above.
 2. **Post-Construction Erosion Control and Water Quality Plan.** Provide an engineered drainage plan that addresses the existing drainage patterns and leads towards improvement of the quality and rate of water run-off conditions from the site by capturing, infiltrating, and/or treating drainage and preventing erosion. The Owner shall employ passive water quality methods, such as bioswales, catch basins, or storm drain on the Real Property, or other measures specified in the Erosion Control Plan, to intercept all sediment and other potential pollutants

(including, but not limited to, hydrocarbons, fecal bacteria, herbicides, fertilizers, etc.) from the parking lot areas and other improved, hard-surfaced areas prior to discharge into the public storm drain system, including any creeks. All proposed methods shall be reviewed and approved by the Public Works Department and the Community Development Department. Maintenance of these facilities shall be provided by the Owner, which shall include the regular sweeping and/or vacuuming of parking areas and drainage and storm water methods maintenance program.

3. **Noise attenuation** – As suggested in the Noise Study (p. 13), consider providing blowers inside the plant building to power the air delivery systems rather than using air compressors on the trucks. Consider installing partial or full sound enclosures with sound absorbent materials on the inner faces around the remaining free-standing pumps and motors around the plants, such as the BRW pumps, flash mixers and carbon mixers.
4. **Conditions on Plans/Signatures.** The final Planning Commission Resolution shall be provided on a full size drawing sheet as part of the drawing sets. Each condition shall have a sheet and/or note reference to verify condition compliance. If the condition relates to a document submittal, indicate the status of the submittal (e.g., Archaeologist contract submitted to Community Development Department for review). A statement shall also be placed on the above sheet as follows: The undersigned have read and understand the above conditions, and agree to abide by any and all conditions which is their usual and customary responsibility to perform, and which are within their authority to perform.

Signed:

Property Owner		Date
Contractor	Date	License No.
Architect	Date	License No.
Engineer	Date	License No.

F. **Construction Implementation Requirements.** All of these construction requirements shall be carried out in the field by the Owner and/or Contractor for the duration of the project construction.

1. **Demolition/Construction Materials Recycling.** Recycling and/or reuse of demolition/construction materials shall be carried out to the extent feasible, and containers shall be provided on site for that purpose, in order to minimize construction-generated waste conveyed to the landfill. Indicate on the plans the location of a container of sufficient size to handle the materials, subject to review and approval by the City Solid Waste Specialist, for collection of

demolition/construction materials. A minimum of 90% of demolition and construction materials shall be recycled or reused. Evidence shall be submitted at each inspection to show that recycling and/or reuse goals are being met.

2. **Construction-Related Truck Trips.** Construction-related truck trips shall not be scheduled during peak hours (7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.). The purpose of this condition is to help reduce truck traffic on adjacent streets and roadways.
3. **Construction Related Traffic Routes.** The route of construction-related traffic shall be established to minimize trips through surrounding residential neighborhoods, subject to approval by the Transportation Manager.
4. **Construction Hours.** Construction (including preparation for construction work) is prohibited Monday through Friday before 7:00 a.m. and after 5:00 p.m., and all day on Saturdays, Sundays and holidays observed by the City of Santa Barbara, as shown below: (look at longer or shorter hours and Saturday construction, depending on project location)

New Year's Day	January 1st*
Martin Luther King's Birthday	3rd Monday in January
Presidents' Day	3rd Monday in February
Cesar Chavez Day	March 31 st *
Memorial Day	Last Monday in May
Independence Day	July 4th*
Labor Day	1st Monday in September
Thanksgiving Day	4th Thursday in November
Following Thanksgiving Day	Friday following Thanksgiving Day
Christmas Day	December 25th*

*When a holiday falls on a Saturday or Sunday, the preceding Friday or following Monday, respectively, shall be observed as a legal holiday.

When, based on required construction type or other appropriate reasons, it is necessary to do work outside the allowed construction hours, contractor shall contact the Chief of Building and Safety to request a waiver from the above construction hours, using the procedure outlined in Santa Barbara Municipal Code §9.16.015 Construction Work at Night. Contractor shall notify all residents within 300 feet of the parcel of intent to carry out night construction a minimum of 48 hours prior to said construction. Said notification shall include what the work includes, the reason for the work, the duration of the proposed work and a contact number that is answered by a person, not a machine.

5. **Haul Routes.** The haul route(s) for all construction-related trucks with a gross vehicle weight rating (GVWR) of three tons or more, entering or exiting the site, shall be approved by the Transportation Manager.
6. **Traffic Control Plan.** All elements of the approved Traffic Control Plan shall be carried out by the Contractor.

7. **Construction Parking/Storage/Staging.** Construction parking and storage shall be provided as follows:
 - a. During construction, free parking spaces for construction workers and construction shall be provided on-site or across San Roque Road on Water Resources property subject to the approval of the Public Works Director. Construction workers are prohibited from parking within the public right-of-way, except as outlined in subparagraph b. below.
 - b. Parking in the public right of way is permitted as posted by Municipal Code, as reasonably allowed for in the 2006 Greenbook (or latest reference), and with a Public Works permit in restricted parking zones. No more than three (3) individual parking permits without extensions may be issued for the life of the project.
 - c. Storage or staging of construction materials and equipment within the public right-of-way shall not be permitted, unless approved by the Transportation Manager.
8. **Water Sprinkling During Grading.** The following dust control measures shall be required, and shall be accomplished using recycled water whenever the Public Works Director determines that it is reasonably available:
 - a. Site grading and transportation of fill materials.
 - b. Regular water sprinkling; during clearing, grading, earth moving or excavation.
 - c. Sufficient quantities of water, through use of either water trucks or sprinkler systems, shall be applied on-site to prevent dust from leaving the site.
 - d. Each day, after construction activities cease, the entire area of disturbed soil shall be sufficiently moistened to create a crust.
 - e. Throughout construction, water trucks or sprinkler systems shall also be used to keep all areas of vehicle movement on-site damp enough to prevent dust raised from leaving the site. At a minimum, this will include wetting down such areas in the late morning and after work is completed for the day. Increased watering frequency will be required whenever the wind speed exceeds 15 mph.
9. **Expeditious Paving.** All roadways, driveways, sidewalks, etc., shall be paved as soon as possible. Additionally, building pads shall be laid as soon as possible after grading unless seeding or soil binders are used, as directed by the Building Inspector.
10. **Gravel Pads.** Gravel pads shall be installed at all access points to the project site to prevent tracking of mud on to public roads.
11. **Street Sweeping.** The property frontage and adjacent property frontages, and parking and staging areas at the construction site shall be swept daily to decrease sediment transport to the public storm drain system and dust.

12. **Construction Best Management Practices (BMPs).** Construction activities shall address water quality through the use of BMPs, as approved by the Building and Safety Division.
13. **Construction Contact Sign.** Immediately after Building permit issuance, signage shall be posted at the points of entry to the site that list the contractor(s) name, contractor(s) telephone number(s), work hours, site rules, and construction-related conditions, to assist Building Inspectors and Police Officers in the enforcement of the conditions of approval. The construction contact phone number shall include an option to contact a person instead of a machine in case of emergency. The font size shall be a minimum of 0.5 inches in height. Said sign shall not exceed six feet in height from the ground if it is free-standing or placed on a fence. It shall not exceed 24 square feet if in a multi-family or commercial zone or six square feet if in a single family zone.
14. **Tree Protection.** All trees not indicated for removal or relocation on the site plan shall be preserved, protected, and maintained, as follows.
 - a. **Grading Notes.** Notes on the grading plan that specify the following:
 - (1) No grading shall occur within three feet of the driplines of the existing tree(s). Protective fencing shall be installed around any trees remaining that are within the construction zone.
 - (2) A qualified Arborist shall be present during any excavation adjacent to or beneath the dripline of the tree(s) which are required to be protected or relocated onsite or across San Roque Road on City property.
 - (3) All excavation within the dripline of the tree(s) shall be done with hand tools. No mechanical digging shall be permitted within the Tree Protection Zone (3 feet outside the dripline of an oak).
 - (4) Any roots encountered shall be cleanly cut and sealed with a tree-seal compound.
 - (5) No heavy equipment, storage of materials or parking shall take place under the dripline of the tree(s).
 - (6) Any root pruning and trimming shall be done under the direction of a qualified Arborist.
 - (7) All trees within 25 feet of proposed construction activity shall be fenced three feet outside the dripline for protection.
 - b. **Oak Tree Protection Measures.** The following provisions shall apply to existing oak trees that will remain on site:
 - (1) During construction, fencing or protective barriers shall be placed around and three feet outside of the dripline of all oak trees located within 25 feet of development.

- (2) No grading shall occur under any oak tree dripline, except as indicated on the drainage and grading plan for construction of the new structures. Grading within the dripline during construction of this area shall be minimized and shall be done with light (one ton or less) rubber-tired equipment or by hand. If use of larger equipment is necessary within the dripline of any oak, it shall only be operated under the supervision and direction of a qualified Arborist.
 - (3) A qualified Arborist shall be present during any grading or excavation adjacent to or beneath the dripline of any oak tree. Any roots encountered shall be cleanly cut and sealed with a tree-seal compound. Any thinning or root pruning and trimming shall be done under the direction of a qualified Arborist.
 - (4) No storage of heavy equipment or materials, or parking shall take place within five (5) feet of the dripline of any oak tree.
 - (5) Oak seedlings and saplings less than four inches (4") at four feet (4') above the ground that are removed during construction shall be transplanted where feasible. If transplantation is not feasible, replacement trees shall be planted at a minimum one to one (1:1) ratio. Replacement trees shall be a minimum of one (1) gallon size derived from South Coastal Santa Barbara County stock.
- c. **Tree Relocation.** The existing oak trees identified on the March 29, 2010 tree relocation plan shall be relocated on the Real Property and shall be fenced and protected during construction.
- d. **Existing Tree Preservation.** The existing tree(s) shown on the approved Site Plan to be saved shall be preserved and protected and fenced three feet outside the dripline during construction.
15. **Construction Equipment Maintenance.** All construction equipment, including trucks, shall be professionally maintained and fitted with standard manufacturers' muffler and silencing devices.
16. **Graffiti Abatement Required.** Owner and Contractor shall be responsible for removal of all graffiti as quickly as possible. Graffiti not removed within 24 hours of notice by the Building and Safety Division may result in a Stop Work order being issued, or may be removed by the City, at the Owner's expense, as provided in SBMC Chapter 9.66.
17. **Unanticipated Archaeological Resources Contractor Notification.** Prior to the start of any vegetation or paving removal, demolition, trenching or grading, contractors and construction personnel shall be alerted to the possibility of uncovering unanticipated subsurface archaeological features or artifacts associated with past human occupation of the parcel. If such archaeological resources are encountered or suspected, work shall be halted immediately, the City Environmental Analyst shall be notified and the applicant shall retain an archaeologist from the most current City Qualified Archaeologists List. The latter

shall be employed to assess the nature, extent and significance of any discoveries and to develop appropriate management recommendations for archaeological resource treatment, which may include, but are not limited to, redirection of grading and/or excavation activities, consultation and/or monitoring with a Barbareño Chumash representative from the most current City qualified Barbareño Chumash Site Monitors List, etc.

If the discovery consists of possible human remains, the Santa Barbara County Coroner shall be contacted immediately. If the Coroner determines that the remains are Native American, the Coroner shall contact the California Native American Heritage Commission. A Barbareño Chumash representative from the most current City Qualified Barbareño Chumash Site Monitors List shall be retained to monitor all further subsurface disturbance in the area of the find. Work in the area may only proceed after the Environmental Analyst grants authorization.

If the discovery consists of possible prehistoric or Native American artifacts or materials, a Barbareño Chumash representative from the most current City Qualified Barbareño Chumash Site Monitors List shall be retained to monitor all further subsurface disturbance in the area of the find. Work in the area may only proceed after the Environmental Analyst grants authorization.

- G. **Prior to Certificate of Occupancy.** Prior to issuance of the Certificate of Occupancy, the Owner of the Real Property shall complete the following:
1. **Repair Damaged Public Improvements.** Repair any damaged public improvements (curbs, gutters, sidewalks, roadways, etc.) subject to the review and approval of the Public Works Department per SBMC §22.60.090. Where tree roots are the cause of the damage, the roots shall be pruned under the direction of a qualified arborist.
 2. **Complete Public Improvements.** Public improvements, as shown in the improvement/building plans, including utility service undergrounding and installation of street trees.
 3. **Cross-Connection Inspection.** The Owner shall request a cross connection inspection by the Public Works Water Reclamation/Cross Connection Specialist.

NOTICE OF APPROVAL TIME LIMITS:

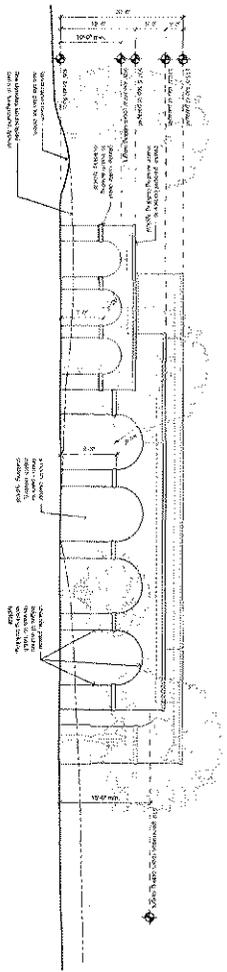
The Planning Commission's action approving the Conditional Use Permit and Modifications shall terminate two (2) years from the date of the approval, per Santa Barbara Municipal Code §28.87.360, unless:

1. An extension is granted by the Community Development Director prior to the expiration of the approval; or
2. A Building permit for the use authorized by the approval is issued within and the construction authorized by the permit is being diligently pursued to completion and issuance of a Certificate of Occupancy.

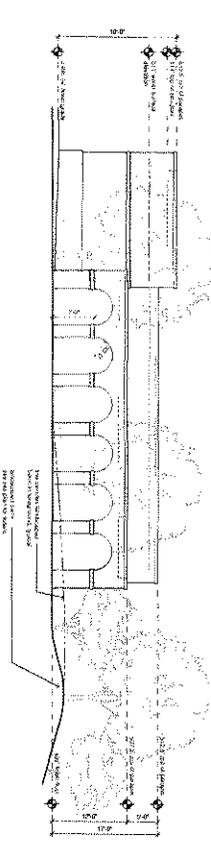
3. The approval has not been discontinued, abandoned or unused for a period of six months following the earlier of (a) an Issuance of a Certificate of Occupancy for the use, or (b) two (2) years from granting the approval.

If multiple discretionary applications are approved for the same project, the expiration date of all discretionary approvals shall correspond with the longest expiration date specified by any of the discretionary applications, unless such extension would conflict with state or federal law. The expiration date of all approvals shall be measured from date of the final action of the City on the application, unless otherwise specified by state or federal law.

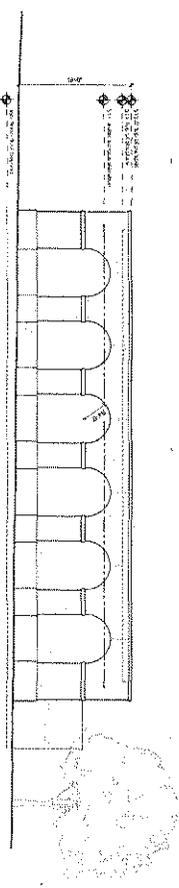




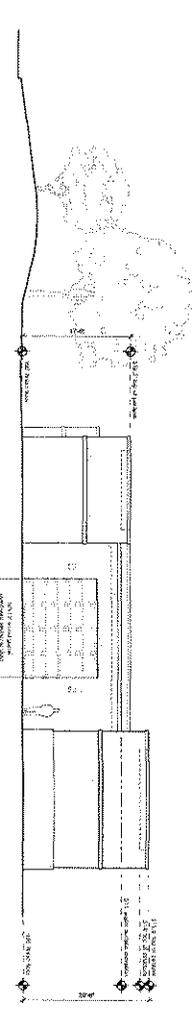
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PROPOSED EXTERIOR ELEVATION - EAST



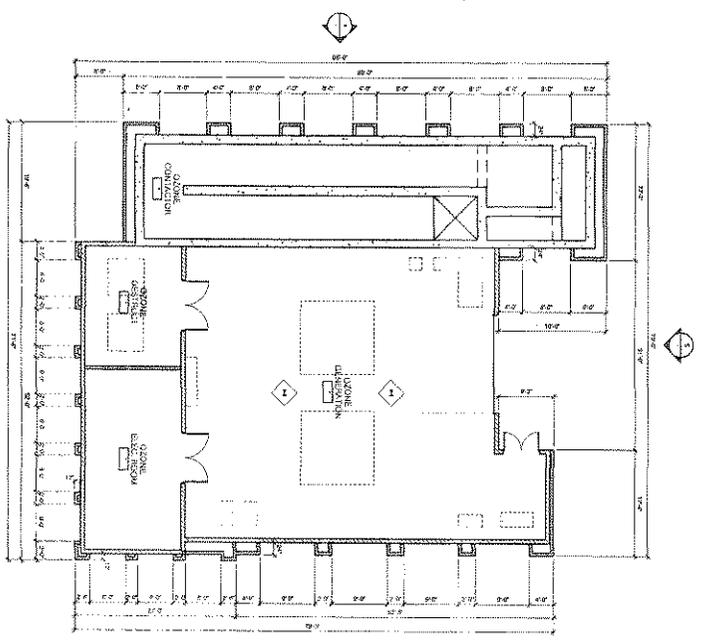
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PROPOSED EXTERIOR ELEVATION - SOUTH



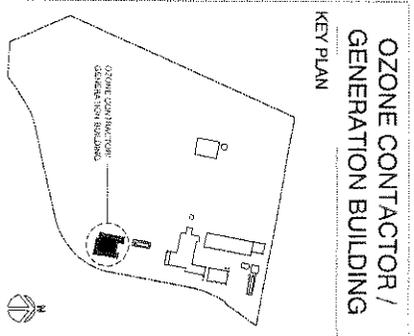
4 OZONE CONTACTOR/GENERATION BUILDING
PROPOSED EXTERIOR ELEVATION - WEST



5 OZONE CONTACTOR/GENERATION BUILDING
PROPOSED EXTERIOR ELEVATION - NORTH



1 OZONE CONTACTOR/GENERATION BUILDING
PROPOSED FLOOR PLAN

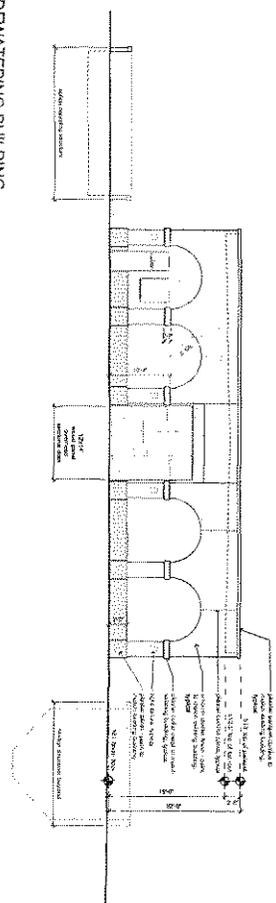


OZONE CONTACTOR /
GENERATION BUILDING
KEY PLAN

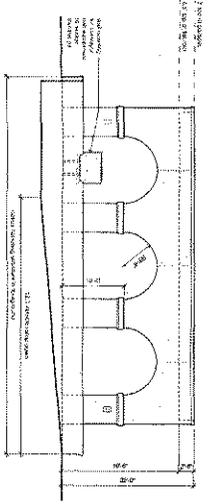
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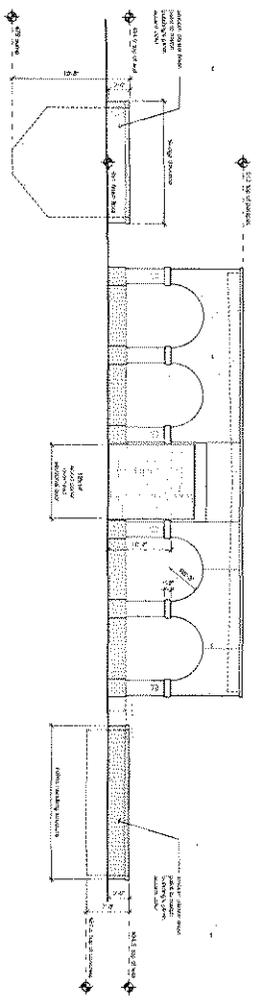
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SHEET NO. 2 OF 2
DATE: 08/13/2012
PROJECT: CATER WATER TREATMENT PLANT
DRAWN BY: [Name]
CHECKED BY: [Name]
APPROVED BY: [Name]



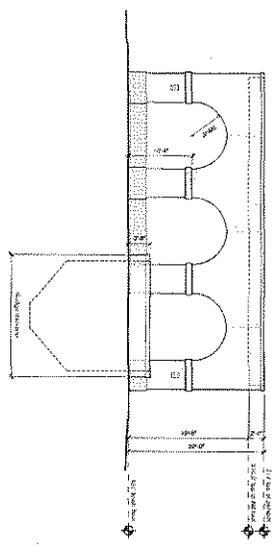
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PROPOSED EXTERIOR ELEVATION - EAST



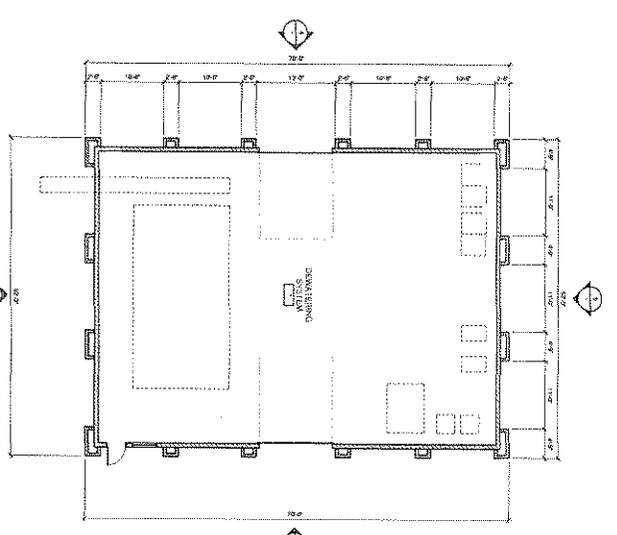
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4 DEWATERING BUILDING
PROPOSED EXTERIOR ELEVATION - WEST



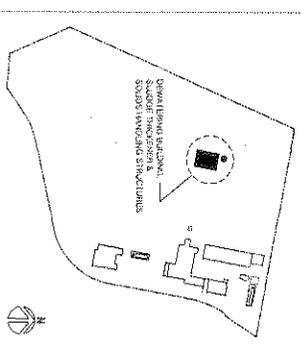
5 DEWATERING BUILDING
PROPOSED EXTERIOR ELEVATION - NORTH



1 DEWATERING BUILDING
PROPOSED FLOOR PLAN

DEWATERING BUILDING,
SLUDGE THICKENER &
SOLIDS HANDLING
STRUCTURE

KEY PLAN



NO.	DESCRIPTION	DATE
1	ISSUED FOR PERMIT	10/15/10
2	ISSUED FOR PERMIT	10/15/10
3	ISSUED FOR PERMIT	10/15/10
4	ISSUED FOR PERMIT	10/15/10
5	ISSUED FOR PERMIT	10/15/10
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20	ISSUED FOR PERMIT	10/15/10

A30





City of Santa Barbara

Public Works Department

www.SantaBarbaraCA.gov

March 22, 2010

Main Office

630 Garden Street
P.O. Box 1990
Santa Barbara, CA
93102-1990

Planning Commission
City of Santa Barbara
630 Garden Street
Santa Barbara, CA 93101

Administration

Tel: 805.564.5377
Fax: 805.897.2613

**SUBJECT: ADVANCED TREATMENT PROJECT AT THE CATER WATER
TREATMENT PLANT**

Engineering

Tel: 805.564.8383
Fax: 805.564.5487

Dear Planning Commissioners:

Facilities

Tel: 805.564.5415
Fax: 805.897.2577

The City owns and operates the Cater Water Treatment Plant (Cater), which treats drinking water for Santa Barbara, as well as Montecito, and Carpinteria. Drinking water regulations are prescribed by the United States Environmental Protection Agency. More stringent regulations will go into effect in 2012, specifically the Stage 2 Disinfection By-product Rule (Stage 2 Rule). It will limit the allowable levels of disinfection by-products in drinking water. These by-products are created when chlorine, added to the water for disinfection, reacts with naturally occurring organic material in the water. Under Cater's current water treatment scheme, Southcoast water agencies will not consistently be able to comply with the pending Stage 2 Rule.

Street Maintenance

Tel: 805.564.5413
Fax: 805.897.1991

Santa Barbara, Montecito, and Carpinteria Valley Water Districts are all in favor of a centralized solution that will best ensure consistent compliance with the upcoming Stage 2 Rule. Exhaustive investigations and pilot studies have been performed at Cater to determine the best project alternative. The result is the Advanced Treatment Project, which will alter Cater's water treatment scheme by including ozonation as a pretreatment process, and will adjust the Cater's water chemistry through the addition of chemical compounds.

Transportation

Tel: 805.564.5385
Fax: 805.564.5467

The City and Montecito and Carpinteria Valley Water Districts are in favor of moving forward with the Advanced Treatment Project. It will be funded through a low-interest \$20 million State Revolving Fund loan that will be paid down over 20 years. I am pleased to submit to the Planning Commission a well thought out project that will benefit the entire Southcoast.

Water Resources

Tel: 805.564.5387
Fax: 805.897.2613

Sincerely,

Catherine Taylor
Water System Manager

CT/mh

Attachments

Exhibit C - Continued
Overview of Ozonation Water Treatment Process
Prepared by Carollo Engineers and City Water Resources Staff
November 16, 2009

Ozonation for Water Treatment

In water treatment, ozonation can be used in the pretreatment process. Ozone is both a good disinfectant and a strong oxidant that makes naturally-occurring contaminants more amenable to being filtered out. Ozonation has been used in water treatment for over 100 years, primarily in Europe, and is beginning to be used more frequently in the United States. In 1985, there were approximately 15 treatment plants in the United States using ozonation in the treatment process. Today, there are over 400 water treatment plants, and the number is growing. Ozonation is an expensive process, which is why chlorine has been traditionally used in the United States. With the implementation of more stringent drinking water regulations targeting disinfection by-products associated with chlorine, more water agencies throughout the United States are altering their water treatment processes to include ozonation.

The Ozonation Process

There are three components to an ozonation process: the Ozone Generator, the Ozone Contactor, and the Ozone Destruction Device.

Ozone Generation

An ozone generator uses either air or pure oxygen to produce ozone, which chemically is three oxygen molecules (O_3), as compared to air, is made up of two oxygen molecules (O_2). The ozone is generated by using electricity to convert O_2 to O_3 . Ozone is very unstable and reverts back into O_2 in minutes, which is why ozone must be generated on-site and cannot be shipped to the water treatment plant. Ozone will be generated at Cater using pure oxygen stored on-site in liquid form (liquid oxygen or LOX).

Ozone Contactors

For ozone to serve as a disinfectant and oxidant, it must be dispersed very finely through the water. This is accomplished in one of two ways: 1) by using fine bubble diffusers located in a contact chamber that allows ozone gas to transfer into the water; or 2) through an injection system that uses an eductor to produce a small water/ozone stream that is mixed into the main treatment stream. The ozone contactor provides a guaranteed contact time between the ozone and the water to ensure disinfection and oxidation of the water. The process at Cater will use an injection system for more efficient gas transfer.

Ozone Exhaust Destruction

The off-gas from the ozone contactors generally exceeds the Occupational Safety and Health Administration (OSHA) limit of 0.1 ppm by volume; therefore, any excess ozone has to be recycled or destroyed. The ozone contactors are enclosed tanks that operate under a vacuum to prevent ozone leaks, which is accomplished by constantly drawing the off-gas from the contactors. This off-gas is sent to an ozone destruct unit where it first passes through a demister, which traps small water droplets on stainless steel mesh. The off-gas is then heated

to improve reaction efficiency and remove moisture prior to passing through the destruct unit which has a catalytic media for ozone destruction.

Safety Considerations

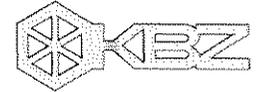
As previously mentioned, ozone is generated from LOX. LOX is considered a non-toxic chemical, although it meets the definition of a compressed gas and a cryogenic fluid, and is subject to the California Building Code for proper storage and safety. The LOX storage tank and other ancillary equipment will be stored outside at Cater. Ambient oxygen meters will be located close to exterior LOX piping. If a LOX leak is detected, these meters will trigger an alarm tied to Cater's Supervisory Control and Data Acquisition (SCADA) system, which provides centralized computer control and data collection for Cater's treatment processes. The SCADA system can be programmed to automatically shut supply valves and turn off systems.

Ozone is considered a toxic gas and is listed as a hazardous substance, but it does naturally occur in the environment. The largest short-term concentrations occur during thunderstorms when lightening causes a production of ozone. In office environments, ozone can be detected near copy machines. Welders are exposed to ozone produced by arcs from the welding process. Those living in large cities are exposed to ozone created when the exhaust from cars and industries react with sunlight.

In water treatment plants, ozone is used as a disinfectant and oxidant in the pretreatment process. Ozone makes naturally occurring contaminants more amenable to being filtered out. For safety, ozone meters continuously measure ozone concentrations in the water of the contactor chambers, in the air of the off-gas stream, and in the ambient air in and around the ozone building. To ensure public safety, Cater will be equipped with ozone alarms programmed to trigger if ozone concentrations of 0.1 ppm or greater are detected. These alarms will be tied into Cater's SCADA system. Additionally, all local, State, and Federal fire and building codes will be adhered to for the design of the facilities.



FLOWERS & ASSOCIATES, INC.
CIVIL ENGINEERS



PROJECT MEMORANDUM-001

Project Name: Cater Water Treatment Plant
Advanced Treatment Project **Date:** 3/30/2010

Client: City of Santa Barbara **Project Number:** 7372B10

Prepared By: Ryan D. Anderson, Troy Hedlund, Eric Flavell, David Black

Reviewed By: Jim Meyerhofer

Subject: DART Application Review Comments

Distribution: Cathy Taylor, Susan Thomson, Pat Saley

The following memorandum contains responses to:

**30-DAY DEVELOPMENT APPLICATION REVIEW
TEAM (DART) COMMENTS – SUBMITTAL #1 & 2 .**
Date: December 15, 2009; Updated 3/30/2010

Section IV of the document entitled Required Additional Information identified information as necessary to adequately review the project. The items and responses are summarized below.

Required Additional Information

1. Proposed changes to plant and/or operation and design constraints

Issue: Provide clear information to clarify proposed changes to the plant and/or its operation. Also, provide information about the constraints or "givens" that have a bearing on the siting and design of this project.

Response: Table 1 [See Exhibit D to April 22nd staff report] provides a summary of the proposed changes and design constraints to the Cater Water Treatment Plant. In addition, the project will include constructing ADA access for the main Administration Building.

2. Alternatives considered

Issue: Provide a summary of the alternative site layouts and designs that were considered as well as the reasons they were not selected.

Response: See Attachment A (on file with City Planning).

Noise

Issue: An updated acoustical analysis is required to address noise generation during construction (including vehicles backing) and during operation once the project is complete.

Response: See Attachment B (on file with City Planning).

In summary, a noise measurement and analysis program conducted at the site found that existing operations that would mimic future operations comply with City of Santa Barbara Noise Ordinance standards at the facility. However, these and other noise generating activities will be mitigated as indicated in the report.

3. Energy use

Issue: Information on projected energy usage and ways to address that increase should be provided, including but not limited to photovoltaic or other alternative energy sources to offset the increased energy demand. The potential role of ozone use onsite as it relates to global warming should be addressed.

Response: The impact of the Ozone project on the plant's energy use and greenhouse gas (GHG) emissions is summarized in the Table 2 below.

Table 2 - Plant Energy Use and Greenhouse Gas Emissions

	Before Ozone Project	After Ozone Project
Annual Energy Use (kWh) per million gallons (MG)	329 kWh	459 kWh
Annual Energy Use (kWh) Based on 7,300 MG treated per year	2,400,000	3,350,000
Annual GHG Emissions (tonnes CO2)	680	*387

*Carbon dioxide injected into water having a pH above 7 reacts to form carbonate and remains in the treated water.

Although the facility burns a small amount of fossil fuels onsite, which are comprised primarily of diesel fuel for stand-by engine generators and account for only 11 tonnes of GHG emissions per year, the vast majority of the GHG emissions associated with the plant can be directly attributed to electricity use.

At an average yearly flow rate of 7,300 million gallons, the estimated plant energy intensity before the Ozone project (2,400,000 kWh per year) is 329 kWh per million gallons of water treated (kWh/MG). The energy intensity after ozone is installed (3,350,000 kWh per year) is estimated at and 459 kWh/MG. Compared to the national average for water treatment plants of approximately 1,400 kWh/MG, even after the Ozone project, the Cater Plant will exhibit high energy efficiency.

To further improve the plant's energy efficiency, four potential alternatives for reducing electricity consumption have been identified: variable frequency drives, re-commissioning the hydroelectric plant, solar photovoltaic technology, and micro-hydroelectric technology.

- 1) **Variable frequency drives** - Variable Frequency Drives (VFD's) are currently used in several applications at the plant, and the design of the new facilities installed as part of the Ozone project will also make use of VFD's where it is economically and technically prudent to do so. In simple terms, VFD's are power electronic devices that vary the speed electric motors. Commonly used in pumping applications to achieve variable flow rates, VFD's contribute to improving energy efficiency by adjusting the pump flow rate to meet a specific set point, rather than operating the pump at full speed and full power at all times.
- 2) **Re-commissioning Hydroelectric Plant** - Water Resources staff is currently investigating the opportunity to restart the decommissioned hydroelectric plant that is located at the north end of Lauro Reservoir. The primary constraint is that the facility is located on the Unites State Bureau of Reclamation property. Negotiations for restarting the hydro plant will continue concurrently with the design of the Ozone Project at Cater Water Treatment Plant.
- 3) **Solar Photovoltaic** - Water Resources is not pursuing solar power for Cater this at this time. An initial cost/benefit analysis of a solar power alternative for Cater demonstrated that financially such a project is not worth considering at this time. Technical advancements are rapidly being made in this field, possibly making this option more financially attractive in the future. It is estimated that the roof area associated with the new and existing buildings on the plant site would allow for the installation of 140 kW worth of solar panels, which would offset the plant's electricity usage by approximately 150,000 to 200,000 kWh per year. Based on the plant's projected annual energy usage after construction of the

Ozone project, a 140 kW solar photovoltaic system would reduce both the total plant energy use and GHG emissions by approximately 5.9%. A 140 kW roof-mounted solar photovoltaic system has an estimated project cost of approximately \$1,300,000. With incentives, the present worth unit power costs of the project is approximately \$0.15 to \$0.20 per kWh. The plant is currently paying \$0.10 to \$0.11 per kWh. The amount of energy recovery at this time based on current capital costs would not provide revenue to pay for the project.

- 4) **Micro-Hydroelectric** - Because the plant receives water from Lauro Reservoir, which is higher in elevation, a considerable amount of energy must be dissipated by the plant influent valve. In lieu of dissipating this energy with a valve, a micro-hydroelectric system could be installed to convert the excess mechanical energy into electricity. Brown and Caldwell Engineers conducted a feasibility analysis on installing a hydroelectric generator to capture the energy from Lauro Reservoir. It was estimated that the project costs associated with this project would be \$940,000 and recover 570,000 kWh assuming 80% efficiency, resulting in a benefit from the installation. Given the new facilities (Advanced Treatment Project) to be installed and conducting a more thorough hydraulic analysis, it was determined that the energy produced would be approximately 454,000 kWh at 80% efficiency. The micro-hydroelectric system would reduce both the total plant energy use and GHG emissions by approximately 13%. However, assuming the same project costs, installation would result in a loss of revenue from the City, costing the city \$0.16 per kWh. As stated above, the plant currently pays \$0.10 to \$0.11 per kWh. Although the installation of a micro-hydroelectric system would reduce the plant's electricity consumption and GHG emissions, the amount of energy recovery may not warrant inclusion given that the facility would not provide the revenue to pay for the project. As costs for equipment become more affordable, installation of a micro-hydroelectric system may be warranted.

5) **Adjacent land ownership**

Issue: Information about the ownership of land to the immediate north of the project site should be provided as it appears some of the existing fence line is on the adjacent parcel (see Sheet A1.0).

Response: Ownership of adjacent properties are:

To the north – Unites State Bureau of Reclamation

To the south – Private Residence

To the East – City of Santa Barbara and Unites States Bureau of Reclamation

To the West – City of Santa Barbara and County of Santa Barbara

See Attachment C for drawing (see Vicinity Map in April 22, 2010 staff report).

6) **Risk of upset**

Issue: Information about the potential risk of upset associated with the proposed use of ozone and any new chemicals should be discussed, including steps to address how potential risks would be avoided and, if they occurred, how they would be remediated.

Response: New chemicals being added to the operations at the Cater WTP include the following:

- | | |
|-------------------|------------------------|
| 1) Liquid Oxygen | 4) Ferric Sulfate |
| 2) Ozone | 5) Calcium Thiosulfate |
| 3) Carbon Dioxide | 6) Caustic Soda |

As a result of the proposed treatment scheme, the following chemicals or products will be reduced:

- | | |
|--|------------------------------------|
| 1) Sodium Hypochlorite (industrial bleach) | 2) Powdered Activated Carbon (PAC) |
|--|------------------------------------|

Table 3 is a summary table of each of the proposed new chemicals. See Attachment D for a brief summary of each chemical and regulations regarding storage and containment.

Table 3 - Summary of Potential Risks and Remediation Measures for New Chemicals (Refer to Table 1 for Description of Processes)

Chemical, Risk, & Purpose	Prevention	Remediation
Liquid Oxygen Compressed Gas, Cryogenic Fluid, Oxidant Required to Generate Ozone for Pretreatment	-Compatible material selection -ASME Certified Storage Tank -Pressure relief valves on tanks -Provide secure area -Ignition source control -Storage area designed to prevent accidental discharge from endangering personnel, containers, equipment, and adjacent structures. -Manual and automatic emergency shutoff valves.	-Contact emergency personnel -Avoid dispersal of liquid -Ensure adequate ventilation -Eliminate ignition sources -Allow gas to disperse
Ozone Highly Toxic Gas, Oxidant Pretreatment chemical resulting in lower by-product formation	-Compatible material selection -Ozone destruct units -Ozone gas detector units providing automatic shutoff of generator and local alarm system -Proper ventilation (six air changes per hour) -Self-contained and properly identified system	-Contact emergency personnel -Shutdown of system -Evacuate and isolate affected area -Restrict access -Eliminate ignition sources -Ensure adequate ventilation -Allow gas to disperse/degrade
Carbon Dioxide Compressed Gas pH Reduction	-Compatible material selection -ASME Certified Storage Tank -Pressure relief valves on tanks -Provide secure area -Outside storage -CO ₂ Monitors and alarms	-Contact emergency personnel -Shut off gas supply -Isolate area/restrict access -Prevent runoff of spilled material -Allow gas to dissipate
Ferric Sulfate Corrosive Liquid Primary Chemical for Coagulation	-Existing facilities provide all necessary safety and preventative measures	-Contact emergency personnel -Isolate area/restrict access -Avoid runoff/disposal -Stop leaks -Remove with appropriate equipment -Collect in suitable containers -Neutralize area with soda ash -Flush with water
Calcium Thiosulfate Non-Hazardous Removes Excess Ozone in Pretreatment Process	-Tank monitors for leak detection -Compatible materials	-Avoid drains -Clean-up with absorbent material -Dispose in appropriate location
Caustic Soda Corrosive Liquid Used for pH Adjustment	-Safety and preventative measures are similar to existing facilities -Compatible material selection -Leak detection equipment -Secondary containment -Proper fire suppression system	-Notify appropriate authorities -Contain spilled material -Isolate area -Remove with appropriate equipment -Collect in suitable containers -Neutralize with acetic acid -Ventilate area

In addition, all new facilities will meet the requirements of the applicable fire codes, including Santa Barbara City Ordinance No. 5498 regarding installation of automatic fire sprinklers and California Fire Code 2A10BC requiring fire extinguishers be provided every 75 feet of travel or a minimum of one per room.

7) Construction vehicles and timeline

Issue: Information about the types of construction vehicles, number and type of construction workers, truck haul routes, etc., should be provided.

Response: Truck hauling routes from Cater during construction will be from San Roque Road, north on Hwy 192, south on Hwy 154, to Hwy 101. Table 4 summarizes anticipated construction vehicles and the number and type of construction workers required at various phases of the construction.

Two (2) job trailers and two (2) storage units will be required for the duration of the job. Construction trailers, staging, and parking will be provided across the street in the open City-owned four-acre parcel.

8) Air emissions during plant operation

Issue: Provide information about stationary and non-stationary source air emissions during operation. Thresholds of significance are 240 pounds/day for ROC or NO_x and 80 pounds/day for PM₁₀. Information about PM_{2.5} and CO₂ emissions should also be provided.

Response: Carbon dioxide will be used for pH suppression, but will not be released into the atmosphere. Ozone will be converted to oxygen prior to release from the ozone generation facilities. All other additions to plant operations will not result in stationary or non-stationary air emissions once construction is completed.

Table 4 - Construction Vehicle and Labor Requirements

Construction Phase	Required Equipment	Required Construction Workers
Demolition and Grading (4 months)	<ul style="list-style-type: none"> • 1 Trackhoe • 2 Backhoes • 1 Front-End Loader • 3 10-yd Dump Trucks 	<ul style="list-style-type: none"> • 15-25 workers • Equipment operators, survey crew, demolition crew, general laborers
Underground Utilities and Facility Construction (12 months)	<ul style="list-style-type: none"> • 1 Hydraulic Crane • 1 Heavy Duty Fork-Lift • 2 Backhoes • 1 Front-End Loader • 2 Skid Steer Loader • 1 Concrete Pump Truck • 2 Scissor Lifts 	<ul style="list-style-type: none"> • 25-35 workers • Electricians, plumbers, iron workers, carpenters, cement masons, building masons, welders, roofers, equipment operators, pipe hangers, HVAC tradesman, general laborers
Mechanical and Electrical Installation, Final Grading, and Landscaping (8 months)	<ul style="list-style-type: none"> • 1 Hydraulic Crane • 1 Front-End Loader • 2 10-yd Dump Trucks • 2 Skid Steer Loader • 2 Scissor Lifts 	<ul style="list-style-type: none"> • 15-25 workers • Electricians, painters, carpenters, equipment operators, plumbers, landscapers, general laborers

9) Truck deliveries

Issue: More information about anticipated truck deliveries (frequency, size of trucks, chemicals transported, etc.) once the project is complete needs to be provided.

Response: In terms of construction routes, those are prescribed by City Transportation staff as was done for the 2002 project. It is difficult to accurately quantify the anticipated truck deliveries, as the truck trips will depend on the treatment scheme exercised by Cater Water Treatment operators, which will be determined by many variables including: chemical use, availability, concentrations, costs, safety, and the quality of the

raw water from the Santa Ynez Watershed, which water quality experts predict will return to pre-Zaca Fire conditions within a few years. Realistically, it can be anticipated that the number of truck trips will remain the same as current conditions, but could possibly increase by up to 5%. Water engineers anticipate that the additional truck trips associated with trucking the sludge will diminish over time as the post-Zaca Fire conditions at the plant abate. These added trips would not significantly affect any intersections in the City with impacted levels of service.

10) Other plans

Issue: Grading plans (including estimated cut and fill, export or import of material, etc.) and landscaping plans must be provided. Existing Coast live oaks and other native trees should be clearly marked on the landscape plans.

Response: Significant excavation will be required for the new ozone contactor building. In addition, the location of the mechanical dewatering facility is on an old sludge drying bed. This location was used in the previous construction to dispose of demolished rubble (concrete and rebar) and excess grading material. As a result, it is estimated that half of the volume at the old sludge drying bed location will require disposal. Table 5 summarizes estimated excavation quantities for the project:

Table 5 - Estimated Cut/Fill and Import/Export Materials

Type	Quantities (cu-yd)
CUT	17,800
FILL	13,800
IMPORT	2,600
EXPORT	4,100

It is estimated that the project will require 260 truck trips for imported fill material and 410 truck trips for disposal of waste rubble material.

11) Archaeology

Issue: Depending on the location of any proposed grading, e.g., where there are previously undisturbed soils, a Phase I archaeology report may be required.

Response: Per conversations with the City, the only excavation that will occur in an area that is a potential archeological site is the mechanical dewatering building and sludge thickener. This area was once an earth-lined sludge drying bed. Based on the original construction drawings, the bottom of the bed was at elevation 478.5 (NAVD 88 Datum). The current elevation is approximately 491. Approximately two (2) feet below the pond is a series of sand and gravel filled trenches with 4-inch PVC pipe for collecting water. These trenches have an invert elevation of 476. The pipes are still buried in this location. The original construction of the bed disturbed the native soils at least to a depth of 476.

During construction, these buried pipes will be removed and the existing fill will be re-compacted in preparation for the new construction. Concrete will be placed in area of approximately 5 to 10 feet in diameter at an approximate elevation of 476 for the bottom of the sludge thickener. The majority of the structure (20 feet in diameter) will be at an elevation of 480. The adjacent mechanical dewatering facility will be constructed at existing grade elevation (491). Given the previous construction in this area, undisturbed soils will not be exposed in the areas in question. In the event that native soils are exposed and must be disturbed, an archeologist will be employed for monitoring any disturbance of native soils.

12) Changes in runoff

Issue: Any increase in site runoff (pre vs. post construction) must be avoided per the City's adopted Storm Water Management Plan (SWMP), and the NPDES General Permit for Storm Water Discharges. A Drainage Analysis/Hydrology Report will be required through the City's DART process that addresses existing runoff volumes (from a 25 year storm) and how they will be maintained or (ideally) decreased.

Response: A preliminary drainage analysis based on the new facilities was conducted and provided to the City. Drainage Exhibit is shown in Attachment C. The preliminary drainage analysis is provided in Attachment E.

13) Storm water

Issue: The city and state requires that onsite capture, retention, and treatment of storm water are incorporated into the design of the project. In an attempt to treat the small, frequent storm events that impact water quality in Santa Barbara, we recommend that at a minimum, proposed treatment devices are designed to capture and treat the calculated amount of runoff from the project site for a 1 inch storm event over a 24-hour period. This can be accomplished by directing roof runoff to landscaping or other permeable designs and/or by implementing water treatment design techniques into open space areas and parking lots. We recommend implementing natural filtration devices, such as swale-like landscaping, rain gardens, other bioretention designs or permeable paving that allows infiltration of storm water into the soil for water quality treatment. These types of passive/natural capture and filtration design options are recommended as opposed to mechanical/underground options, which pose maintenance problems and often times, do not treat runoff as efficiently.

Response: A preliminary drainage analysis based on the new facilities was conducted and provided to the City. Drainage Exhibit is shown in Attachment C. The preliminary drainage analysis is provided in Attachment E.

14) Tier 3 Storm Water Management Program (SWMP)

Issue: These project plans are being routed to the Creeks Division, as this project appears to be subject to Tier 3 SWMP Program requirements. Projects subject to Tier 3 of the SWMP are required to capture and treat runoff calculated for a one-inch storm event over a 24-hour. Capture and treatment methods must be achieved through best management practices listed in the Storm Water BMP Guidance Manual. Appropriate BMPs must be chosen and incorporated in plans subject to Tier 3 prior to final approval. The Storm Water BMP Guidance Manual is located at www.sbcreeks.org/SWMP (choose "Storm Water BMP Guidance Manual" link). The City recommends redirecting roof runoff to landscaping and implementing natural filtration devices, such as swale-like landscaping, rain gardens, other bioretention designs or other permeable paving that allows infiltration of storm water into the soil for water quality treatment. These types of passive/natural capture and filtration design options are recommended as opposed to mechanical/underground options, which pose maintenance problems and often times do not treat runoff as efficiently.

Response: A preliminary drainage analysis based on the new facilities was conducted and provided to the City. Drainage Exhibit is shown in Attachment C. The preliminary drainage analysis is provided in Attachment E.

TABLE WITH PROPOSED CHANGES TO CATER TREATMENT PLANT

Table 1 - Changes to existing plant operations

Current Cater Processes and Buildings	Changes to Current Processes and Buildings	Changes to Chemical Deliveries	Reasons and Benefits	Design Constraints
Pre-treatment of raw water Chlorine is fed into the raw water at the main admin building (influent channel located under front porch and conference room) to provide improve particle removal in later processes.	Ozone will be used for pre-treatment of raw water in lieu of chlorine. Ozone generation building and contactor will be built to replace Pre-chlorination. Note: Post-chlorination will still be in place, which is the same facility.	Chlorine will only be used for post-disinfection (as required by state regulations), resulting in less chlorine used, and reducing associated truck trips by 50-percent.	Change in pre-disinfectant to meet upcoming Stage 2 Disinfection Byproduct Rule as ozone more effectively pre-treats raw water than chlorine & has fewer resultant disinfection byproducts.	Placement of pre-treatment facilities required a location that fit within the existing hydraulics of the plant so that the water would flow by gravity to the rest of the plant. Any other location would require additional energy (pumping) for proper water conveyance.
pH Reduction pH reduction is not currently practiced at the plant	pH reduction using Carbon Dioxide is to be added to the existing processes. This facility will be built on the north side of the current Carbon slurry tank.	This chemical has not been used in the past. Additional truck deliveries will be required.	Lowering the pH will help the ozone and new primary coagulant chemical work more efficiently at lowering disinfection by-products.	Location of feed system must be close to the point of injection to allow for proper dosing of chemical. pH reduction is also recommended prior to coagulant addition.
Ozone Removal Ozone is not currently added	A calcium thiosulfate system will be provided in the ozone generation building for removal of excess ozone	This chemical has not been used in the past. Additional truck deliveries will be required.	Use of calcium thiosulfate will help prevent the escape of ozone in occupied areas.	The feed system is to be in the proximate area of the ozone system to prevent release of ozone.
Coagulation Current Primary and (temporary) Secondary Coagulant, both Aluminum based products are fed from the Operations Annex.	Only minor changes to current feed system will be needed to change primary coagulant to Ferric sulfate and eliminate the secondary (temporary) coagulant.	Approximately three times the truck trips will be required under anticipated operating conditions.	Ferric sulfate has proven to reduce TOC levels more efficiently than other coagulants when used in conjunction with the other proposed changes. Ferric sulfate also reduces pH at high dosages	The ferric sulfate will be stored and fed from the existing primary coagulant feed system currently in place at the plant.
pH Adjustment pH Adjustment is not currently practiced at the plant	Caustic soda will be used to raise the pH of the finished water. Facility for holding tanks and feeders will be located in an extension (to be built in this project) of the current Operation Annex building.	This chemical has not been used in the past. Additional truck deliveries will be required.	Caustic soda will be used to raise the pH back up to acceptable levels necessary to prevent problems in the distribution system.	Feed and monitoring of pH downstream of the filtration process provides adequate mixing and reaction time upstream of entering the distribution system and booster pumps.
Mechanical Dewatering A temporary dewatering facility is located in the existing sludge drying beds	A new sludge thickening tank and mechanical dewatering building will be added to the facilities	No additional chemicals will be required.	The new mechanical dewatering facilities will allow for more efficient dewatering of residuals during times of increased solids production.	Facilities are provided to allow capture of solids from the sedimentation process. System designed to allow gravity feed of process streams.



* THE BOARD BRIEFLY RECESSED AT 3:04 P.M. AND RECOVERED AT 3:08 P.M. *

CONCEPT REVIEW - CONTINUED ITEM

1. 1150 SAN ROQUE RD

A-1 Zone

Assessor's Parcel Number: 055-171-007

Application Number: MST2009-00517

Owner: City of Santa Barbara

Agent: Joe Wilcox

Architect: KBZ Architects

(Proposal to construct three new water treatment buildings and two new treatment tank enclosures at the Cater Water Treatment Plant. The proposal involves 7,999 square feet of new buildings and 5,890 square feet of new structures for a total of 13,889 square feet. The existing site is currently developed with 20,052 square feet of buildings and 139,252 square feet of other structures to the existing 159,304 square foot facility. The proposal also includes the relocation of 12 existing parking spaces, new accessible walkways and new site landscaping. The proposal will result in a 173,193 square foot water treatment facility and will bring the existing facility into conformance with new U.S. Environmental Protection Agency (EPA) regulations. The project requires Planning Commission review for a Conditional Use Permit for a non-residential use in a residential zone and Zoning Modifications for parking and encroachments into the required front and interior setbacks.)

(Third Concept Review. Comments only; Project requires Environmental Assessment, Compatibility Analysis, and Planning Commission review for Conditional Use Permit, a parking modification, and encroachments into the required front and interior setbacks.)

(3:08)

Present: Cathy Taylor, Water System Manager; Joe Wilcox, KBZ Architects; and David Black, Landscape Architect.

Public comment opened at 3:21 p.m. As no one wished to speak, public comment was closed. A letter of concern from Paula Westbury was acknowledged by the Board.

Motion: Continued indefinitely to Planning Commission and return to Full Board with comments:

- 1) The Compatibility Analysis is as follows:
 - a. The proposed project complies with the Design Guidelines and is consistent with the City Charter and applicable Municipal Code requirements.
 - b. The project's design is compatible with the City and successfully incorporates the architectural elements appropriate for the character of the neighborhood.
 - c. The project's mass, size, bulk, height, and scale are appropriate for the site and the neighborhood. The Board appreciates the reduction of encroachment into the front setback.
 - d. There is no impact to adjacent City Landmarks, adjacent historic resources or established public views of mountains or ocean.
 - e. The project's design does not block established public views of mountains or ocean.
 - f. The project's design provides an appropriate amount of open space and landscaping. The Board finds the proposed landscaping is appropriate for the site.
- 2) The Board looks forward to the applicant returning with a color scheme for the proposed buildings and the entire campus.

Action: Rivera/Gross, 6/0/0. Motion carried. (Gilliland/Sherry absent).



**RELEVANT CITY POLICIES (EXCERPTS OR SUMMARIES)
CATER WATER TREATMENT PLANT PROJECT
(MST2001-00732)**

City Charter

- Sec 1507** It is hereby declared to be the policy of the City that its land development shall not exceed its public services and physical and natural resources. These include, but are not limited to, water, air quality, wastewater treatment capacity, and traffic and transportation capacity.
- Sec 1508** To assure that nonresidential development does not exceed the City's water resources, traffic capacity, and affordable housing supply, the City Council shall place limits on nonresidential development...and restrict it to no more than three million (3,000,000) square feet over the next twenty (20) years, commencing January 1, 1990. Community Priority Projects shall not be subject to the square footage limitations.

General Plan

- Principle 10** The interests of the residents of Santa Barbara must be maintained in a priority position.

Land Use Element

- Policy 1.3** Any new or pending non-residential project may be constructed only if it will not cause significant and unmitigated adverse impact on any of the following: the City's water resources; Traffic within the City; The supply of affordable housing in the City and South Coast.
- Goal 2** *Services and Facilities.* Provide adequate public services and facilities to all the residents of the community.
- Goal 5** *Maintain Unique Desirability.* Maintain the unique desirability of Santa Barbara as a place to live, work and visit.

Circulation Element

- Policy 2.1** *Parking Policy.* The City shall ensure that new developments...provide for adequate offstreet parking to satisfy their parking demands that are unmet by other parking programs...

Conservation Element

- Goal** *Air Quality.* Maintain air quality above Federal and State ambient air quality standards.
- Goal** *Biological Resources.* Enhance and preserve the City's critical ecological resources in order to provide a high-quality environment necessary to sustain the City's ecosystem.
- Policy 5.0** The habitats of rare and endangered species shall be preserved.

- Goal** *Cultural Resources.* Sites of significant archaeological ... resources will be preserved and protected wherever feasible ...
- Goal** *Visual Resources.* Protect and enhance the scenic character of the City.
- Policy 1.0** Development adjacent to creeks shall not degrade the creeks or their riparian environments.
- Goal** *Water Resources.* To maintain existing and protect future potential water resources of the City of Santa Barbara.

Noise Element

- Goal** To ensure that the City of Santa Barbara is free from excessive noise and abusive sounds such that a) sufficient information concerning the City noise environment is provided for land use planning; b) strategies are developed for land use planning; and c) existing low noise levels are maintained and protected.
- Policy 4** Existing and potential incompatible noise levels in problems areas should be reduced through operational or source controls where the City has responsibility for such controls.

Seismic Safety and Safety Element

- Goal** To protect life, property and public well being from seismic and other geologic hazards.
- Policy** *Fire Hazard.* Special provisions have been adopted that must be complied with within the boundaries of areas designated as High Fire Hazard Zones.

April 7, 2010

To: Santa Barbara City Planning Commission, attn: Planning Commission Secretary
Santa Barbara Architectural Board of Review

Re: Cater Water Treatment Plant Expansion Project

We, the undersigned, are neighbors on No. Ontare Rd, Camino Corto Ontare and Via Tusa, directly across the canyon from the Cater Water Treatment Plant. We are in direct visual line of the Plant, are affected daily by the look, size, noise and light from the Plant, and will be affected by the construction project. Though we are outside the 300 foot mandatory noticing area, Susan Thomson, Water Treatment Superintendent, and Cathy Taylor, Water Systems Manager, have recognized the impact the Cater facility has on the canyon neighbors and have made an impressive effort to inform us about the upcoming expansion and encourage our comments. We have attached several photos taken from our neighborhood streets looking toward the Plant.

The front side of the Plant which faces San Roque Rd is where most of the architectural and landscape design has been focused, making the facility fit in with the neighborhood. There are however no neighbors across from the Plant on San Roque Rd. The neighbors are across the canyon at the back side of the Plant, where that back side, the working side of the Plant, is very industrial looking and, since the Jesusita Fire, extremely exposed, increasing its visual impact on the area. Little of the mature landscaping remains on the north and west sides of the Plant since the fire. We understand that the City is replanting the burned vegetation, but it will be years before it reaches its previous size which helped to screen the Plant.

Since the subjects of building color and landscape are being addressed in regard to the expansion project, we would ask the Planning Commission to encourage Cater to make some landscaping and building color choices that would make the canyon side of the facility more compatible with the surrounding area.

Landscape: The photos show little landscaping left since the fire to screen the intrusive industrial look of the Plant from the back. New construction will add to the mass of the complex. If there were an effective buffer zone of trees around the north, west and south perimeter, that would greatly reduce the visual impact, the noise and the light pollution from the Plant. We recognize that any landscape solutions must meet fire safety regulations; however even openly spaced trees would break up the stark impact of the buildings and shield some of the light at night.

Color: We understand that the colors under consideration for the new buildings in the expansion are sand tone shades. We are extremely grateful that these more neutral colors are being considered instead of white! However, we would like to see an even darker color on the BACK of the buildings than what is being considered for the front, so that what faces the neighbors and the canyon blends more into the landscape. You can see in the photos we submitted (attached) how an earth tone color helps the buildings to fade into the background.

would allow the existing buildings, now stark white, to blend into the surroundings. At a minimum, perhaps the Plant would commit to a darker color on the back of the new buildings and continue with that color on the back side of the existing buildings as they come up for re-painting. The neighbors feel very strongly, as the photos indicate, that this would make a big difference. What landscaping can't do to mitigate the impact of the facility, color can.

We recognize the Cater Plant is an essential part of water delivery to the city of Santa Barbara and that relative to many neighbors, the Plant was here first. However, the Jesusita fire has exacerbated aspects of incompatibility between the industrial facility and the residential surroundings. During the fire almost every home adjacent to the canyon lost all of its landscaping, as did the Plant. What screening was there, is now gone. We urge the Plant to address landscaping and color so it will be more compatible with the surrounding area on the canyon side as is on the street side.

Thank you. Signed:

[Note – A signed version of this letter will be presented at the April 22nd Planning Commission meeting]

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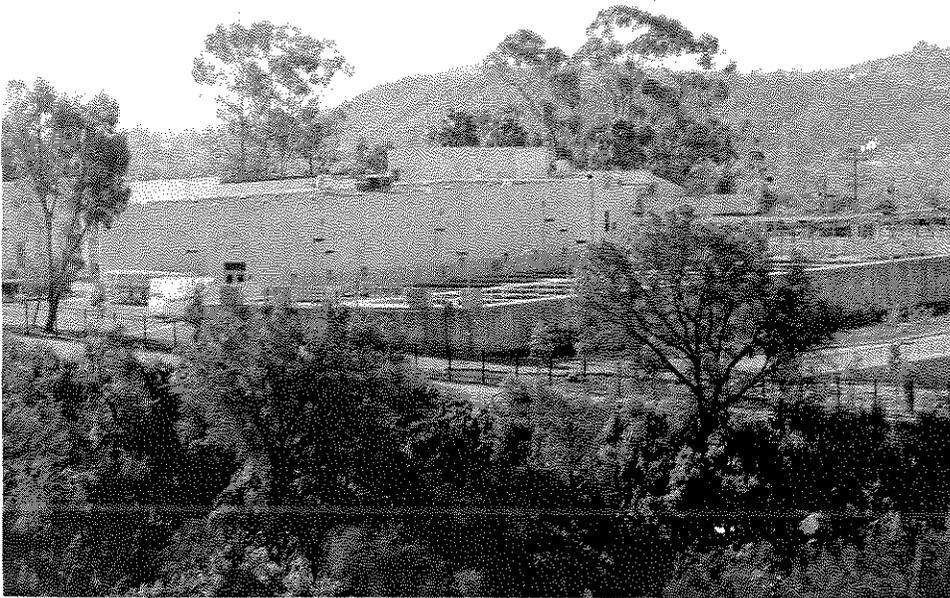
10. _____ 104 Ontare Hills Lane SB 93105 687-1704
Tad Smyth

11. _____ 104 Ontare Hills Lane SB 93105 687-1704
Lacey Baker

12. _____

13. _____

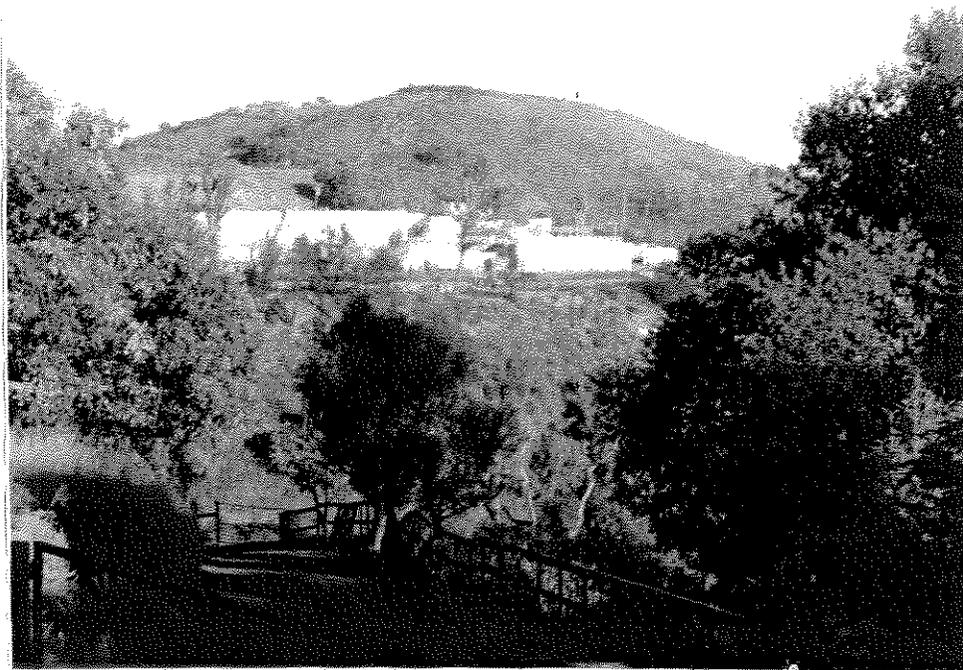
14. _____



TAKEN FROM CORNER OF N. ONTARIO + VIA TUSA



FROM CORNER OF NO. ONTARIO - VIA TUSA



TAKEN FROM PUBLIC ACCESS ROAD AT END OF ONTARIO HILLS LANE



TAKEN FROM PUBLIC ACCESS RD + ORTHORE HILLS LANE



TAKEN FROM PUBLIC ACCESS RD + END OF ORTHORE HILLS LANE