



City of San Leandro

Meeting Date: February 16, 2016

Staff Report

File Number: 16-041

Agenda Section: CONSENT CALENDAR

Agenda Number: 8.H.

TO: City Council

FROM: Chris Zapata
City Manager

BY: Debbie Pollart
Public Works Director

FINANCE REVIEW: David Baum
Finance Director

TITLE: Staff Report for Appropriation of Water Pollution Control Plant Enterprise Fund Balance Reserve in the Amount of \$420,000 for the Purpose of Procuring and Installing a Residential Recycled Water Fill Station in 2015-16 at the Water Pollution Control Plant

SUMMARY AND RECOMMENDATIONS

Staff requests Council approval to appropriate \$420,000 from the Water Pollution Control Plant (WPCP) enterprise fund balance reserve for 2015-16. These funds will be used to procure a 100 gallon-per-minute dual media reclaimed water filter, to fund installation of the system at the Water Pollution Control Plant, and to fund improvements to gates and fences to create a resident and traffic-friendly drive through area in the Plant. Some of these funds will also be used to develop a resident permitting program and to hire part-time attendants in 2016-17 for the station.

BACKGROUND

On January 17, 2014, the governor proclaimed a State of Emergency throughout the State of California due to severe drought conditions. On April 25, 2014, the governor proclaimed a Continued State of Emergency to exist throughout the State of California due to the ongoing drought. Because of the severity of the drought, alternative water sources and water conserving technologies will be important throughout the State, even if this is a heavy rain year.

One of the measures included in the governor's Executive Order was the prioritization of water recycling projects. Water recycling is effective and successful in creating a new and reliable water supply without compromising public health. Non-potable water reuse is a widely accepted practice that will continue to grow to accommodate environmental needs and growing water supply demands. Advances in wastewater treatment technology and health studies of blended recycle and potable water reuse cause experts to predict that planned indirect potable water reuse will soon become more common.

Currently, the WPCP produces secondary treated water, which is acceptable for use on golf courses and other lawn areas not associated with picnic uses; secondary treated water is currently in use on the City's two golf courses. It is not regulated or recommended for use in areas encompassing public picnic areas or on private garden fruits/vegetables that are consumed. A tertiary treatment system is necessary and required from a regulatory standpoint for a residential fill station. Disinfected tertiary recycled water is the only type of recycled water that can be used for residential landscaping (see attached Recycled Water Uses Allowed in California).

The first residential recycled water fill stations in the Bay area were designed and opened by Dublin San Ramon Services District (DSRSD) in 2014. It proved to be tremendously popular. For water recyclers, these stations were an opportunity to showcase the benefits of recycled water. For homeowners, they provide an opportunity to preserve landscape plants and trees despite serious potable water use restrictions during the drought. One recycled water agency noted the most satisfying benefit of their residential fill station program is educational outreach because customers become educated about recycled water, and even active advocates for increased use of a valuable and available resource. There are currently eight fill stations operating in the Bay Area, including those opened by DSRSD, Central Contra Costa Sanitary District, Delta Diablo Sanitary District, City of Livermore, and City of Brentwood.

Analysis

Currently, the WPCP produces 4.9 million gallons per day of secondary treated water. During warm weather months, approximately 9 percent of this is sold to American Golf Corporation for use on the City's two municipal golf courses and 6 percent is sold to EBMUD for use by its customers. The remainder of the unused secondary-treated effluent is discharged into San Francisco Bay. Should drought conditions continue this year, the City anticipates that 20,000 gallons per day of tertiary-treated water could be made available for residential use.

The WPCP plans to install a 100-gallon per minute tertiary treatment facility comprised of a dual tank filter system and a 10,000 gallon recycled water storage/disinfection tank. These facilities would be installed at the southern end of the Plant, close to Davis Street (see attached diagram). Appropriate modifications would be made to fencing and sidewalk areas to allow easy access to the facility when gates are open, but still provide security and prevent inadvertent access to the rest of the wastewater treatment plant by the general public.

The plans would need to be approved by the Regional Water Resources Control Board, the State Board's Division of Drinking Water, and East Bay Municipal Utility District (EBMUD). WPCP staff has already had discussions with EBMUD. EBMUD would fast track the City's application if or when it is submitted. The August 2015 notification from the Regional Water Board (see attached) indicates its general approval of residential fill stations.

Much of the labor for the installation of the system would be done in-house by WPCP staff. Fence, asphalt and sidewalk modifications would be done by contract and all required permits would be obtained. The Engineering and Transportation Department would be consulted with regard to optimizing traffic flow on Davis Street and determining operational hours for the fill station that would minimize potential traffic flow impacts.

In order to comply with State requirements regarding recycled water usage, the WPCP will need to create a permit program for residents wishing to use recycled water. The WPCP has engaged the firm of MIG, who currently assist the WPCP with public outreach (flyers, mailers, etc.). Since there are many programs active in the Bay Area, staff believes it will be relatively simple to adapt one of the existing programs for the City's use. Staff anticipates that the facility could be constructed and available for use by summer of this year.

Applicable General Plan Policies

- **Policy 27.02 WATER CONSERVATION** Promote the efficient use of existing water supplies through a variety of water conservation measures, including the use of recycled water for landscaping.
- **Action 27.02-A: Urban Water Management Plan** Take the actions necessary to implement EBMUD's Urban Water Management Plan at the local level. EBMUD's Urban Water Management Plan states: "Recycled water use is a critical element of EBMUD's water supply management policies and stretches EBMUD's limited, high-quality drinking water supply, as any demand met with recycled or non-potable water reduces the demand for potable water supply."
- **52.05 CAPACITY** Maintain adequate capacity at the San Leandro wastewater treatment plant to accommodate projected levels of growth within the service area and encourage the Oro Loma Sanitary District to do the same. Support efforts to maintain and/or improve the high quality of treated effluent at both plants and increase the feasibility and cost-effectiveness of using recycled wastewater for non-potable purposes.

Environmental Review

The City finds that the proposed project is Categorical Exempt as defined in the CEQA Guidelines as follows:

Section 15301 (a and b) Existing Facilities, whereby the project consists of the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of the use beyond that existing at the time of the lead agency's determination, specifically subsections (a) Interior or exterior alterations involving such things as interior partitions, plumbing, and electrical conveyances; and (b) Existing facilities of both investor and publicly owned utilities used to provide electric power, natural gas, sewerage, or other public utility services.

Fiscal Impacts and Budget Authority

The filter for the Residential Recycled Water Fill Station will cost approximately \$215,000; equipment rental and materials will cost approximately \$120,000. Estimated costs for the construction of the gate, sidewalk and asphalt improvements are \$70,000. Public outreach, signage, and creating and managing the permit program are estimated to cost \$15,000. Additional temporary part-time personnel will need to be hired on a seasonal basis to man the station during operating hours. Maintenance and repair costs over five years are anticipated to

be \$5,000 to \$10,000 per year.

The total 2015-16 cost to get the Residential Recycled Fill Station fully operational is estimated to be \$420,000. The filter purchase and installation, public outreach, signage, and creation and management of the permit program will come from 2015-16 appropriation request from the Water Pollution Control Plant Enterprise fund balance reserve to account 593-51-002-5240 in the amount of \$420,000 . Part-time personnel costs in the amount of \$25,000 will be requested during the 2016-17 budget update process.

ATTACHMENTS

- Recycled Water Uses Allowed in California
- Rough Diagram of Proposed Tertiary Treatment System at WPCP
- Water Board Residential Recycled Notice August 2015

PREPARED BY: Judy Walker, Administrative Analyst, Water Pollution Control Plant

Recycled Water Uses Allowed¹ in California

Use of Recycled Water	Treatment Level			
	Disinfected Tertiary Recycled Water	Disinfected Secondary – 2.2 Recycled Water	Disinfected Secondary – 23 Recycled Water	Undisinfected Secondary Recycled Water
<i>Irrigation of:</i>				
Food crops where recycled water contacts the edible portion of the crop, including all root crops	Allowed	Not Allowed	Not Allowed	Not Allowed
Parks and playgrounds	Allowed	Not Allowed	Not Allowed	Not Allowed
School yards	Allowed	Not Allowed	Not Allowed	Not Allowed
Residential landscaping	Allowed	Not Allowed	Not Allowed	Not Allowed
Unrestricted-access golf courses	Allowed	Not Allowed	Not Allowed	Not Allowed
Any other irrigation uses not prohibited by other provisions of the California Code of Regulations	Allowed	Not Allowed	Not Allowed	Not Allowed
Food crops, surface-irrigated, above-ground edible portion, and not contacted by recycled water	Allowed	Allowed	Not Allowed	Not Allowed
Cemeteries	Allowed	Allowed	Allowed	Not Allowed
Freeway landscaping	Allowed	Allowed	Allowed	Not Allowed
Restricted-access golf courses	Allowed	Allowed	Allowed	Not Allowed
Ornamental nursery stock and sod farms with unrestricted public access	Allowed	Allowed	Allowed	Not Allowed
Pasture for milk animals for human consumption	Allowed	Allowed	Allowed	Not Allowed
Non-edible vegetation with access control to prevent use as a park, playground or school yard	Allowed	Allowed	Allowed	Not Allowed
Orchards with no contact between edible portion and recycled water	Allowed	Allowed	Not Allowed ²	Not Allowed ²
Vineyards with no contact between edible portion and recycled water	Allowed	Allowed	Not Allowed ²	Not Allowed ²
Non food-bearing trees, including Christmas trees not irrigated less than 14 days before harvest	Allowed	Allowed	Allowed	Allowed
Fodder and fiber crops and pasture for animals not producing milk for human consumption	Allowed	Allowed	Allowed	Allowed
Seed crops not eaten by humans	Allowed	Allowed	Allowed	Allowed
Food crops undergoing commercial pathogen-destroying processing before consumption by humans	Allowed	Allowed	Allowed	Allowed
Ornamental nursery stock, sod farms not irrigated less than 14 day before harvest	Allowed	Allowed	Allowed	Allowed
<i>Supply for impoundment:</i>				
Non-restricted recreational impoundments, with supplemental monitoring for pathogenic organisms	Allowed³	Not Allowed	Not Allowed	Not Allowed
Restricted recreational impoundments and publicly-accessible fish hatcheries	Allowed	Allowed	Not Allowed	Not Allowed
Landscape impoundments without decorative fountains	Allowed	Allowed	Allowed	Not Allowed
<i>Supply for cooling or air conditioning:</i>				
Industrial or commercial cooling or air conditioning involving cooling tower, evaporative condenser, or spraying that creates a mist	Allowed⁴	Not Allowed	Not Allowed	Not Allowed
Industrial or commercial cooling or air conditioning not involving cooling tower, evaporative condenser, or spraying that creates a mist	Allowed	Allowed	Allowed	Not Allowed

Recycled Water Uses Allowed¹ in California

(continued)

Use of Recycled Water	Treatment Level			
	Disinfected Tertiary Recycled Water	Disinfected Secondary – 2.2 Recycled Water	Disinfected Secondary – 23 Recycled Water	Undisinfected Secondary Recycled Water
<i>Other uses:</i>				
Groundwater recharge	Allowed under special case-by-case permits by RWQCBs ⁵			
Flushing toilets and urinals	Allowed	Not Allowed	Not Allowed	Not Allowed
Priming drain traps	Allowed	Not Allowed	Not Allowed	Not Allowed
Industrial process water that may contact workers	Allowed	Not Allowed	Not Allowed	Not Allowed
Structural fire fighting	Allowed	Not Allowed	Not Allowed	Not Allowed
Decorative fountains	Allowed	Not Allowed	Not Allowed	Not Allowed
Commercial laundries	Allowed	Not Allowed	Not Allowed	Not Allowed
Consolidation of backfill material around potable water pipelines	Allowed	Not Allowed	Not Allowed	Not Allowed
Artificial snow making for commercial outdoor uses	Allowed	Not Allowed	Not Allowed	Not Allowed
Commercial car washes, not heating the water, excluding the general public from washing process	Allowed	Not Allowed	Not Allowed	Not Allowed
Industrial process water that will not come into contact with workers	Allowed	Allowed	Allowed	Not Allowed
Industrial boiler feedwater	Allowed	Allowed	Allowed	Not Allowed
Non-structural fire fighting	Allowed	Allowed	Allowed	Not Allowed
Backfill consolidation around non-potable piping	Allowed	Allowed	Allowed	Not Allowed
Soil compaction	Allowed	Allowed	Allowed	Not Allowed
Mixing concrete	Allowed	Allowed	Allowed	Not Allowed
Dust control on roads and streets	Allowed	Allowed	Allowed	Not Allowed
Cleaning roads, sidewalks, and outdoor work areas	Allowed	Allowed	Allowed	Not Allowed
Flushing sanitary sewers	Allowed	Allowed	Allowed	Allowed

This summary is prepared from the December 2, 2000-adopted Title 22 Water Recycling Criteria and supersedes all earlier versions. Prepared by Bahman Sheikh and edited by EBMUD Office of Water Recycling, who acknowledge this is a summary and not the formal version of the regulations referenced above.

¹ Refer to the full text of the December 2, 2000 version of Title 22: California Code of Regulations, Chapter 3 Water Recycling Criteria. This chart is only an informal summary of the uses allowed in this version, with the exception of orchards and vineyards noted as "Not Allowed²" on page 1 and explained below.

² Per California Department of Public Health letter of January 8, 2003 to California Regional Water Quality Control Boards.

³ Allowed with "conventional tertiary treatment." Additional monitoring for two years or more is necessary with direct filtration.

⁴ Drift eliminators and/or biocides are required if public or employees can be exposed to mist.

⁵ Refer to Groundwater Recharge Guidelines, available from the California Department of Public Health.



Dual Filters

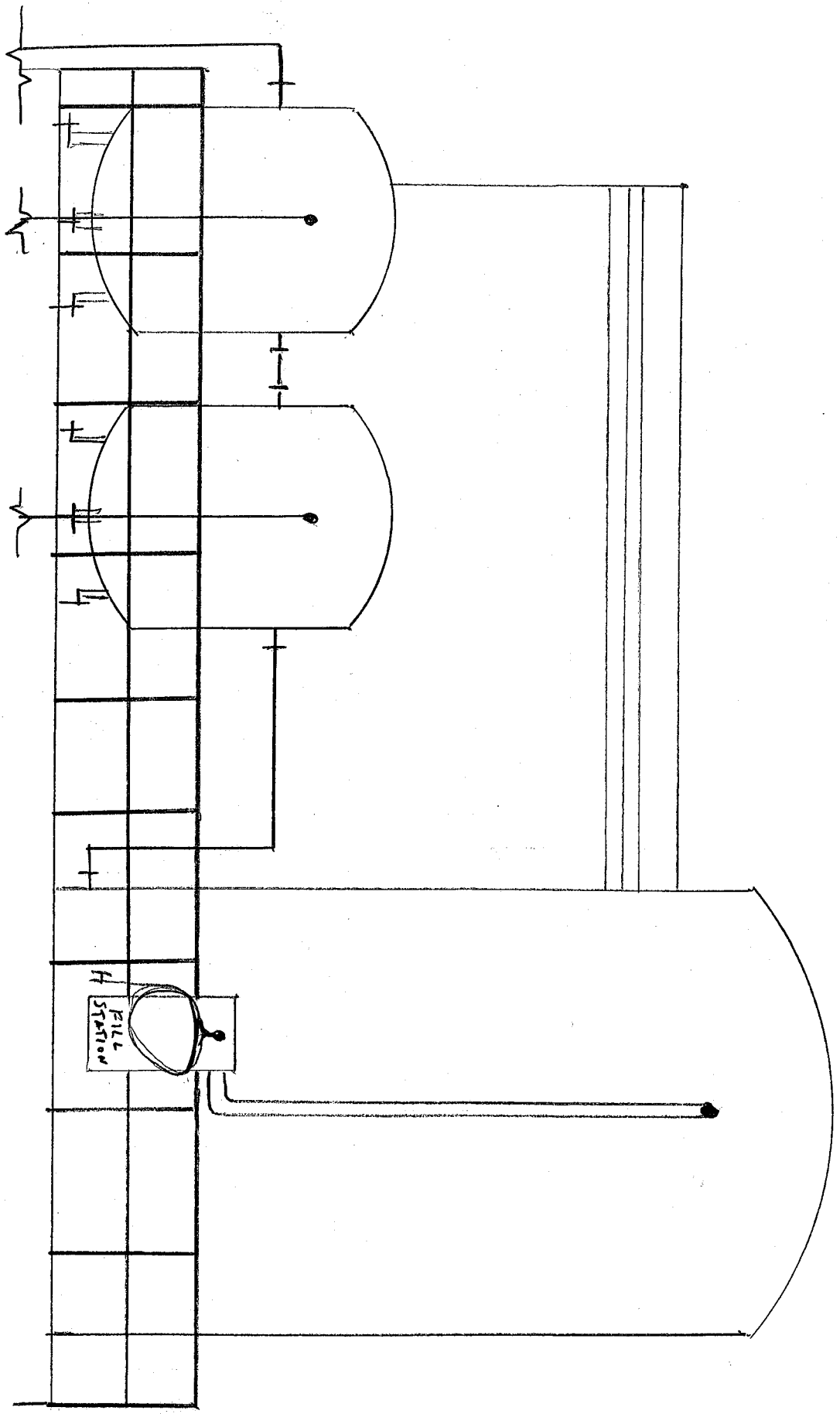
Storage Tank

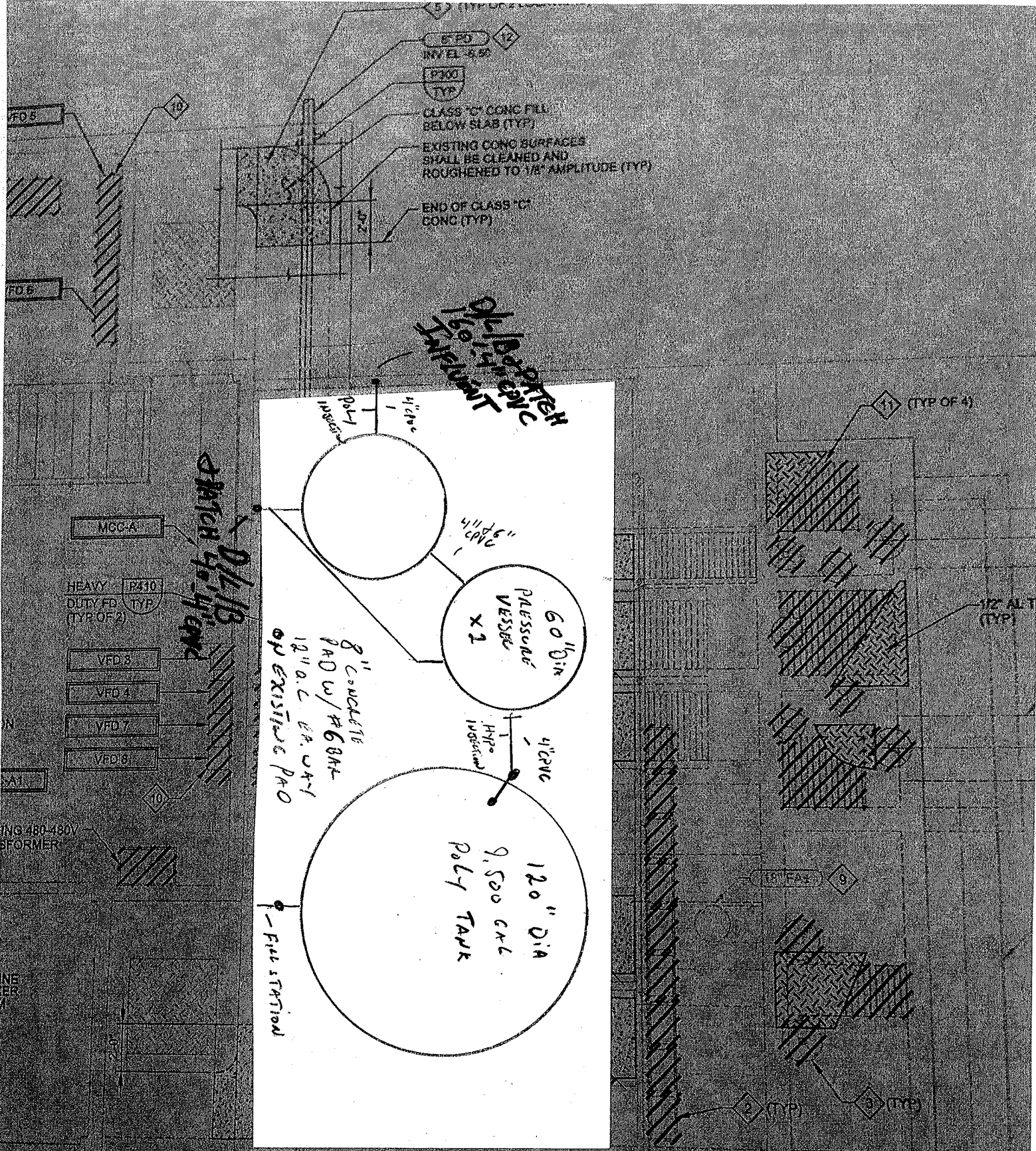
Existing Gate

Existing Gate

Proposed Traffic Flow

Davis Street





*120" DIA
POLY TANK
8" CONC RETE
PRO W/ #6 BHT
12" O.C. BR. JCT
OP EXISTING PRO*

*8" CONC RETE
PRO W/ #6 BHT
12" O.C. BR. JCT
OP EXISTING PRO*

*4" PVC
HYP
1/2" DIA*

*60" DIA
PRESSURE
VESSEL
X 2*

*4" PVC
HYP
1/2" DIA*

*120" DIA
9,500 GAL
POLY TANK*

Full Station

*6" FD
INVEL-5.50
P300
TYP
CLASS "C" CONC FILL
BELOW SLAB (TYP)
EXISTING CONC SURFACES
SHALL BE CLEANED AND
ROUGHENED TO 1/8" AMPLITUDE (TYP)
END OF CLASS "C"
CONC (TYP)*

*MGC-A
HEAVY DUTY FB (TYP OF 2)
VFD 3
VFD 4
VFD 7
VFD 8*

*480-480V
FORMER*

A PLAN
SCALE: 1/4" = 1'-0"

San Francisco Bay Regional Water Quality Control Board

August 12, 2015

Water Board Approves Residential Recycled Water Fill Stations

In response to the current drought, municipal recycled water programs in the San Francisco Bay Region have initiated the use of residential recycled water fill stations. In essence, the stations allow residential customers to drive up, fill up, and take the water home (Figures 2a and 2b).



Figures 2a and 2b. *Examples of recycled water fill stations.*

There are currently eight recycled water programs offering fill station pick-ups in the Region, with several more in development (see table below). The recycled water being distributed is high quality, disinfected tertiary-treated recycled water, and suitable for many uses, including irrigation of landscape plants, parks, playgrounds, food crops, in decorative fountains, and for fire-fighting. The primary use is for landscape plants and trees, in response to mandatory reductions of potable water for such uses.

Water recyclers in the San Francisco Bay Region have been producing and distributing high quality recycled water for more than three decades. Distribution for large-scale projects is through permanent buried pipelines and constructed irrigation systems, often identifiable because of the purple pipe used for such systems. Those projects take a long time to design and build. Distribution by truck-hauling is also used, and is particularly useful for short-term work such as on construction sites or difficult-to-access projects such as watering trees along a busy street.

The current interest in residential recycled water fill stations in this Region started in 2014 with Dublin San Ramon Services District (DSRSD). Permitting of the residential fill stations follows the same pathway as the commercial truck-fill stations: an engineering report describing the project must be approved by the State Board's Division of Drinking Water and the Regional Water Board, then the local recycled water agency trains each user and issues permits. The local water agency tracks water use by volume, date, and location. The residential fill programs, while only active since 2014, have already implemented lessons learned, such as using dual-valved fill-hoses, providing stick-on labels for each recycled water container, establishing a maximum allowed volume per vehicle (water is heavy, 50 gallons is about 400 pounds, plenty for most home cars!), and even traffic control due to the large number of interested customers.

To date, the residential recycled water fill station projects have been tremendously popular. For water recyclers, it is an opportunity to showcase the benefits of recycled water and for homeowners, the opportunity to preserve landscape plants and trees despite serious potable water use restrictions during drought. Still, the volume of recycled water distributed from residential fill stations is small compared to pipeline-projects and commercial truck-hauling. For example, DSRSD reported as of July, their 2,500 residential pick-up customers have hauled 12 million gallons, versus about 1,500 million gallons used by fixed-pipeline projects in the same time. Livermore reported residential customer pick-ups of 2.2 million gallons. But the objective is not to maximize the volume served, but rather to provide recycled water to widely distributed residential property end-uses, in timely manner, now, during the drought. One recycled water agency noted the most satisfying benefit of their residential fill station program is educational outreach, with their customers now well-educated about recycled water, and even active advocates for increased use of this valuable and available resource. Tempering those benefits, another agency noted that some customers are using the water to maintain lawns in near-pre-drought conditions; for those customers, the availability of recycled water may be reducing the perceived need to switch to drought-tolerant, water-efficient landscapes.

Residential Recycled Water Fill Station Projects in SF Bay Region, as of July 2015

LOCATION	ADDRESS	DAYS	TIMES
Central Contra Costa Sanitation District, Martinez	At Household Hazardous Waste Facility, 4797 Imhoff Place, Martinez	M, T, W, Th, F and Saturday	8 am to 6 pm
Delta Diablo Sanitation District, Pittsburg/Antioch	2500 Pittsburg-Antioch Hwy.	S & S	9 am to 3 pm
Dublin San Ramon Services District: Pleasanton:	7399 Johnson Drive, Pleasanton	M, T, W, Th, F S & S	10 am to 7 pm 8 am to 3 pm
Dublin:	Dublin Blvd at Clark Avenue, Dublin	M, W, F	9 am to 4 pm
City of Livermore	At Livermore Water Reclamation Plant, 101 W. Jack London Blvd., Livermore	M, T, W, Th, F T, W & F M & Th	6:30 am to 8:30 am 2:00 pm to 4:00 pm 12 Noon to 7:00 pm
North Coast County Water District, Pacifica	At NCCWD office, 2400 Francisco Blvd. Pacifica		
North Marin Water District, Novato	At NMWD office, 999 Rush Creek Place, Novato	M, T, W, Th, F	8 am to 4 pm
Palo Alto	Palo Alto Regional Water Quality Control Plant, 2501 Embarcadero Way, Palo Alto	M, T, W, Th, F	5:30 am to 5:30 pm
Redwood City	Public Works Corp Yard, 1400 Broadway, Redwood City		

There are also numerous recycled water fill stations in the Region for municipal and commercial truck operators. The Bay Area Clean Water Agencies (BACWAA) compiled a Commercial Truck Fill Guide, most recently updated in June, available on BACWA’s website, www.bacwa.org, under ‘Documents’.

For questions about recycled water uses and permits, please contact Water Board staff engineer Blair Allen, at 510-622-2305, or ballen@waterboards.ca.gov.



City of San Leandro

Meeting Date: February 16, 2016

Resolution - Council

File Number: 16-044 **Agenda Section:** CONSENT CALENDAR

Agenda Number:

TO: City Council

FROM: Chris Zapata
City Manager

BY: Debbie Pollart
Public Works Director

FINANCE REVIEW: David Baum
Finance Director

TITLE: RESOLUTION for Appropriation of Water Pollution Control Plant Enterprise Fund Balance Reserve in the Amount of \$420,000 for the Purpose of Procuring and Installing a Residential Recycled Water Fill Station in 2015-16 at the Water Pollution Control Plant

WHEREAS, the City operates and maintains the Water Pollution Control Plant (WPCP), which treats an average of five million gallons per day of municipal and industrial wastewater; and

WHEREAS, the Governor's Executive Order issued in 2014 because of the drought prioritized the funding and construction of water recycling projects; and

WHEREAS, a number of wastewater treatment facilities in the Bay Area have implemented stations at which residents can acquire up to 300 gallons of recycled water at a time for the purpose of landscape maintenance; and

WHEREAS, the City's General Plan policies encourage the increased use of recycled water for non-potable purposes.

NOW, THEREFORE, the City Council of the City of San Leandro does RESOLVE as follows:

1. That this project is categorically exempt from the California Environmental Quality Act (Public Resources Code Section 21000, "CEQA") pursuant to CEQA guidelines 15301; and
2. That for fiscal year 2015-16 an appropriation of funds be made from the WPCP Fund balance reserve in the amount of \$420,000 to account 593-51-002-5240; and
3. That the expenditure of these funds to procure and install components for a tertiary treatment system at the WPCP is authorized.