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A newsletter about protecting public health and the environment

Summer 2010

District Saves More Than \$11 Million

Savings by the Central Contra Costa Sanitary District (CCCSD) are projected to be more than \$11 million: \$2 million during fiscal year 2009-2010 in ongoing Operations and Maintenance (O&M) costs, and \$9 million in multiyear capital project costs. This was one reason cited by the District's Board of Directors for not raising the Sewer Service Charge this past June.

In April, a notice was sent to all ratepayers announcing a proposed rate increase of up to \$16 in fiscal year 2010-2011, a total of \$1.33 per month. The notice detailed the reasons for the proposed increase, including: the need to meet all regulatory requirements; needed improvements to prevent sewer overflows and meet new EPA overflow reduction goals; facility improvements; other new, increasingly stringent environmental regulations; and the loss of close to \$1 million "borrowed" by the State (with repayment unlikely in the foreseeable future).

Of the 70 letters and emails the District received in response to the notice, the most frequently asked question was "What is the District doing to cut down on expenses?"

As it turns out, quite a lot.

Starting in July 2009, District General Manager James Kelly targeted a 10% reduction of CCCSD's operating budget,

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District Board Decides Not to Raise Sewer Rates

At the Central Contra Costa Sanitary District's June 17 Board Meeting, the Board of Directors voted against a proposed increase to the annual Sewer Service Charge.

The Sewer Service Charge (which is collected on the County property tax bill as a line item labeled "CCCSD SEWER CHG") will remain at its current rate of \$311 for residential customers this year. Similarly, business rates will remain unchanged.

Projected savings over the next few years of more than \$11 million, along with long-term planning efforts, will allow the District to maintain its high-quality services and vital infrastructure improvement and maintenance program without a rate increase at this time.

✓ page 2 Avoid Dangerous Pesticides



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Green Tip Avoid Using Dangerous Pesticides

A ccording to scientists at the University of California, Davis, pesticide use around homes has been an underestimated source of water pollution for many years. A recent study presented at the 238th National Meeting of the American Chemical Society in Washington, DC indicates that 50% more water pollution than previously believed comes from residential sources.

The polluted runoff has been linked to fish kills, loss of diversity in aquatic species, and die-off of insects fish feed on.

The runoff, which results from rainfall and watering lawns and gardens, washes fertilizers, pesticides and other contaminants into storm drains and (in most regions) flows untreated into local bodies of water.

Pollutants of growing concern are pesticides made with pyrethroids and pyrethrin. Pyrethroids are synthetic versions of pyrethrin, a natural insecticide found in certain species of chrysanthemum. It was initially introduced on the market as a "safer" alternative to the heavily regulated and highly toxic organophosphates such as chlorpyrifos and diazinon, which were banned for homeowner use in 2001 and 2004, respectively. Despite the fact that there are plenty of effective pest control methods that are not nearly as toxic, pyrethrin is now one of the most popular classes of household pesticide, available in the form of powders and sprays to control ants, mosquitoes, fleas, flies, and cockroaches.

Check labels carefully and avoid using pesticides containing pyrethrin or pyrethroids (including permethrin, bifenthrin and deltamethrin). Popular brands that may include these pesticides include Raid, Hotshot, Garden Safe, Fert-i-Lome, Bio Spot, Duocide, Happy Jack, Hartz, and K9 Advantix.

Less-toxic pest control and gardening methods can be found on the District's website, www.CentralSan. org. Just click on "Healthy Garden Guide" in the lower left of the homepage.



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District Saves ...

reflecting our Board's concern for the local economy and the uncertainty of how much the State might borrow from the District to balance its own budget. As we neared the end of fiscal year 2009-2010, a total of \$2,483,800 had been saved in O&M.

- Reducing outside services (technical consultants, printing costs, etc.) saved \$680,900.
- Deferred repairs and maintenance (based on condition assessment) saved \$588,400.
- Cost-cutting efforts in materials and supplies for construction saved \$336,500.
- Buying natural and landfill gas at a low point in market value saved \$316,400.
- Cost savings in chemicals used during treatment came to \$308,100.
- Other savings (out-of-state travel and expenses, technical training seminars, memberships) came to just under \$253,600.

Additional savings resulted from the District continuing its multi-year capital program while taking advantage of a very favorable bid climate. Projects bid in the last 12 months have come in approximately \$9 million below original engineering estimates of \$26 million, resulting in a 30% savings.

CCCSD has always been a cost-conscious organization, delivering excellent service at reasonable rates. Our Sewer Service Charge is still less than two-thirds of all Bay area wastewater systems. Our sewer overflows have been reduced by 66% over the past seven years. And our treatment plant has just been received its 12th consecutive award for a year without a single violation of our discharge permit. CCCSD, while providing excellent customer service and full regulatory compliance, will continue its efforts to save ratepayers money throughout the 2010-2011 fiscal year. None of these efforts will threaten or negatively impact our mission to protect public health and the environment. That mission is what we do and who we are.

Where to Safely Dispose of Unwanted Medications

Please DO NOT flush your drugs!

Due to legal restrictions, our Household Hazardous Waste Collection Facility in Martinez is unable to accept medications for disposal. But thanks to the District's Pharmaceutical Collection Program, local law enforcement agencies, and nine cities in our service area more than 7,500 pounds of unwanted drugs have been brought in for safe disposal since the program began in February 2009.

Collection Sites

- City of Clayton Police Dept. 6000 Heritage Trail, Clayton
- City of Concord Police Dept. 1350 Galindo St., Concord
- Sheriff's Field Operations Building 1980 Muir Rd., Martinez
- Contra Costa Medical Center Sheriff's Substation (check with the deputy on duty)
 2500 Alhambra Ave., Martinez
- Town of Danville Police Dept. 510 La Gonda Way, Danville
- City of Martinez Police Dept. 525 Henrietta St., Martinez
- Town of Moraga Police Dept. 329 Rheem Blvd., Moraga



- City of Orinda Police Dept. 22 Orinda Way, Orinda
- City of Pleasant Hill Police Dept. 330 Civic Dr., Pleasant Hill
- City of San Ramon Police Dept. 17011 Bollinger Canyon Rd., San Ramon
- Walnut Creek City Hall 1666 North Main St., Walnut Creek

To ensure privacy, transfer pills to a sealable plastic bag (quart size or smaller) before depositing them into the collection bin, then recycle the empty pill bottles. Leave liquid medications in original bottles and place in a sealed plastic bag to prevent spills.

Please **DO NOT** deposit medical sharps or other wastes into the collection bin.

For more information about safe pharmaceutical disposal, call 1-800-646-1431 or visit www.centralsan.org.

CCCSD Receives Prestigious Platinum Award

The Central Contra Costa Sanitary District's record of 12 consecutive years of 100% environmental compliance was recently recognized by the National Association of Clean Water Agencies with their Platinum-12 Peak Performance Award—a distinction earned by only a handful of wastewater agencies nationwide.

To receive this award, CCCSD met stringent federal, state and regional water quality standards when collecting, sampling, treating, testing and releasing an average of 45 million gallons of wastewater every day for the past 12 years—without a single violation of its EPA-issued National Pollution Discharge Elimination System permit.

District Receives Green Business Certification

The Central Contra Costa Sanitary District recently completed the necessary actions to be certified as a Green Business through the Contra Costa Green Business Program.

A Green Business complies with all applicable environmental regulations and strives to exceed compliance; conserves energy, water and other natural resources; and develops and implements practices that prevent pollution and waste.

The certification process took one year to complete and required that the District pass audits in several areas, including:

- · Solid waste reduction
- Energy
- Pollution prevention
- Water conservation
- Wastewater compliance

The District's headquarters and treatment plant were constructed decades ago, back when "green" was just a color. Bringing them up to today's standards was something of a challenge.

The District's Vehicle Maintenance Shop has been a certified Green Business for eight years.



What Happens After You Hit the Silver Handle



We often publish articles about how we fulfill our mission to protect public health and the environment—primarily through the effectiveness of our wastewater treatment processes. But the success of that mission depends on many activities that occur before the wastewater even reaches the treatment plant. Some of those activities are beyond our control (e.g., someone pouring toxic chemicals down a drain), but most are planned and/or performed by

our employees (e.g., replacing a deteriorating section of an aging sewer main) to ensure that we continue to be a high-performance organization that provides exceptional customer service and full regulatory compliance at responsible rates.

In this article, we'll "follow the flow" from beginning to end so you'll know what's involved before, during and after the treatment process, and how your actions contribute to our mission's overall success.



WASTEWATER SOURCES

The Central Contra Costa Sanitary District (CCCSD) receives wastewater from approximately 144,000 residences (homes, apartment complexes, etc.) and 15,000 businesses (retailers, manufacturers, restaurants, hospitals, schools, etc.), totaling more than 462,000 customers. Whatever they flush or pour down an inside drain comes through the sewer system to our treatment plant in Martinez.

The storm drain system, on the other hand, collects runoff from rain, irrigation, sprinklers, etc., and transports the water untreated—to Suisun Bay or other natural waterways.

PRIVATE & PUBLIC SEWER PIPES

Wastewater flows from a house or building through a private sewer pipe (called a "lateral") that connects to the public sewer main. The public sewer main is our responsibility. Maintaining the private sewer lateral is the property owner's responsibility. Most sewer clogs happen in private laterals



OVERFLOW PROTECTION DEVICE

The best way to prevent sewage from backing up into your home or business—from a blockage in your private sewer lateral or from the public sewer main—is to have an Overflow Protection Device which will divert sewage onto the ground outside.

The District Code requires this device on all buildings and we urge you to have one installed by a plumber.

POLLUTION PREVENTION

Much as preventing an illness is more desirable than treating it, preventing water pollution is more desirable than treating it. That's why we developed an extensive pollution prevention program to raise the awareness of our customers. Components of that program include the Household Hazardous Waste Collection Facility, our Source Control programs, and our public outreach and student education programs that teach about water quality and wastewater treatment. All of these activities are helping to protect our environment.

 HOUSEHOLD HAZARDOUS WASTE COLLECTION: One of our most successful pollution prevention efforts is the Household Hazardous Waste Collection Facility at our treatment plant site in Martinez. The facility allows residents and small businesses to properly dispose of their unwanted household hazardous wastes instead of pouring them down a drain or dumping them in the garbage. Each year residents and small businesses

bring close to 2 million pounds of their unwanted batteries, paints, pesticides, motor oil, chemicals, mercury thermometers, fluorescent tubes, CFLs, and other household hazardous wastes to our facility for safe disposal or recycling. In 2009, the facility collected more than 1.8 million pounds of wastes, including: 280 pounds of mercury wastes; 60,000 pounds of



- pesticides, herbicides & fungicides; and over 2,200 gallons of cooking oil/grease. Ninety-two percent of all that material was recycled.
- PHARMACEUTICAL COLLECTION: Because the facility is unable to accept pharmaceuticals, we established a Pharmaceutical Collection Program that has 11 drop-off locations throughout our service area (see page 2). Since its inception in early 2009, the program has collected and safely disposed of more than 7,500 pounds of unwanted pharmaceuticals.



- SOURCE CONTROL & PRETREATMENT: Our Source Control Program focuses on preventing pollution from non-residential customers. Through our Pretreatment Program, we apply standards to control the impact from businesses and industries as varied as dry cleaners, auto repair shops, car washes, restaurants, hospitals, and waste haulers. We regulate, inspect and monitor their wastewater to ensure that it doesn't contain pollutants that could disrupt the treatment process or harm the environment. We also have a Stormwater Inspection Program conducted in partnership with the Contra Costa Clean Water Program. This program helps to ensure that commercial and industrial customers operate to protect stormwater quality by taking the necessary precautions to prevent pollutants from entering the storm drains.
- DENTAL MERCURY REDUCTION: Our efforts to help dental practices prevent mercury waste from amalgam fillings from going down their drains by installing amalgam separators for instance, have been very successful. Mercury is one of the most toxic substances and it does not break down; once it enters the environment from any source, it remains there and continues to damage the ecosystem. Through our partnership with local dentists, we've achieved a remarkable 50% reduction in the amount of mercury being discharged from our treatment plant into Suisun Bay over the past five years! That equals approximately 10 pounds of mercury each year kept out of the environment.



What Happens After You Hit the Silver Handle

COLLECTION SYSTEM

Each day, an average of 45 million gallons of wastewater flow through our collection system of more than 1,500 miles of underground pipe and 18 pumping stations. The pipes range in size from 6 inches in diameter near your home to over 8.5 feet in diameter at the treatment plant headworks.

Routine maintenance is performed on the entire collection system at least once every five years. Scheduled maintenance
 is performed more frequently, sometimes even monthly, on problematic pipes especially susceptible to clogging. Our crews clean and maintain an average of 400 miles of pipeline each year.

Thanks to our crews' continuous efforts to ensure constant flow through the lines, we've achieved the lowest number of sewer overflows in the District's 64-year history: as of the end of June, only 44 spills in the past 12 months (that equates to less than three spills per 100 miles of sewer line, well below the average of other Bay Area wastewater agencies.

These ongoing efforts include:

- TV INSPECTION: A small video camera on wheels or tracks is sent through sewer pipes to locate problems so they can be corrected. We've recently completed videoing all 1,500 miles of our collection system and scheduled cleaning, repair, or replacement work based on inspections of those videos.
- CLEANING: Special trucks and equipment use high-pressure water or augers to clean out pipelines that are clogged with roots, grease and other debris.





- CONSTRUCTION: To replace or repair sections of pipelines, our crews use everything from hand tools to heavy equipment. We use trenchless or "no-dig" technology whenever possible. "No-dig" technology drastically reduces the amount of surface disruption that occurs with pipeline replacement. It saves money and reduces construction impacts on residents and businesses.
- SPILL RESPONSE: Sewage spills are rare, but when they occur, they
 must be dealt with immediately. Our crews provide 24-hour service and
 respond to emergencies within 45 minutes, day or night. And most spills
 are less than 100 gallons.



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WASTEWATER TREATMENT

Wastewater from the collection system flows to our treatment plant in Martinez. The current average daily flow is approximately 45 million gallons a day. During the rainy season, groundwater can infiltrate pipelines and create increased flows of up to 240 million gallons a day

- INITIAL SCREENING: The first step in cleaning the wastewater coming into the plant's headworks is to screen out large objects (such as rags, pieces of wood, and other debris - including the occasional bowling ball) that could damage pumps and equipment further along in the treatment process. The debris is removed using a bar screen and mechanical raking device, then ground up in mechanical grinders and returned to the wastewater treatment flow. The wastewater then moves to primary treatment.
- PRIMARY TREATMENT: During primary treatment, the screened wastewater is pumped to pre-aeration tanks where the heavier solids such as sand and silt settle to the bottom of the tanks and are pumped to a grit dewatering process. The dewatered grit is hauled to a local landfill for disposal. The wastewater then enters primary sedimentation tanks (clarifiers) where floating materials such as lighter organics, paper and grease float to the top. These materials are mechanically removed from the water using skimming devices, then dewatered and later burned in the furnace. Material
 - that settles to the bottom (sludge) is eventually pumped to a centrifuge for further dewatering. Approximately 50% of the solids and 35% of the organics are removed during this primary process.
- SECONDARY TREATMENT: While primary treatment consists largely of mechanical processes to remove solids, secondary treatment uses a naturally occurring biological process. Partially treated wastewater containing organic material is pumped to aeration tanks, which provide an ideal oxygen-rich environment for microorganisms to biologically break down and consume the organic waste particles in the water. After these "good bugs" consume the waste particles, the water flows to secondary clarifier tanks where the bacteria (known as activated sludge) sink to the bottom. A small portion of the settled bacteria is pumped to dissolved air floatation thickeners where it is thickened, pumped to a blend tank, then to a centrifuge, and later to the furnace for incineration. The larger portion of the live bactaria is returned to the secondary aeration tanks where the bacteria are used again to break down organics. The water that comes off the top of the clarifier now has more than 95% of the impurities removed.
 - ULTRAVIOLET (UV) DISINFECTION: For many years the District used chlorine to disinfect the treated wastewater. When extensive research and testing by our staff indicated that UV disinfection was safer and more environmentally friendly, a state-of-the-art UV facility was constructed at our treatment plant, one of the first in the nation. Ten thousand UV light bulbs (70 watts each) are submerged in channels through which the treated wastewater flows. The UV light breaks down the DNA in the bacteria, destroying their ability to survive and reproduce, thus disinfecting the water. Most of the treated and disinfected water is then discharged into Suisun Bay, while a portion is diverted to our water recycling facility for additional treatment.





What Happens After You Hit the Silver Handle

 DEWATERING: The solid byproducts of the treatment process, commonly known as sludge, need to be thickened and dewatered before they can be incinerated. Dewatering occurs during a centrifuge process, similar to the spin cycle of a household washing machine. The dewatered sludge (cake) is then pumped to the furnace for incineration.





- INCINERATION: Incineration occurs in our 4-story multiple-hearth furnace which is powered by methane gas from a local landfill and monitored by a high-tech computer system. The furnace generates enough heat to evaporate the remaining water in the sludge. The dry sludge then ignites and is burned away. Approximately 200 wet tons of sludge are incinerated each day. Each 100 pounds of wet sludge that enters the furnace is reduced to about seven pounds of sterile ash. Special scrubbers provide air pollution control for the furnace exhaust, ensuring the emissions comply with all air-quality regulatory requirements.
- ASH RECYCLING: We've made significant efforts to find new uses for our sterile sludge ash. Since the treatment plant produces an average of 11 tons of ash per day, recycling helps to lessen the disposal impact on landfills. Central San's dry ash is hauled off site and combined with other waste products (primarily food processing waste) to produce a commercial soil amendment.
- WASTE-HEAT BOILER: Heat from the hot furnace exhaust gases is captured to produce steam in waste-heat boilers. Recovering the waste-heat in the form of steam and utilizing it to drive other plant equipment such as the turbine which drives the aeration blower results in high energy efficiency for the plant.
- COGENERATION FACILITY: The cogeneration facility is a gas turbine which uses natural gas to produce electricity and steam. The turbine produces approximately 3,200 kilowatts of power which is more than 90% of the treatment plant's daily power demand. The remaining power demand

is supplied by the local utility. The exhaust heat from the gas combustion in the turbine is recovered in the cogeneration boiler to produce steam. The steam from the cogeneration boiler, the furnace waste-heat boiler, and the auxiliary boilers is used predominately in the aeration turbine which drives the aeration blower to produce air bubbles in the aeration tanks to aid the biological process.



WATER QUALITY TESTING

 Each day our chemists perform hundreds of tests at our awardwinning, state-of-the-art environmental laboratory to ensure the treated wastewater is environmentally safe and complies with all state and federal requirements for water quality.

The U.S. Environmental Protection Agency Clean Water Act lists 126 priority pollutants that have to be carefully monitored. Thirteen of these pollutants are metals such as mercury, lead, copper and zinc. The other 113 are organics such as pesticides, dioxins and solvents.

Our laboratory staff performs about 15,000 tests annually to identify various chemical components in the wastewater. We also conduct toxicity testing on sensitive marine species to ensure there are no harmful effects, even at permitted levels. These tests provide an added measure of protection for public health and the Bay.





WATER RECYCLING

We produce an average of 1.5 million gallons of recycled water each day. Our filter plant provides additional tertiary treatment and chlorination to produce recycled water that is safe for non-drinking purposes. We use about one million gallons of recycled water each day at our treatment plant, with the remainder used for landscape irrigation of areas such as golf courses, parks, and school grounds; industrial use; and for construction.

To ensure a consistent level of safety, our recycled water is continually regulated, monitored and tested by the Environmental Protection Agency, Regional Water Quality Control Board, and Department of Health Services.

DISCHARGE TO SUISUN BAY

After the water is treated, whatever is not recycled travels by force of gravity through a 3.5-milelong, 6-foot-diameter outfall pipe to Suisun Bay. Approximately 1,700 feet of the outfall pipe extends underwater into the Bay, where 11 diffusers allow the treated water to be released at a depth of about 28 feet.

All of the activities mentioned (and far too many support activities to list) ensure the water we release into Suisun Bay complies with all water quality requirements and is environmentally safe.



Infrastructure Improvements

Central Contra Costa Sanitary District regularly maintains, repairs or replaces sewer lines and other elements of our 1,500mile wastewater collection system to ensure continuous, trouble-free service for our 456,000 customers. We do our best to minimize the inconveniences our projects cause and appreciate your understanding.

Here's a brief summary of major construction projects scheduled for this summer or fall:

Diablo/Danville

Diablo Sewer Renovation Project, Phase 1, is replacing or renovating 6,600 feet of sewers in Diablo and Danville, and abandoning 4,000 feet of sewers while connecting properties to other existing lines. Expected completion: Feb. 2011.

Martinez

Martinez Sewer Renovation Project, Phase 3, is replacing or renovating 5,200 feet of sewers in Martinez. Expected completion: Feb. 2011.

Orinda

Hall Drive Sewer Improvements, Phase 2 Project, will be replacing 3,800 feet of sewers within backyard easements with 2,500 feet of new sewers connected to the sewer main within Hall Drive in South Orinda. Expected completion: Nov. 2010.

Walnut Creek

The District's Collection System Operations Department Administration,

Crew and Warehouse Facility Project is redeveloping the District's site at 1250 Springbrook Road. The project includes constructing a new building, and making site improvements such as grading, paving and landscaping. Expected completion: July 2011

Detailed maps for our projects are sent to affected residents and posted on our website, www.centralsan.org (check the links in the "Construction Zone" box in the lower right corner of the home page).

For more information about these or other construction projects, please contact Community Affairs Representative Chris Carpenter at (925) 229-7200 or ccarp@centralsan.org.



HHW That Paint You Discard Is Costing a Bundle!

Because it is illegal in California to put paint in the garbage or pour it down a drain*, unwanted leftover paint is an overwhelming and expensive problem for local government household hazardous waste (HHW) programs.

Just how big a problem is leftover paint? These facts "paint" a startling picture:

- The U.S. EPA estimates that 10% of all paint sold becomes waste.
- California's HHW programs collect 2 million gallons of unwanted paint each year.
- Paint represents 40 to 60%, by volume, of all wastes collected at HHW facilities.
- Our HHW facility in Martinez, which serves central Contra Costa County,

collected about 100,000 gallons of paint in 2009. (Approximately 25% was given away through the facility's reuse program.)

 In California, the average cost for collection and disposal of leftover paint is \$16 million per year (\$8 per gallon).

The most important thing you can do to help solve this problem is avoid buying more paint than you need. (You'll save money, too!) The staff at the store where you buy paint can help determine the quantity you need based on room measurements and other factors. You can also use a free online calculator, provided by the Paint Quality Institute, at this link: http://tinyurl.com/ howmuchpaint. If you do have unwanted leftover paint, bring it to the HHW Collection Facility.

Remember the three Rs: Reduce, Reuse, Recycle!

*Water used to clean residual latex paint from rollers and brushes may be poured down the drain.









About CCCSD

Our mission as a Special District is to protect public health and the environment. We do this by collecting and treating wastewater, providing recycled water, and promoting pollution prevention. Our treatment plant in Martinez collects, treats, and disinfects an average of 45 million gallons of wastewater every day. Some treated wastewater is recycled (treated further) for irrigation use on golf courses and parks; the rest is released into Suisun Bay. We also operate a Household Hazardous Waste Collection Facility.

Where to Call...

General information	(925) 228-9500 or www.centralsan.org
Sewer overflows	(925) 933-0955 or 933-0990
Treatment Plant InfoLine (Report Odors)	(925) 335-7703
Household Hazardous Waste InfoLine	(800) 646-1431
Sewer connection permits/Permit Counter	(925) 229-7371
To report illegal discharges into sewer system	(925) 229-7288 (during business hours) (925) 229-7214 (after hours)
Source Control	(925 229-7288
Job Hotline	(925) 229-7109 or www.centralsan.org
Student Education Programs	(925) 229-7310 or www.centralsan.org
Public InfoLine	(925) 335-7702 or www.centralsan.org

Board of Directors Michael R. McGill, President

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 Gerald R. Lucey, Director
 Mario M. Menesini, Director
 James A. Nejedly, Director

Board meetings are open to the public and are held on the 1st and 3rd Thursday of each month at 2 p.m. in the CCCSD Board Room, 5019 Imhoff Place, Martinez. James M. Kelly, General Manager





Sewage collection and wastewater treatment (and HHW collection service) for 326,600 people

- Wastewater treatment for 135,380 residents in Concord and Clayton by contract and HHW collection service
- HHW disposal only
- CCCSD's Headquarters, treatment plant, CSO Division, and HHW Collection Facility are located in Martinez

The Central Contra Costa Sanitary District PIPELINE

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