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From: Angela Singer, P.E., LEED AP
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Subject: TM #6 – Marketing Plan
City of Sunnyvale – Feasibility Study for Recycled Water Expansion
Date: June 4, 2013

The City of Sunnyvale (City) has retained HydroScience Engineers, Inc. (HSe) to prepare a Feasibility Study for Recycled Water Expansion (Feasibility Study). This Technical Memorandum (TM) is one of a series of TMs developing various aspects of the Feasibility Study, which will be compiled into a single Feasibility Study document.

Introduction and Purpose

The purpose of this TM is to provide a plan for the City to market recycled water for industrial and irrigation purposes to its stakeholders including elected officials, the community, and potential recycled water customers. A marketing plan is an important element of a Feasibility Study and assures that the City has a plan to reach out to stakeholders and educate them about the project and resolve any potential or existing issues and concerns presented by them. Public perception is an important aspect of the project that can determine its success and a marketing plan can serve to help avoid potential controversy. The two primary goals of a marketing plan are to:

- Provide stakeholders with adequate information about the project to secure support; and
- Successfully market to potential customers to secure users.

Implementation of this marketing plan can be selectively applied by the City depending on how the City chooses to execute these recycled water projects. This TM presents the range of reasonable options available for the City to select, along with recommendations for which options to implement. Additional options for a larger public outreach campaign associated with indirect potable reuse are not included in this marketing plan.

There are two attachments provided to supplement the TM. The attachments include:

- **Attachment A** – Existing Sunnyvale Recycled Water Marketing Materials
- **Attachment B** – Marketing Nonpotable Recycled Water: A Guidebook for Successful Public Outreach & Customer Marketing, WaterReuse Foundation

Background

The City has been providing recycled water to the northern portion of the community for over ten years. Current marketing efforts and materials are described below.

Current Marketing Efforts/Materials

The City currently provides information about recycled water primarily through the City's website as well as by providing flyers and brochures at City facilities. There is information about recycled water production, recycled water use, and how the use of recycled water relates to water conservation. The City also uses printed newsletters, the internet, and social media to reach out to its customers. Below is a description of the various materials available online. The flyers and web materials are included as **Attachment A**.

Flyers/Brochures

The City has several flyers and brochures available online and in hardcopy at various City locations such as the Corporation Yard, the Sunnyvale Senior Center, the Sunnyvale Public Library, and City Hall.

- **City of Sunnyvale Water Pollution Control Plant Brochure:** The purpose of this brochure is to educate readers about the City of Sunnyvale Water Pollution Control Plant (WPCP) and promote its importance to the City. Elements of this brochure include describing the efforts required to operate the WPCP, how it is funded, the treatment processes, and the ways in which effluent is produced and used. It also emphasizes the importance of producing and using recycled water to support conservation of natural resources.
- **Wastewater Treatment Byproduct Reuse:** The purpose of this flyer is to describe the reusable products produced by the WPCP. The flyer describes the production of methane gas at both the WPCP and the landfill and how it is used to generate power and offset the purchase of utility power. It also describes the production of biosolids and its potential uses as daily cover for the landfill and a soil amendment for agricultural and pasture land. The flyer also describes the production of recycled water at the WPCP for irrigation use at various sites within the City of Sunnyvale.
- **City of Sunnyvale Golf Courses – Water Conservation:** This flyer describes how golf courses and golf course superintendents manage water use through planning, monitoring, and strategic water use. As part of the water management, the flyer also discusses recycled water and its use at golf courses and the benefits associated with recycled water. It describes how turfgrass has the ability to use nutrients and organic materials in recycled water that other plants may not tolerate. Additionally, it describes how large quantities of recycled water can be used for irrigated turfgrass as opposed to food crops, which have stricter requirements around recycled water use to prevent potential contamination in the food supply.

Website/Web Pages

The City has a well-developed web site where individuals can find a variety of information about the City and City Services. Information regarding recycled water can be found within the Department of Environmental Services at the following website:

<http://sunnyvale.ca.gov/Departments/EnvironmentalServices.aspx>

Specific pages that describe the City's recycled water program are discussed below along with links to the pages.

- **Water Supply and Distribution:** This page describes the various sources of water supply available and used by the City to meet the demands of its customers and the various programs implemented with regards to water conservation and protection. It describes the three potable water supply sources: SFPUC, SCVWD, and groundwater; the City's fluoride conditions; the Water Resources Sub-element, which is part of the City's General Plan; the City's backflow prevention program; water conservation program; and the recycled water program.

The recycled water discussion describes where recycled water comes from; that it is treated to a tertiary level that enables its use for irrigation; the types of facilities that distribute and store recycled water, the types of sites that currently use recycled water including City parks, golf courses, industrial parks, and play fields; and the history of recycled water use in the City. The discussion also highlights the benefits of using recycled water including diversion of treated effluent from the San Francisco Bay Estuary, conserving potable water, delaying the need to seek out and/or purchase additional water supply sources, and its sustainability during drought conditions.

This page also provides links to more information regarding sustainability, water conservation, the City's annual water quality reports, the 2010 Urban Water Management Plan, and fluoride in drinking water.

<http://sunnyvale.ca.gov/Departments/EnvironmentalServices/Water.aspx>

- **Recycled Water Program:** The description on the recycled water program page is very similar to the discussion on the Water Supply and Distribution page. This page is a subset of the Water Conservation page and discussion.

<http://sunnyvale.ca.gov/Departments/EnvironmentalServices/Water/WaterConservation/RecycledWater.aspx>

- **City of Sunnyvale – Environmental Services Department Facebook Page:** The Environmental Services department has set up a Facebook page. The page is a public forum in which individuals can post about programs and events as they relate to the City and the environment. There are a variety of postings, primarily supported by Environmental Services, about community events, ways to reuse and recycle waste, and various programs available to City residents as they relate to the environment and waste reduction. Information about programs such as paint recycling, waste disposal, and community services are posted regularly. This is an excellent forum to reach out to the community about recycled water.
- **Sustainability:** The City has a webpage dedicated to sustainability. The City's motto displayed on the sustainability page is:

“Meeting the needs of the present without compromising the ability of future generations to meet their own needs.”

The page describes activities and events that have occurred or are upcoming as they relate to sustainability within the City. There is information about landscape education, energy efficiency programs, and gardener training programs. The site also lists City documents, such as the City's "Framework for Sustainability," which is included in **Attachment A**, as well as links to local, regional, state, and federal green institutions, programs, and information. The sustainability page is located at the following address:

<http://sunnyvale.ca.gov/Departments/EnvironmentalServices/Sustainability.aspx>

The City has started a newsletter titled “Sustainable Sunnyvale” that is distributed via email on a quarterly basis. The newsletter is intended to encourage sustainability in the City. That page also contains a link to sign-up for the newsletter at the URL listed above.

Marketing Resources

The WaterReuse Foundation (Foundation) is a non-profit organization that promotes research related to reclamation, recycling, reuse, and desalination. The focus of the Foundation is to support communities seeking to use any of the reuse methods to expand its water supply and/or reduce its impact on natural resources. The Foundation conducts research and publishes results in a series of technical publications intended to provide tools and information to public and private water professionals. One of the publications, titled “Marketing Nonpotable Recycled Water: A Guidebook for Successful Public Outreach & Customer Marketing” was used as a guide and is provided as **Attachment B**, for the City’s reference. The guide provides examples and case studies of other utilities and the respective marketing efforts implemented by those utilities and the results.

Key Outreach Messages

The intent of marketing to stakeholders is to relay various messages about the project. Informing and involving the public is the City’s first defense against public anxiety and scrutiny. Below is a list of important messages that should be conveyed to stakeholders.

- **Drought-proof source:** Recycled water is a drought-proof water supply. Recycled water can be produced year-round. During periods of drought, recycled water is available and reliable.
- **Conserves natural resources:** Using recycled water for uses such as irrigation, that would otherwise use potable water, conserves drinking water. Drinking water comes from natural resources such as rivers, lakes, streams, and from groundwater aquifers. Recycled water helps to reduce the demand on those resources, both within the City as well as beyond the City limits.
- **Reduces effluent discharge:** The City currently discharges about 90% of the treated effluent from the WPCP to the San Francisco Bay Estuary. Using more recycled water reduces the amount of discharge to the Bay.
- **Good for the environment:** The City wants to do its part to be a good steward for the environment; conserving natural resources and moving towards zero Bay discharge will reduce the City’s impact on the environment.
- **Affordable:** Recycled water is affordable and currently priced at approximately 25% less than the price for potable water. Using recycled water for irrigation can save users up to 25% on their water bills.
- **Safe:** Recycled water is safe to use and is regulated by the California Department of Public Health (CDPH). The City and the WPCP meets all the regulatory requirements for producing and using recycled water.

- **Success of existing system:** The existing system is a success, meeting irrigation needs for a variety of large water users including the Sunnyvale Municipal Golf Course, Baylands Park, and a long list of other industrial and commercial customers in the northern region of the City. Use the success of the existing system as a springboard for the system expansion project.
- **Regional Partnership/Coordination:** There is opportunity to collaborate with neighboring Cities and Water District's to reuse up to 100% of the City's wastewater effluent.

Without the support and acceptance of the customers, the project will not be a success. It is important to begin early and continue ongoing communication with potential customers to assure that customers are informed and have an opportunity to discuss issues before controversy brews. Meeting with potential customers prior to any design and construction is an important element of recycled water planning to identify level of understanding and interest, as this can drive design decisions. Also, developing a positive rapport with potential customers can streamline the retrofit process.

Types of customers include commercial and industrial businesses, school districts, home owners associations (HOAs), golf courses, and City facilities such as parks. Below is a list of customers to begin communicating with:

- Sunken Gardens Golf Course
- Sunnyvale School District
- City of Sunnyvale Parks and Recreation
- Members of the Moffett Business Park
- Industrial customers such as AMD, Applied Materials, and Northrop Grumman Corp

Anticipated concerns/challenges

Stakeholders will have a variety of concerns regarding recycled water ranging from safety to cost. Below is a list of possible concerns that stakeholders may have that can pose a challenge to the City:

- Safety and recycled water quality;
- Reliability;
- Costs for implementation;
- Construction disturbance;
- City support for landscaping issues; and
- Other specific concerns

Below is a description of each challenge and ways to address those challenges/concerns.

Safety and Recycled Water Quality

Safety is one of the primary concerns that members of the community may have regarding recycled water. Below is a list of the specific messages and types of information to share with the community to dispel any fears they may have.

- It is important to emphasize that the recycled water meets all of the regulatory standards for unrestricted use. Be sure to cite the regulations and describe how they are intended to protect the public's health. Describe the various levels and restrictions for recycled water use; knowing that the City's water will be treated to the highest level of recycled water treatment and allowed for unrestricted use will ease concerns about its safety.
- Describe the treatment techniques and processes; understanding the level of treatment and the process that the wastewater undergoes will help to calm concerns about the quality of the recycled water and the City's ability to maintain water quality and meet regulatory requirements.
- There has been no documented case of a person getting sick as a result of exposure to recycled water; be sure to cite statistics to support any claims.
- Describe the City's program for implementing the recycled water system and managing uses and users. The community will be comforted to know that the City will be maintaining the system and monitoring users on a regular basis.
- Describe potential indoor uses for industrial and or dual-plumbed users, restrictions associated with those uses, and the expected water quality.

Recycled Water Reliability

Users may be concerned about the reliability and availability of recycled water to meet user irrigation needs; particularly those customers, such as golf courses, that rely heavily on water for irrigation use to maintain facilities.

- Describe the existing recycled water system and how potable water can be, and is often, supplied to the recycled water system to ensure that there is never a lapse in water supply. Describe how the expanded system will also rely on a potable water backup to the system to assure availability of water to all recycled water customers all of the time.
- Describe the increased reliability of the expanded system, which will be looped, to assure that recycled water will be available in the event of a mainline break and failure in the system. With looping, recycled water can be provided from two directions, improving reliability significantly.
- Describe how recycled water will have a similar level of reliability to potable water with looping and a redundant supply (through the potable water backup at multiple locations).

Costs for implementation

The community will be interested to know how the project will be funded, whether the City has planned financially for the project implementation, and whether they will see rate increases to fund the project. While the community will not generally be supportive of increased rates, understanding that the project is necessary to reduce the City's reliance on natural resources and reduce the City's impact to the San Francisco Bay Estuary will help to establish reasonable cause and support for the project, despite potential rate increases. The community will likely be interested in the following:

- The types of funding sources, existing and planned; and
- Any potential opportunities that the City may be pursuing to obtain grants and low-interest loans

The community will appreciate the City keeping them apprised of all potential fees and rate modifications associated with the implementation of the recycled water project. Advanced notification of potential fees will give community and potential customers time to respond and come to terms with the costs, which may apply to them.

Construction disturbance

Community members typically are concerned about the disturbance associated with construction on their property or in their community. The City currently implements strict hours of operation for construction projects requiring that construction start no earlier than 7:00 am and continue no later than 6:00 pm on weekdays and between 8:00 am and 5:00 pm on Saturdays. No construction is allowed on Sunday's. The following excerpt is taken from the City Code Section 16.08.030. Hours of construction—Time and noise limitations:

Construction activity shall be permitted between the hours of seven a.m. and six p.m. daily Monday through Friday. Saturday hours of operation shall be between eight a.m. and five p.m. There shall be no construction activity on Sunday or national holidays when city offices are closed.

No loud environmentally disruptive noises, such as air compressors without mufflers, continuously running motors or generators, loud playing musical instruments, radios, etc., will be allowed where such noises may be a nuisance to adjacent residential neighborhoods.

Customers will also be concerned about site disturbance associated with recycled water retrofits. It will be important for the City to maintain constant contact with the site owner to assure that any specific concerns the owner may have is addressed during construction, such as customer and client access during construction, potential noise and dust issues, and appropriate signage to indicate the purpose of the construction and proposed duration.

The City may also consider developing signage directed to customer clients that promotes the new recycled water customer as a good environmental steward while minimizing any disturbance associated with construction activities; the customer will likely appreciate the positive attention.

Landscaping issues

The stakeholders and potential customers will be comforted to know that the City will have a program implemented to provide users with support in the event of landscaping issues. Issues may arise from the connection, the system operation, drainage, or the water quality.

The City should provide customers with information about the City's implementation, management, and maintenance program, and how to seek out support from the City. Assuring potential customers that the City will be available to support them during the transition and will not abandon them after connection will go a long way to gain support for the project. A formal program should be ready to implement upon customer agreement to connect.

Other Specific Concerns

To further understand the community's specific concerns, the City may choose to conduct customer/stakeholder interviews and public opinion surveys. Conducting town hall meetings can also bring to light other issues that the community may have with the project. These are discussed in detail in the following section.

Types of public outreach

Public outreach is one of the single-most important aspects of a recycled water project. Educating the community and stakeholders and gaining their support can determine the success of the project. An open dialogue and early communication can go a long way to gaining community support. Individuals will be more willing to support the project when they understand the purpose of the project, the process for development of the project, the regulatory component for using recycled water and protecting the public, and the anticipated costs and timeline. Below is a list of public outreach methods that the City may choose to implement:

- Meetings;
- Flyers/Brochures/Factsheets;
- Internet/Website/E-Mail;
- Social media;
- News/Media;
- Staff education;
- Booth at public events; and
- Public opinion surveys/Interviews.

Below is a discussion of each of the outreach methods.

Meetings/Presentations

Meetings are a great way to disseminate information to groups of particular stakeholders. The City can prepare various presentations that cater to groups of individuals such as City Council (either for closed council meeting presentations or public council meeting presentations), commercial/industrial business owners, and school boards and parents. Presentations should allow for question and answer (Q & A) sessions to give the audience opportunity to voice concerns about the project.

Conducting a series of meetings/presentations will help to keep stakeholders in the loop about the project progress. Meetings can include presentations at various stages of project progress or presentations can address specific topics such as costs and rates, or water quality and irrigation issues.

Flyers/Factsheets

Flyers are a great way to distribute information to the greater community about upcoming events and presentations. Flyers can be distributed door-to-door or by mail in the form of separate mailings or bill inserts. Flyers can inform the community of meetings and presentations that they may choose to attend to learn more about the project. Flyers can also be posted at public facilities such as public libraries, City hall, schools, etc.

Factsheets are generally intended to provide some detailed information about the project, which may speak to specific stakeholders or the general community. Factsheets may discuss the treatment process, health and safety issues, landscape irrigation guidelines, environmental benefits, and frequently asked questions. Factsheets should also provide the reader with web addresses or phone numbers where they can seek out additional information about the project. Factsheets can be included as water/sewer bill inserts or in local publications, such as the quarterly newsletter. They can also be made available at public facilities such as public libraries, City hall, schools, etc.

Internet

The internet has made it possible for individuals to have 24-hour access to information. Individuals can access information through the City website and through social media; they can ask and/or find answers to questions, comments, and concerns; they can request information and services from the City's Environmental Management Department, and can communicate with City Environmental Services and various public officials. Below are some ways the City may choose to use the internet to communicate with the community about the project.

Website

With the availability of the internet, the community can access information about the project on-line. The website should provide access to any printed information that is or has been made available to the public such as factsheets and presentations. The website can provide detailed information about various aspects of the project; links to other recycled water retailers and regulatory agencies; as well as educational tools for school boards, teachers, and other community leaders. The website can also provide a calendar of events and project progress for stakeholders to follow. Be sure to include the website address on all project materials to encourage visitors.

E-mail

The City has started a newsletter titled “Sustainable Sunnyvale” that is distributed via email on a quarterly basis. The newsletter is intended to encourage sustainability in the City. The City can use this particular newsletter and /or provide a separate email sign-up for information regarding the recycled water project. The City can then use email to distribute information and request feedback from the community about the Project.

Social Media

Social media has become an integral part of many people’s lives and the way that many people communicate. Posting meeting invites and facts about recycled water on social media feeds is a great way to expose the community to recycled water information, as well as to encourage participation.

News/Media

The City puts out a quarterly newsletter to all of its residents. This newsletter updates residents on City news and events. It also functions as a vehicle to transmit information such as articles and inserts about the City’s Environmental Management Department. Other inserts that have been transmitted via the quarterly newsletter include the City’s Annual Water Quality Report.

The City may also choose to include notices for council meetings and special events related to the project in a local newspaper. Submitting articles and press releases about the project and its progress to local newspapers will also reach individuals that may not use or have access to the internet.

Communicating with the Press about project milestones can serve to shed positive light on the project through newspaper articles and potentially live newscasts. Use the media to the City’s advantage and keep the press in the loop about the project.

Staff education

City of Sunnyvale staff members are typically also members of the community, so it important to educate the staff so that they can also disseminate accurate information to interested members of the community, likely friends and family. Consider holding a presentation for staff members from various departments about the proposed project. Discuss the concerns and questions individuals may have and provide the staff with tools to address them, either with specific project information or ways in which individuals can collect further information, such as by directing them to the project website.

It was noted that other recycled water retailers found that a key component of recycled water outreach was educating internal staff and landscape contractors who maintain landscaping for the HOA. Staff education, buy-in, and acceptance of recycled water is a key element in gaining public trust and acceptance for recycled water use.

Booth at public events

Consider having a booth at public events such as school fairs, community flea markets, and/or community farmers markets. It's important to be a regular fixture in the eye of the community to demonstrate confidence and knowledge about the project. Distributing flyers and brochures and displaying recycled water samples will go a long way to assure the public about the safety surrounding recycled water use and address questions and concerns individuals may have about the project.

Recommendations

It is recommended that staff education followed by public outreach be the initial elements of this marketing plan. Educating current staff, existing customers, and potential customers helps to lay the groundwork for acceptance of recycled water. Information such as how recycled water is produced, regulatory requirements, safety, quality, and common concerns and complaints about recycled water should be shared and discussed with internal staff prior to public outreach.

Internal and public education is expected to be presented by brown bag presentations, public meetings, developing flyers or factsheets, providing factual information about recycled water on the City's website, and following up with customers once they have had the opportunity to review the available information. The information disseminated should be brief, clear, and provide resources to customers to obtain factual information about recycled water quality, requirements, rates, and benefits.

Based on the results of the information and education campaign, other elements of recycled water marketing, such as developing a recycled water logo, a slogan, or other marketing campaigns can be developed as warranted.

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ATTACHMENT A
City of Sunnyvale
Feasibility Study for Recycled Water Expansion
Marketing Plan TM
Existing Sunnyvale Recycled Water Marketing Materials

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City of Sunnyvale Water Pollution Control Plant



1444 Borregas Avenue/P.O. Box 3707
Sunnyvale, CA 94088-3707
408-730-7260





THE ORGANIZATION

The Donald M. Somers Water Pollution Control Plant (the Plant) is a tertiary treatment facility serving the City of Sunnyvale. The objective of the Plant is to remove pollutants and produce a high quality *effluent* suitable either for safe discharge to the South San Francisco Bay or for *non-potable* uses.

New ideas are being researched and studied to develop better materials and methods to treat wastewater. Educating the public about pollution prevention is also an important tool to maintain a high quality effluent. Both are essential to protect the Bay and maintain a healthy environment.

FUNDING

The Plant is operated as a separate enterprise fund within the City. This means that it must support itself through *sewer service fees* without any tax dollars being used. Bond issues and government grants, along with service fees, provide funding for operation, maintenance, and future development.

Costs for wastewater treatment continue to rise with new *permit* requirements, labor and product cost increases, development of new technologies, and maintenance of the Plant's aging infrastructure. In addition, current state and federally mandated requirements compel the City to earmark funds to cover large future expenditures.

Continued research into wastewater recycling and applications is costly, but necessary, to find the most effective ways to operate the Plant and meet regulatory requirements.

Finding additional uses for *recycled water* and planning for a more extensive distribution system are important to the whole region since the supply of fresh water is a limited resource.



STAFFING

Many types of expertise are needed to operate the Plant. More than 60 people are employed in Operations, Maintenance, Pretreatment, Laboratory, and Administration.

Plant operators keep the processes flowing and are on duty 24 hours a day. They continually monitor all process parameters and are responsible for maintaining compliance with all state and federally mandated discharge limits designed to protect South San Francisco Bay.

Maintenance mechanics ensure that the equipment is dependable and implement changes as needed to assist the overall efficiency of the plant.

Pretreatment Inspectors work closely with industries and businesses to aid in their compliance with City requirements on the quality of *industrial wastewater* they discharge into sewers. Many local industries are involved in electronics manufacturing and their wastewater may contain chemical and metal contaminants that cannot be removed at the Plant. To avoid exceeding the pollutants discharge limits for the Plant, inspectors take frequent on-site samples of wastewater from these companies to ensure that certain pollutants have been removed before their wastewater is discharged into the City sewer system.



Pretreatment Inspectors



Environmental Outreach Staff

Laboratory Chemists analyze industrial waste pretreatment samples as well as samples taken throughout the treatment process. The lab is equipped to detect amounts of solvents, metals and other hazardous materials down to parts per billion (ppb). In addition to testing the wastewater samples, Chemists test the drinking water for the City of Sunnyvale. They also conduct research projects and prepare sample tests for state and other regulatory agencies.



Laboratory Chemists

Support Services staff the front office, assist the general public, vendors, and other City staff, provide administrative support to Plant personnel, and prepare a variety of reports to meet regulatory requirements.

Environmental Outreach staff provide education on water pollution prevention, conservation, and watershed stewardship to schools and youth, businesses and industries, and the community. Groups are informed about how to reduce the impact of their daily activities on *sanitary sewer systems* (carry wastewater to treatment plants before discharge to the Bay) and on *storm drains* (carry outdoor water runoff, without treatment, directly to creeks and the Bay).

PLANT OPERATIONS

The Plant is designed to combine physical, chemical, and natural biological processes. This unique combination allows the Plant to consistently produce a high-quality effluent from which more than 85 percent of the pollutants have been removed from the *influent*.

Wastewater is treated at three distinct levels: *primary*, *secondary*, and *tertiary*. Following is a brief explanation of each step.

Primary Treatment:

The goal of primary treatment is to remove solid matter from the influent. Wastewater first enters the Plant 30 feet below ground where large debris is reduced in size by *grinders*. Next, the wastewater is pumped up to ground level by three large pumps, driven by engines fueled with *methane* gas (a byproduct of the digester process).



Primary Pump Engines

The wastewater then flows into *grit chambers* where compressed air is injected into the water. The air causes the grit (inorganic solids such as sand, gravel, and other large particles) to drop to the bottom of the chamber while keeping the lighter *organic solids* in suspension. The grit is then sent through a washer and finally emptied into a trailer for disposal in a landfill.



Grit Chambers and Sedimentation Basins

The wastewater continues on to the *sedimentation basins*. Heavier organic materials settle to the bottom (*sludge*), and lighter materials such as oils and grease (*scum*) float to the top. The remaining wastewater, almost free of solid matter, is now called primary effluent, and flows to the oxidation ponds for further treatment.

At this point there are important ancillary steps that occur which affect the total process. Sludge and scum are removed from the wastewater in the primary treatment process and are pumped into large structures called *anaerobic digesters*.



Anaerobic Digesters

In these digesters (an oxygen-free environment) bacteria consume the solid material, breaking down organics in much the same way that human stomachs and intestines digest food. The result of this bacterial action is the production of methane gas (CH_4), carbon dioxide (CO_2), stabilized organic solids, and water. This ongoing stabilization process continues in the digesters for approximately 25 days at a constant temperature of 100°F .



Power Generator

The methane gas produced in the digesters is used as a fuel for the plant's engines and generators. The plant also uses methane gas produced by the Sunnyvale landfill to generate electrical power. The Plant currently exports surplus electricity produced by the power generation facility to the California power grid.

After the scum and sludge are processed in the digesters, they are called *biosolids*. They are then pumped to *dewatering beds* and spread over slotted tiles that allow the water to drain through. The drained water flows back into the system for further processing.



Biosolids Dewatering Beds

After 1-5 days on the beds, biosolids are spread on a tarmac and allowed to dry further. They can then be used as an alternative daily cover for landfills or as soil amendment in agriculture.

Secondary Treatment:

After most of the heavy solids have been removed, the primary effluent is ready for the second step that begins by letting the water flow by gravity into 440 acres of *oxidation ponds*.

The goal of secondary treatment is to remove most of the remaining dissolved and suspended (non-settleable) solids.



Oxidation Ponds

As wastewater circulates through the pond system, *microorganisms* such as aerobic and anaerobic bacteria and *algae biodegrade* the organic nutrients present in the wastewater as dissolved solids. The algae and bacteria use the solids in the water as a food source, thus cleansing the water of these pollutants. Through *photosynthesis*, the algae produce oxygen that other organisms in the pond can use. Additional *aeration* is also provided mechanically. Detention time in the ponds is approximately 30 to 45 days.

Tertiary Treatment:

At this point, the effluent is almost free of all original pollutants. Most of the pollutants (algae, ammonia, and bacteria) left in the water after secondary treatment are removed in tertiary treatment.



Fixed Growth Reactor

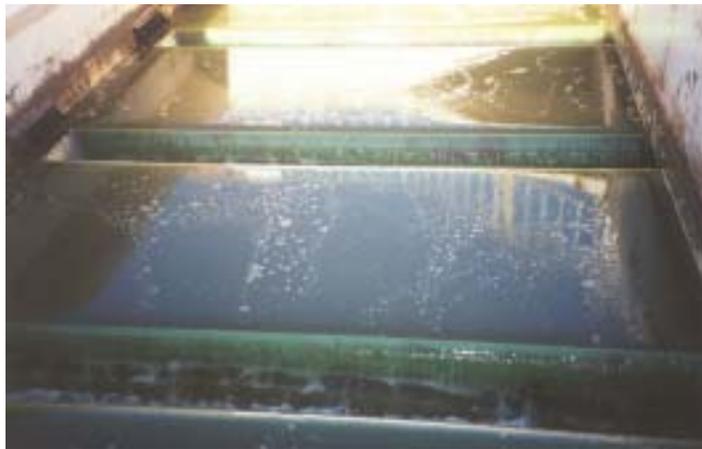
The first step of tertiary treatment is the *fixed growth reactor*. The wastewater is pumped up 30 feet into a tank filled with corrugated plates on which ammonia-consuming bacteria live. At the top of the tank, a large wand rotates and trickles wastewater down over the plates. The bacteria convert the ammonia (NH_3) to nitrate (NO_3), which is not toxic to aquatic life at concentrations present in the effluent.



Air Flotation Tank

Next, the wastewater flows by gravity to the *air floatation tanks*. *Polymer* and air are injected into the wastewater to cause the algae and other particulate matter to *coagulate* and *flocculate* and rise to the top of the tank for easier removal. The algae floc is skimmed off the top and sent to the digesters or back to the oxidation ponds.

The flocculation process removes most, but not all of the algae. As a final polishing step, the wastewater is sent to percolate through *dual media filters*. These filters are made up of a layer each of sand and anthracite coal, supported on a layer of gravel. This filtration process removes most of the remaining algae and particulate matter.



Dual Media Filters

From the filters, the wastewater flows to the *chlorine contact channels*, where chlorine (Cl_2) is added as a disinfectant. The chlorine remains in contact with the wastewater for at least one hour to achieve disinfection. Finally, sulfur dioxide (SO_2) is added to render the chlorine harmless, and the fully treated effluent is discharged to the Bay.



Chlorine Contact Channels

The final product, tertiary effluent, has more than 85 percent of all pollutants removed.

A portion of the daily flow is treated beyond tertiary standards to the higher standard of Title

22 Unrestricted Recycled water for non-potable use. Currently about 10 percent of the daily flow is diverted for reuse.



Recycled Water Pipes

The recycled water is distributed through a separate purple colored piping system. It is used by businesses and the City of Sunnyvale for landscape and golf course irrigation, and decorative ponds. By reusing water in this way, valuable potable (drinking) water is conserved. The rest of the tertiary effluent is discharged into the Guadalupe Slough, which flows to the Bay.



Effluent Discharge

San Francisco Bay supports both fresh and salt water plants and animals that require a delicate balance of fresh and salt water to survive. If too much fresh water from treatment is discharged into the Bay, it may upset the balance. That is one of the many reasons why it is important for people to reduce water usage.

GLOSSARY

AERATION – Process by which air is added to wastewater to raise its dissolved oxygen level

AIR FLOTATION TANKS – Tanks of wastewater into which compressed air and polymer are added to cause algae to form masses that float to the surface for easier removal

ALGAE – A microscopic green plant in water that provides oxygen through photosynthesis

ANAEROBIC DIGESTER – Tank in which anaerobic bacteria, which do not require oxygen, convert organic matter in sludge to a stable, relatively odor-free material

BIODEGRADE – Natural process through which matter decays

BIOSOLIDS – The organic solid product produced by wastewater treatment processes that can be beneficially recycled

CHLORINE CONTACT CHANNELS – Narrow concrete channels that detain the wastewater to allow sufficient time for adequate disinfection

COAGULATE – Chemical process that allows particles to congeal

DEWATERING BEDS – Slotted tile beds where water drains away from biosolids

DUAL MEDIA FILTERS – Layers of anthracite coal and sand supported on a bed of gravel through which wastewater percolates to remove solids

EFFLUENT – Wastewater treated for discharge

FIXED GROWTH REACTOR – Tanks containing honeycombed plates covered with nitrifying bacteria over which water is sprayed to allow the conversion of ammonia to nitrate

FLOCCULATE – Slow mixing process that binds particles together into a thickened mass

GRINDERS – Mechanical device used to reduce the size of debris as it enters the treatment plant to prevent fouling of pumps, pipelines, and conveyances

GRIT CHAMBERS – Tanks in which compressed air is added to the wastewater to decrease its density and cause primarily inorganic solids to sink to the bottom for removal

INDUSTRIAL WASTEWATER – Water requiring treatment at its source before discharge to municipal sewage collection systems

INFLUENT – Untreated wastewater entering the treatment plant from the sewer system

METHANE – Natural gas formed by the anaerobic degradation of organic wastes

MICROORGANISMS – Microscopic plants or animals such as algae, bacteria, fungi, protozoa, and viruses

NITRATE – (NO_3) Stable compound resulting from the oxidation of ammonia in the wastewater

NON-POTABLE WATER – Water not suitable for drinking

ORGANIC SOLIDS – Natural materials produced by plants and animals including humans

OXIDATION POND – Body of wastewater where oxygen is added to promote the growth of algae and microorganisms which consume solids and bionutrients

PERMIT – The government document allowing wastewater treatment plants to discharge effluent into receiving waters after achieving specific water quality standards and discharge limits

PHOTOSYNTHESIS – Process by which plants/algae convert carbon dioxide and water to oxygen in the presence of sunlight

POLLUTANT – Any substance in water that causes it to be impure

POLYMER – A long chain-like carbon compound used in the treatment of wastewater to bind algae and other organic particles into a mass for easier removal

PRIMARY – The first stage in the treatment process to remove solids

RECYCLED WATER – Tertiary treated wastewater diverted from discharge and treated for reuse in industrial processes, landscape irrigation, and other non-potable uses

SANITARY SEWER SYSTEM – The pipes that carry indoor wastewater to a treatment plant

SCUM – Lighter solids floating to the top of the sedimentation basins

SECONDARY – The second stage in the treatment process where oxygen is added to help remove remaining solids and bionutrients

SEDIMENTATION BASINS – Large tank for settling solid organic particles out of sewage

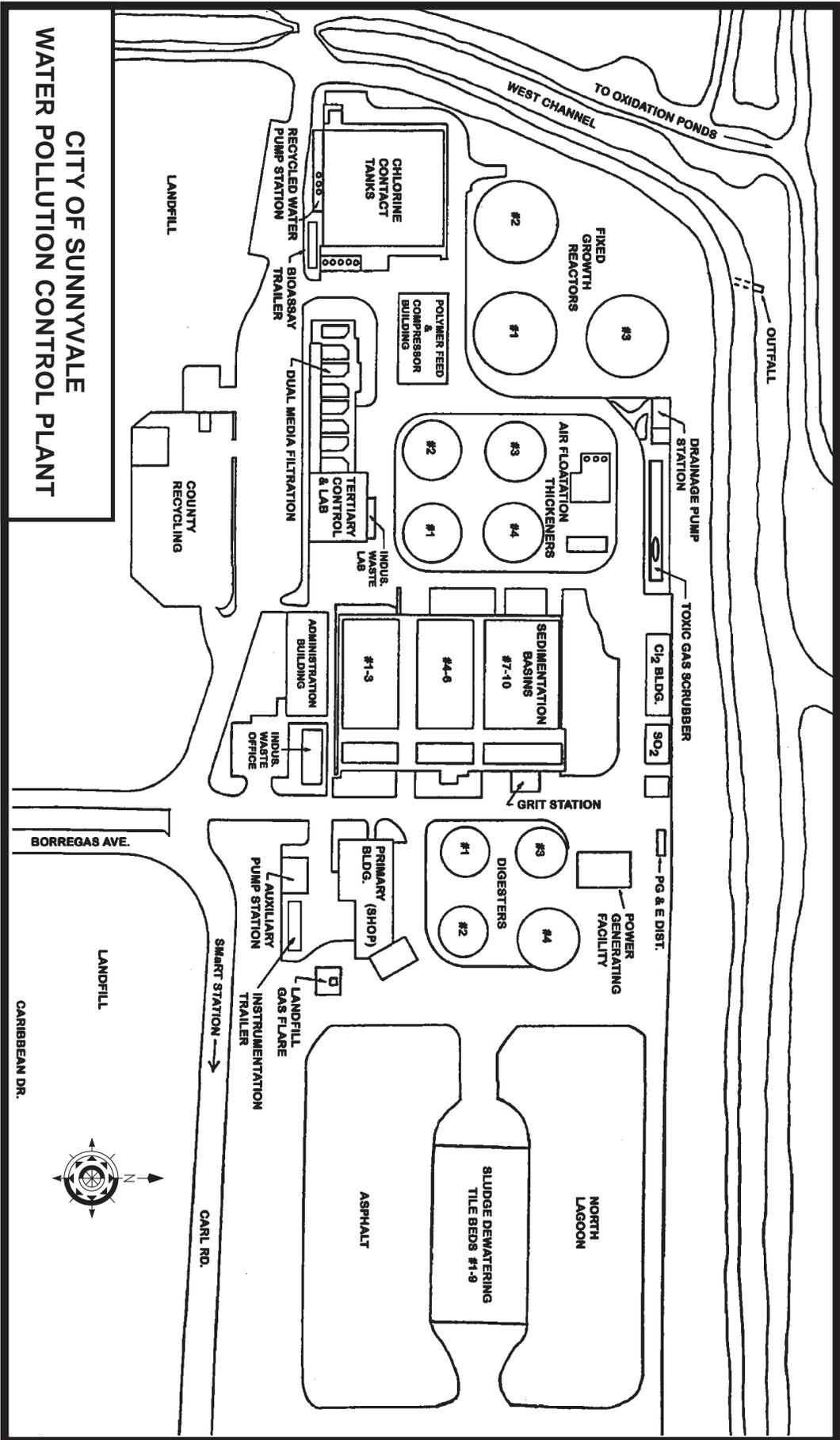
SEWER SERVICE FEES – Fees charged to users of wastewater systems to support services provided

SLUDGE – Accumulated solids in wastewater separated from liquids

STORM DRAINS – Pipes that carry untreated water runoff from outdoor surfaces directly to creeks and the Bay

TERTIARY – The third stage in the treatment process to remove ammonia, algae, and bacteria

WASTEWATER – Water containing dissolved or suspended matter after use that enters the sanitary sewer system





Wastewater Treatment Byproduct Reuse

The primary mission of the Sunnyvale Water Pollution Control Plant is to conduct a cost-effective wastewater management program that is environmentally sound and regulated to protect public health, safety, property, and the quality of the Bay. While consistently meeting this goal, the Plant reuses many byproducts of the treatment process. These include producing electricity and mechanical power from waste gases, recovering heat from engines, producing an alternative to soil for daily landfill cover or a soil amendment for agricultural and pasture land, and supplementing the city water supply by producing recycled water distributed through a separate system for non-potable uses.

Power Generation

Electrical power production offsets the purchase of utility power and produces enough excess power to sell electricity to the California power grid. The fuel to run the engines and generators that produce this power comes from the decomposition of solid waste and liquid waste. Methane gas is produced both in the closed Sunnyvale landfill and in the anaerobic digesters at the plant. These gases are collected and used as fuel in various engines that drive both electrical generators and mechanical pumps.

Biosolids Production

Solids removed in the first stage of the wastewater treatment process are sent to an anaerobic digester. There they decompose and stabilize. Then they are removed and dried in a specially designed drying facility. When 45% to 65% of the water is removed, the solids are ready for beneficial reuse as an alternative to soil for daily cover materials on landfills or used as a soil amendment for agricultural and pasture land.

Water Recycling

Recycled water is produced by diverting a portion of the flow and providing additional treatment. This additionally treated water meets all non-potable Title 22 standards established by the State. It is distributed through a separate underground piping system to provide irrigation for industrial parks, the Sunnyvale Municipal Golf Course, Baylands Park, and sports complexes.

Water conservation

In some areas of the United States, factors such as rapid population growth and long-term drought are putting severe pressure on already depleted water supplies. In order to avoid further depletion, local governments often try to restrict water use. Golf courses, because of their highly visible irrigation practices, are an easy target for such restrictions. Regardless of whether restrictions are already in place, it is essential to use every drop wisely.

Water quantity, however, is only part of the water challenge: Water quality is also important. Efforts to help protect current water resources from contamination are a top priority.

Golf course superintendents are working to keep water sources clean.

- Superintendents decide which areas, such as the rough, can be replaced with drought-tolerant plant materials and develop long-range landscape plans that cluster plantings according to their water needs.
- Superintendents must decide on proper irrigation amounts and irrigation intervals. This is probably the most difficult task in managing water. Previous recommendations maintained that irrigating deeply and infrequently would encourage plant root development. However, research has shown that in the semiarid West, turf quality is better when watering is done frequently and lightly. This practice is known as deficit irrigation. Superintendents must consider the type of soil, species and ET rate for the best possible conservation method and use accurate timing methods to control the frequency and duration of water. It is also important to find and fix leaks in the irrigation system quickly and cap sprinkler heads in nonpriority watering areas.
- Water leaves turf by evaporation from the soil or by transpiration -- the process by which the plant cools itself and removes waste products from the plant tissue. The entire operation is called evapotranspiration (ET). The ultimate management goal is to achieve the lowest ET rate possible in order to make the best use of the irrigation water. It is vital to consider soil and species when deciding to replace turf.
- Some superintendents use sophisticated computerized irrigation systems and monitor the weather through on-site weather stations to make sure the course is not watered right before it rains.
- Superintendents can also use water-retaining agents in the root zone. Polymers are sponge-like granules made of synthetic material or starch that can absorb large amounts of liquid. They then contract and release the stored water into the soil. In this way, polymers can reduce the amount of water lost through percolation and evaporation, thus reducing irrigation requirements. In addition, they dissolve nutrients and absorb herbicides and pesticides. Polymers can be expensive and difficult to inject into the soil. However, as their use becomes more widespread, polymers will probably play an important role in future turf management.

Properly treated effluent water can be an excellent source of water for irrigating golf courses.

Effluent water (treated wastewater) has been used for irrigation purposes for about 30 years in some areas of the country. Effluent costs less than potable water and has several positive attributes:

- Effluent water contains nutrients that can be used by the turfgrass plant.
- Turfgrass has the ability to use large quantities of organic waste that many other plants cannot withstand.
- Turf can utilize effluent water that might otherwise be wasted. Food crops may not use effluent water because of the chance of contamination in the human food supply.

The following is a list of simple conservation efforts your golf course superintendent may already have implemented.

- Reading water meters monthly to monitor the success of water conservation efforts. Comparing usage to the same period last year. Weather variances can greatly affect the results of such comparisons and should be given consideration.
- Watering at night or in the early morning when wind and evaporation are lowest.
- Washing all equipment and machinery by using a hose with a shutoff nozzle, and soap and water from a bucket.
- In the clubhouse, checking for plumbing leaks and malfunctions and turning off any unnecessary flows.

Golf course superintendents are working to do their part in conserving water resources. If you have any questions about the water management practices on the golf course where you play, please contact your superintendent

Environmental Services

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[Water Pollution Prevention](#)

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Phone: (408) 730-7900
Contact us

Hours: M-F 8:00 a.m. to 5:00 p.m

You are here: [Departments](#) > [Environmental Services](#)

Environmental Services Department

The Environmental Services Department (ESD) is charged with maintaining the City's potable and recycled water systems, the sanitary and storm sewer systems, the treatment of wastewater at the City's Water Pollution Control Plant (WPCP), the collection of garbage from City residents and business and the diversion of recyclables through the operation of the Sunnyvale Materials Recovery and Transfer Station (SMaRT Station®), ensuring that the City complies with all applicable regulatory requirements, and helping to advance the City's sustainability agenda.

The Department is divided into four Divisions:

1. [Water & Sewer Services](#)
2. [Water Pollution Control Plant](#)
3. [Solid Waste & Recycling](#)
4. [Regulatory Compliance](#)



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Department Director

John Stufflebean



City of Sunnyvale

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(408) 730-7500

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Water Supply and Distribution

The Water section is responsible for one of life's most valuable resources: drinking water. We provide service to residential, commercial, industrial, and institutional customers assuring delivery of the highest quality of potable water serving most Sunnyvale residents and businesses. The Water section handles water quality, water conservation, system maintenance, backflow prevention, leak detection, and the recycled water program for the City of Sunnyvale and its residents. It is our intention to provide the best service possible and in achieving this goal, ensure that the strictest guidelines are used to deliver a reliable, high quality, drinking water supply to our customers.

Quick Links

- [Sustainability](#)
- [Water Conservation](#)
- [Water Quality Reports](#)
- [Fluoride Facts and Info](#)

Water

- [Water Conservation](#)
- [Fluoridation Facts and Information](#)
- [Urban Water Management Plan](#)
- [Water Quality Report](#)

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Fax: (408) 730-7286

[Contact us](#)

Hours: M-F 8:00 a.m. to 5:00 p.m

SOURCES OF WATER SUPPLY

The City of Sunnyvale has four different sources of water supply readily available: local groundwater from 8 operating wells, imported Central Valley Project and Delta water from the Santa Clara Valley Water District (SCWWD), Hetch Hetchy, and Sunol Valley water supply from the San Francisco Public Utilities Commission (SFPUC), and recycled water produced at the Sunnyvale Water Pollution Control Plant for non-potable use. The first three sources meet all State and Federal drinking water quality standards. Recycled is used to meet strict State requirements for non-potable use wherever feasible to irrigate landscaping and meet any other acceptable watering needs under our permit with the Regional Water Quality Control Board. There are also about a dozen service area pockets in Sunnyvale receiving water from the California Water Service Company (CAL Water). Any questions regarding the source and delivery of water from CAL Water should be directed to their local office at (650) 917-0152.

S.F.P.U.C. Supply

The City of Sunnyvale operates six connections from the San Francisco Public Utilities Commission (SFPUC) Bay Division pipe lines. Over 80% of the SFPUC's water supply originates from reservoirs in and around Yosemite National Park. Hetch Hetchy reservoir water flows from the snowpack runoff in the Sierras across the Central Valley of our State. This is where it is blended with filtered water from other local water reservoirs, disinfected, and then comes through the Irvington Tunnel, and the local Bay Division pipe lines before enter the Sunnyvale water distribution system.

[Click here to link to the SFPUC](#)

City of Sunnyvale Wells

The City owns, operates, and maintains seven wells that produce groundwater for our drinking water supply. The wells are used to help supplement the imported water supplies to aid in meeting peak demands in the summer months and during an emergency situation. SCWWD charges a fee per acre-foot of water pumped from these wells to cover the cost of managing, recharging and protecting the groundwater basin.

S.C.V.W.D. Supply

The City of Sunnyvale also maintains two points of contact for the delivery of imported water from Santa Clara Valley Water District (SCWWD) that serves the Southern end of our City. SCWWD receives water from the State Water Project and the Central Valley Project from the United States Bureau of Reclamation including water from the Sacramento River Delta, Anderson Lake, and San Luis Reservoir. This water is conveyed through a series of aqueducts to the Rinconada Water Treatment Plant in Los Gatos, then to the Sunnyvale area through their West Valley transmission main.

[Click here to visit the SCWWD](#)

WATER QUALITY

The City has instituted a comprehensive water quality-monitoring program that encompasses City-owned wells and all water purchased from the SFPUC and SCWWD. This program ensures all of our customers receive water that is in compliance with all regulatory criteria and that no maximum contaminant levels (MCLs) or maximum contaminant level goals (MCLGs) for regulated chemicals, bacteria, or pollutants are exceeded. For more information on water quality and the City's program call (408) 730-7510 or click here to view the current [Water Quality Report](#).

POTABLE WATER FLUORIDATION IN SUNNYVALE

The San Francisco Public Utilities Commission (SFPUC) will start fluoridating the water it provides to the City of Sunnyvale in response to the California's Fluoridated Drinking Water Act, Assembly Bill 733, which became law in 1995 and required water systems with 10,000 or more service connections to fluoridate once funding was available. The majority of communities served by SFPUC already receive optimally fluoridated water. San Francisco and northern Peninsula communities have received fluoridated water for about 50 years.

The City's other wholesale water provider, the Santa Clara Valley Water District (SCVWD), has no plans to fluoridate its water at this time. This will result in some areas of Sunnyvale to receive fluoridated water, other areas to receive non-fluoridated water, and some areas to receive a mixture of fluoridated and non-fluoridated water. Therefore, only the northern part of the City (approximately north of El Camino Real) will receive fluoridated water.

Click here to view the [Fluoride Map](#) boundaries for Sunnyvale.

For more information, you can click on the following links or call Sunnyvale Public Works Field Services at (408) 730-7510, TDD (408) 730-7501.

[Water Fluoridation Facts and Information](#)

[Frequently Asked Questions](#)

WATER RESOURCES SUB-ELEMENT

The purpose of the Water Resources Sub-Element of the Environmental Management Element of the Sunnyvale General Plan is to identify current and future water needs in Sunnyvale, and to establish a planning document that will guide the City's actions associated with supply, distribution, quality of water, and emergency situations, including information about the City's wholesale water providers, San Francisco Public Utility Commission (SFPUC), and the Santa Clara Valley Water District (SCVWD). This document is an update of the Water Resources Sub-element adopted in 1986 and last updated in 1996.

[Water Resources Sub-Element](#)

BACKFLOW PREVENTION PROGRAM

The City of Sunnyvale maintains an aggressive backflow prevention program. State and local laws require that the public water system shall be protected against any potential or actual cross-connections that could cause contamination of the water system. The City requires installation of approved backflow devices to very specific standards for all commercial and industrial locations, and in certain other special situations. Annual inspection and testing of backflow prevention devices is also required to ensure compliance with state regulations and that all devices are functioning properly. For details on the backflow prevention program, contact Field Services at 408-730-7510.

WATER CONSERVATION PROGRAM

Sunnyvale encourage all users of water to conserve. For water conservations for residents and businesses, [click here](#)

RECYCLED WATER PROGRAM

The City of Sunnyvale water recycling program provides a sustainable and drought-resistant supply of water to portions of the City for non-potable uses. Wastewater is treated at Sunnyvale's Donald M. Somers Water Pollution Control Plant (WPCP) using tertiary level treatments including, oxidation, filtration and disinfection. The water produced meets all State requirements for disinfected tertiary water and is approved for use in all agricultural situations, including orchards and food production. To date the only uses in Sunnyvale are for landscaping purposes in the northern third of the City. Parks, golf courses, industrial parks and play fields obtain water at a discounted rate where available. To serve this variety of customers, the City has constructed a separate distribution network of water lines in the north half of the City used solely for the delivery of recycled water. There is also a storage tank and an emergency back-up source. The major benefits of using recycled water are:

- Diverting freshwater discharge away from the San Francisco Bay estuary,
- Saving potable (drinking) water for personal use,
- Delaying the need for new, expensive water sources,
- Water is available even during drought conditions.

The WPCP is designed for an ultimate flow capacity of 29.5 million gallons per day (MGD), though the capacity to treat for recycling is much less. Total wastewater flows average about 6 MGD in the summer and about 16 MGD in the winter. The highest use of recycled water occurs in the summer, due to the emphasis on landscaping uses. In 2004 summer recycled water demand rose to more than 1.5 MGD. That equates to a reuse rate of 25% of the summer flow to the WPCP, exceeding the regional goal of recycling 20% of wastewater flows by the year 2020. Eventually recycled water may be available city-wide, and to neighboring jurisdictions with a need for a reliable, cost effective source of water for landscaping and other non-potable purposes. Contact Field Services for any questions about recycled water: (408) 730-7510.

Recycled Water

[Water Saving Tips](#)

[For Businesses](#)

[For Residents](#)

[Landscape](#)

[Recycled Water](#)

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You are here: [Departments](#) > [Environmental Services](#) > [Water](#) > [Water Conservation](#) > [Recycled Water](#)

Recycled Water Program

The city of Sunnyvale water recycling program provides a sustainable and drought-resistant supply of water to portions of the City for non-potable uses.

The water comes from the wastewater treated at Sunnyvale's Donald M. Somers Water Pollution Control Plant (WPCP), using tertiary level treatments that include oxidation ponds, nitrification for ammonia removal, filtration and disinfection.

The recycled water meets all State requirements for disinfected tertiary water and is approved for use in all agricultural applications including orchards and food production.

To date, recycled water is used in Sunnyvale only for landscaping purposes in the northern portion of the City. Parks, golf courses, business and industrial parks, and playfields use recycled water purchased at a discounted rate. To serve this variety of customers, the City has constructed a separate distribution network of water lines in the north half of the City solely for the delivery of recycled water.

Water lines that carry recycled water are distinguished by their purple color. There is also a storage tank and the ability to utilize potable water as an emergency back-up source should it be needed.

The major benefits of recycled water are:

- Using recycled water for landscape irrigation conserves our drinking water supplies
- Recycled water provides a sustainable source of water even during drought conditions
- Freshwater discharge is diverted away from the San Francisco Bay estuary

Eventually, recycled water may be available city-wide and to neighboring jurisdictions with a need for a reliable, cost-effective source of water for landscaping and other non-potable purposes. For questions about the recycled water program in Sunnyvale, contact Field Services at 408-730-7510.

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City of Sunnyvale Environmental Services Department

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Government Organization
Official Facebook page for the City of Sunnyvale Environmental Services Department. While this is an open forum, it's also a family-friendly one, and we ask that you



Highlights

City of Sunnyvale Environmental Services Department shared a link. January 3

Want to know how your holiday wrapping paper gets recycled? Check out this article...



Why Does China Want Your Used Christmas Wrapping Paper? www.slate.com

At the end of Christmas morning, many holiday revelers found themselves sitting cross-legged in the center of an

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City of Sunnyvale Environmental Services Department January 3

We received our first Q4 Bag Report in the mail today! Phase 1 folks, have you done yours yet? Deadline for Q4 reporting is Jan 30th.

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City of Sunnyvale Environmental Services Department December 28, 2012

30 minutes long, but VERY interesting for anyone intrigued by behavior change: http://t.co/pgKbsjK0



The Top Ten Myths of Behaviour Change vimeo.com

Ruben Anderson, Communications Specialist for Metro Vancouver, addresses and debunks the top ten myths of behaviour change at the

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City of Sunnyvale Environmental Services Department December 28, 2012

The Garbage Issue http://t.co/KO36V6FR



The Garbage Issue metrovancover.org

Recommendations See All

Write a recommendation...



Sandy Jensen

CA Rare Fruit Growers host free 2013 Soon Exchange, Satu... about 2 weeks ago



Melody Tovar

Sunnyvale is launching its new department to support the co... about 10 months ago



Ursula Syrova

Not only does the ES Dept ROCK (hello fabulous people ther... over a year ago



Kathryn Cooke

If you live in the City of Sunnyvale please "like" this page to ... 1 · over a year ago

Likes See All



Earth 911

Community



San Mateo County

City



Second Harvest Food Bank

Charity Organization



Los Angeles County, California

Interest



Santa Clara County, California

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City of Sunnyvale Environmental Services Department December 28, 2012

"Story of Stuff" style film about the true cost of those cheap toys. The Garbage Issue http://t.co/KO36V6FR ...



The Garbage Issue metrovancover.org

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Sustainability

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Sustainability

[Garbage, Recycling and Waste Reduction](#)

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Sustainability

Meeting the needs of the present without compromising the ability of future generations to meet their own needs.

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[Draft Climate Action Plan](#)

[Energy Upgrade California](#)

[Horizon2035 Committee](#)

[Sunnyvale Sustainability Commission](#)

[Sustainable Sunnyvale Newsletter](#)

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SUSTAINABILITY ACTIVITIES AND EVENTS

Home Energy Efficiency Retrofit Grants Available

Community Development Block Grant (CDBG) funds have been allocated from the U.S. Department of Housing and Urban Development (HUD). In accordance with Sunnyvale's 2010 HUD Action Plan, the CDBG funds are being used to offer an Energy Efficiency Retrofit Program to eligible low-income Sunnyvale homeowners with a dollar-for-dollar matching grant up to \$5000. Grant funds can be used for eligible energy efficiency retrofits and renewable energy devices, such as wind or solar devices, to reduce residents energy usage and costs. Click here for more information on [Sunnyvale's 2010 HUD Action Plan](#).

For more information on the program, contact Housing Rehabilitation Specialist Richard Gutierrez at (408) 730-7459, or by email at

rgutierrez@ci.sunnyvale.ca.us

Santa Clara Valley Green Gardener Training Program

The Santa Clara Valley Green Gardener Training Program is designed for landscape maintenance workers, landscape contractors, and professional gardeners by offering education, training and promotion of services for participating individuals in order to:

- Reduce urban storm water pollution resulting from landscape maintenance activities
- Use resources wisely and in a sustainable manner
- Improve the health, appearance, and value of landscapes for customers and site managers
- Promote economic incentives to program participants for both gardeners and their clients

If you work in landscape maintenance, this is a great way to learn sustainable landscape maintenance techniques that may help build your business. To sign up for a class, call ACE registration at (408) 522-2700 or for more information on the Green Gardener program or to find a Green Gardener for your home gardening/landscape needs visit: <http://www.mywatershedwatch.org/ggclasses.html>.

FRAMEWORK FOR ENVIRONMENTAL SUSTAINABILITY

- [Sunnyvale's Framework for Environmental Sustainability](#)
- [Air Quality](#)
- [Community Design](#)
- [Energy Reduction](#)
- [Land Use](#)
- [Transportation](#)
- [Waste Reduction](#)
- [Water Resource Management](#)

Sunnyvale Climate Action Plan - City Operations

- [June 2007 - Final Report \(prepared by KEMA\)](#)

City of Sunnyvale Links

Documents

[Sunnyvale Climate Action Plan - City Operations](#)

[Sunnyvale Framework for Environmental Sustainability](#)

[Sunnyvale Green Building](#)

[Sunnyvale Landscaping Requirements](#)

- [Recycling.inSunnyvale.com](#) (contains links to many other organizations)
- [Water Pollution Control Plant](#)
- [Sunnyvale Sustainable Development and Green Buildings](#)
- [Water Conservation in Sunnyvale](#)
- [Horizon2035.inSunnyvale.com](#)

Green Government Links

- [US Dept. Of Energy](#)
- [Organic Materials Management \(State of CA\)](#)
- [Go Solar California \(CA Public Utilities Commission\)](#)
- [California Energy Commission](#)
- [Bay Area Air Quality Management District](#)
- [Bay Area Water Supply & Conservation Agency \(BAWSCA\)](#)
- [Santa Clara Valley Water District \(SCVWD\)](#)

Green Construction / Design Links

- [Savings By Design](#)
- [Build It Green](#)
- [Green Building Blocks](#)
- [Energy Design Resources](#)
- [Green Building Resource Guide](#)
- [State of California – Green Building](#)
- [Green Building Info](#)
- [Green Sage](#)
- [U.S. Green Building Council](#)

Other Green Links

- [Commercial: Sustainable Silicon Valley \(SSV\)](#)
- [Residential: LiveNeutral](#)
- [Bay Area Recycling Outreach Coalition](#)
- [Northern California Solar Energy Association](#)
- [Joint Venture Silicon Valley Climate Protection Task Force](#)
- [Cool California](#)
- [Energy Upgrade California](#)
- [Silicon Valley Energy Map](#)

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[City Charter and Policies](#)
[City Council](#)
[New Resident Guide](#)

About the Web Site

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**ACHIEVING THE COMMUNITY VISION:
Sunnyvale's framework to "regional leadership
in environmental sustainability".**

Framework for Sustainability

Fiscal - Long Range Goals and Financial Policies 7.1.1

PARTNERSHIPS / INITIATIVES

WATER RESOURCE MANAGEMENT
Goal: Manage potable water demand through the effective use of water rates, conservation programs and reclaimed water. (Policy 3.1.1, Goal 3.1D)
Lead: Department of Public Works
Department of Community Development
Department of Community Services

AIR QUALITY
Goal: Improve Sunnyvale's Air Quality and reduce the exposure of its citizens to air pollutants. (Policy 3.7.1, Goal 3.7A)
Lead: Department of Community Development
Department of Community Services
Department of Public Works

WASTE REDUCTION
Goal: Dispose of solid waste generated within the City in an environmentally sound, dependable, and cost-effective manner. (Policy 3.2.1, Goal 3.2D)
Lead: Department of Public Works
Department of Community Development
Department of Finance
Department of Public Safety

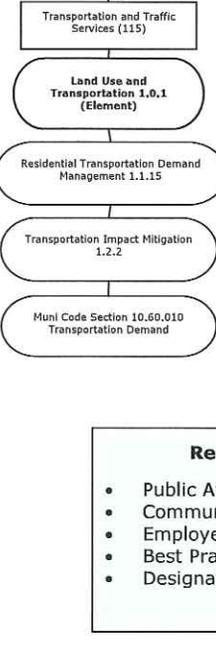
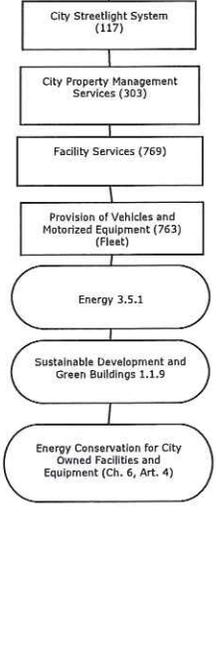
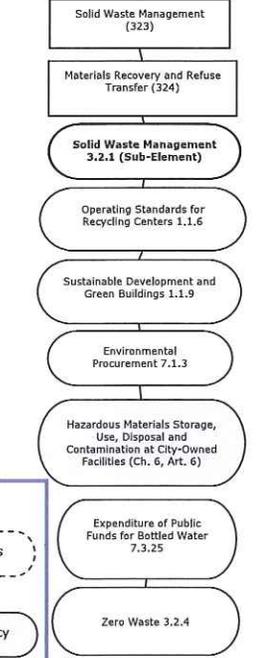
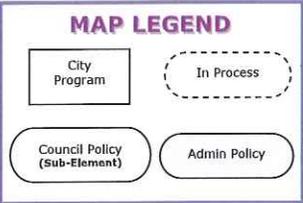
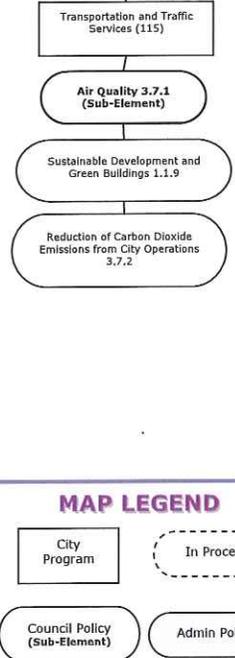
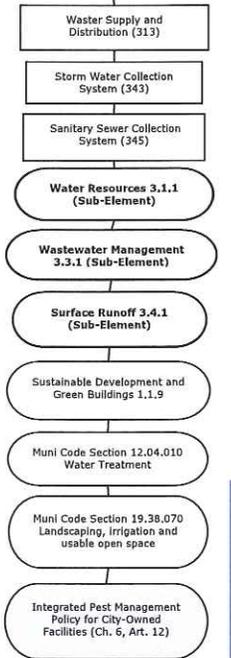
ENERGY REDUCTION AND ALTERNATIVE FUELS
Facility Services Goal: Monitor utility usage in City buildings and implement comprehensive methods and products to conserve energy and building water resources (SDP 76907)
Lead: Department of Community Services
Department of Community Development
Department of Public Works

TRANSPORTATION
Goal: Attain a transportation system that is effective, safe, pleasant and convenient. (Council Policy 1.0.1, Goal C3)
Lead: Department of Public Works
Department of Community Development

LAND USE/OPEN SPACE
Goal: Adopt management, maintenance and development practices that minimize negative impacts to the natural environment, such as supporting and enforcing the Integrated Pest Management, and landscaping in ways which minimize the need for water. (Council Policy 2.2.1 - 2.2.A.2 Open Space)
Lead: Department of Community Services
Department of Community Development
Department of Public Works

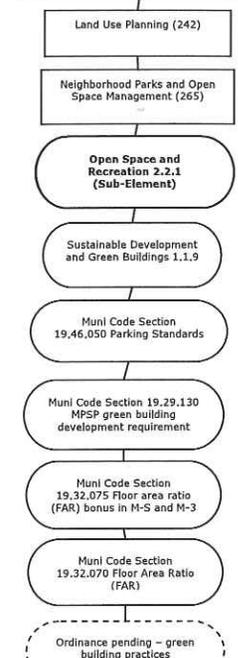
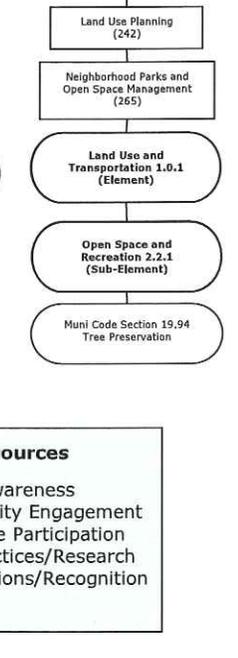
COMMUNITY DESIGN AND DEVELOPMENT
Goal: Encourage sustainable development throughout the City of Sunnyvale, to provide education and information to the community, and to serve as an acknowledgement by the City Council of the importance of sustainable development (Council Policy 1.1.9)
Lead: Department of Community Development
Department of Community Services

- Association of Bay Area Governments
- Bay Area Air Quality Mgmt District
- Bay Area Water Supply and Conservation Agency
- Build It Green
- Santa Clara County/Green Business Program
- Inst. Of Local Govt./California Climate Action Network
- PG&E/Energy Watch
- Santa Clara Cities Assoc./Green Building Sub-Committee
- Santa Clara County/Congestion Mgmt Program
- Santa Clara Valley Urban Runoff Pollution Prevention Program
- Santa Clara Valley Water District
- Silicon Valley Joint Venture/Climate Protection Task Force
- SMaRT Station partnership
- Sustainable Silicon Valley
- Tree City USA
- U.S. Green Building Council/LEED
- USCM Climate Protection Agreement



Resources

- Public Awareness
- Community Engagement
- Employee Participation
- Best Practices/Research
- Designations/Recognition



Updated: 3/5/09



Sustainable Sunnyvale

Making a Difference Together



December 2012

Reduce and Recycle Your Holiday Waste



One million tons of additional waste is generated nationwide each week between Thanksgiving and New Year's Day.

38,000 miles of ribbon alone is thrown out each year—enough to tie a bow around the earth!

Take a few simple steps that may save you money, help you reduce and recycle your holiday waste and send less trash to the landfill.

- Homemade gifts. [Pinterest](#) has great ideas and [Everything Etsy](#) offers 101 tutorials for everything from pet toys to spice rubs. Check out [Twisted Sifter](#) for 50 ways to repurpose!
- Use stuff you already have to make holiday decorations.
- Exchange video games and toys with friends and family instead of buying new.

The Rap on Gift Wrap

Although many of you may be aware that burning holiday gift wrap can cause air pollution, did you know that it pollutes waterways too?



Particulate matter and heavy metals such as lead and chromium, dioxins, and other pollutants are released into the air when gift wrap is burned. Eventually, these pollutants could end up in Bay Area waters, which in turn, could harm fish and wildlife.

Instead of wrapping paper, try a gift wrapping alternative such as:

- Reusable bags
- Old or outdated maps
- Leftover fabric

In This Issue

Reduce and Recycle Holiday Waste

The Rap on Gift Wrap

Tips to Green Holidays

Did You Know?

Water Pollution Control Plant Tour

Events



[Compost Workshop](#)

February 9

March 9

[Household Hazardous Waste](#)

[Drop-off Events](#)

January 19

February 16

[Paper-shredding Event](#)

April 27



DID YOU KNOW? ... Water flowing down gutters into storm drains goes untreated straight to our creeks and from there to the Bay? Just think of all the harmful pollutants that could be collected after it rains ... pesticides, fertilizers, automotive fluids, pet waste, litter and other debris.

- Newspaper
- Jars
- Reuse ribbons, wrapping paper and boxes
- A gift in a gift - pots, baskets, scarves, etc ...

It's easy to reduce waste and prevent water pollution. Lets all give our local waterways a gift this holiday season, by not burning holiday gift-wrap.

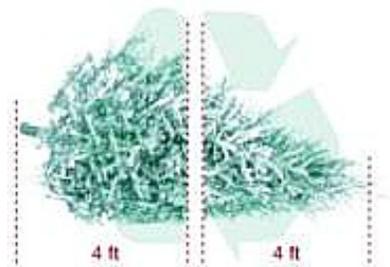
Tips to Green Holidays

Holiday Tree-(Re)Cycling

Holiday trees help make the season bright, but once the big event is over, what is the best way to dispose of cut trees? The City offers convenient tree recycling to single- and multi-family residents right where they live.

To prepare holiday trees for curbside collection:

1. Remove all decorations, light strands and stands;
2. Cut trees so that trunk lengths do not exceed 4 feet; and
3. For collection, place trees at the curb, or inside yard carts if the lid can still close.



Residents in multi-family communities may dispose of holiday trees onsite* from December 31, 2012 to January 18, 2013. After the deadline, residents may drop off holiday trees at the SMaRT Station for a flat rate fee of \$15.

* Multi-family residents should contact their property owner or manager for a designated collection area.



Holiday Lights

Strands of lights that have seen their last holiday can now be dropped off for recycling at the SMaRT Station Recycling Center, located at 301 Carl Road, Sunnyvale, open 8 a.m. to 5 p.m. daily, except Christmas and New Year's Days.

Holiday Schedule Changes for Garbage and Recycling Services

For both holiday weeks of December 24 and 31, regular garbage and recycling collection days that fall on Tuesdays through Fridays will be delayed one day. Find the holiday collection schedule at Recycling.inSunnyvale.com, under *Quick Links*.

Remember, storms drains are there to help control flooding from rain storms, not for waste disposal. Only rain belongs in the drain! For more information on water pollution prevention, visit WPCP.inSunnyvale.com.

Hold the Date - Water Pollution Control Plant Community Tour

After the successful community tours held in 2012, the Sunnyvale Water Pollution Control Plant (WPCP) will be conducting additional Saturday tours in 2013.

The first tour will be held Saturday, February 23 from 9 - 11 a.m. at the WPCP, located at 1444 Borregas Avenue. For more information about the tour or to reserve a spot, call Environmental Outreach at (408) 730-7717, TDD (408) 730-7501 or send an email to wpcp@sunnyvale.ca.gov.

City Resources

- [Business Recycling](#)
- [Green Business](#)
- [Green Building](#)
- [Residential Recycling Services](#)
- [Sustainability](#)
- [Water Pollution Prevention](#)

NEW FACEBOOK PAGE

Like us on Facebook 

Follow us on 



Question or Comments?

Send an email to recycling@sunnyvale.ca.gov or call (408) 730-7262, TDD (408) 730-7501

*Product and company listings should not be construed as an endorsement by the City of Sunnyvale.

ATTACHMENT B

City of Sunnyvale
Feasibility Study for Recycled Water Expansion
Marketing Plan TM

WaterReuse Foundation Guidebook: Marketing Nonpotable Recycled Water

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