

**TJC**

and ASSOCIATES, Inc.

Message from the President

Employment Opportunities

Controller Upgrade for the Oro Loma Effluent Pump Station

TJCAA's Business Certifications

- Alameda County Small, Local Emerging Business
- Bay Area Green Business Program, Green Business
- City of Oakland Local Business Enterprise
- California DGS Micro Business (SB (micro))
- Port of Long Beach SBE
- Port of Oakland LIABE/SBE/VSBE
- San Diego County Water Authority SBE
- SoCal Network SBE
- CA PUC WBE
- Sacramento Municipal Utilities District (SMUD)

# Summer The TJCAA Quarterly

# 2016

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## Message from the President, Gianna Zappettini



Yosemite Falls

This year marks the 100th anniversary of the National Park Service. To celebrate, I recently revisited Yosemite and witnessed, among other things, the magnificent falls in the valley. I was once again awestruck by the power and

beauty of the thunderous cascade over the granite cliffs. The replenishment of water due to near-normal rainfall reminds us of the many projects that are needed to design, improve, or upgrade water infrastructure around the state. If you have such a project requiring structural or electrical engineering, or control systems programming, I encourage you to revisit TJCAA as a potential team member. We would be happy to celebrate and work with you!

## Employment Opportunities

TJCAA is looking for qualified engineers to work on great projects with great people. To view and apply for open career positions, visit our website at [www.tjcaa.com](http://www.tjcaa.com).

## Controller Upgrade for the Oro Loma Effluent Pump Station

TJCAA recently helped the East Bay Discharge Authority to upgrade the controls for the largest pump station in its system. EBDA provides cost efficient disposal of treated wastewater produced by its member agencies (the Cities of San Leandro and Hayward, Union Sanitary District, Oro Loma Sanitary District, and Castro Valley Sanitary District) and the Livermore-Amador Valley Water Management Agency. This discharge system serves nearly 900,000 people.

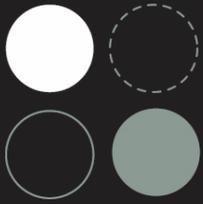


OLEPS Pump Room

EBDA owns and operates a 7-mile outfall that features a 2,000-foot diffuser system to dilute and mix the dechlorinated effluent deep in San Francisco Bay. Its conveyance and discharge system includes 14 miles of transport piping and four effluent pump stations, which route the highly treated

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**Controller Upgrade for the Oro Loma Effluent Pump Station**

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wastewater through a dechlorination facility before discharge.

The Oro Loma Effluent Pump Station (OLEPS) is the most crucial of EBDA's pumping facilities. OLEPS uses four pumps to convey flow from three of its member agencies, Oro Loma-Castro Valley Wastewater Treatment Plant, the City of Hayward WPCF, and Union Sanitary District to the Marina

Dechlorination Facility in San Leandro. Two of the OLEPS pumps are powered by 350-hp electric motors on variable frequency drives, and two are powered

controllers. This aging, complex system had become unreliable—it was difficult to get the controllers to work efficiently together, and the pumps did not always respond as desired. EBDA needed a reliable, updated system.

*If you would like to discuss a controls upgrade for one of your important facilities, please contact us.*

In addition to station reliability, a key goal for the new system was hardware redundancy. EBDA also needed the ability to control the water

surface elevation in the relatively small wetwell for station flows between 20 MGD during the summer and 135 MGD during wet weather events.



Diesel Engine Enclosures at OLEPS

by 1,200-hp diesel engines. No small fry, each of those diesel pumps can discharge up to 115 MGD.

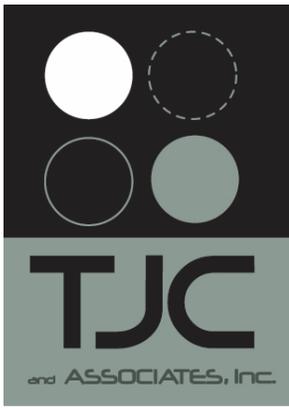
When this project started, the OLEPS control system had three Koyo DL250 programmable logic controllers (one master and two sub-controlling PLCs) and two Woodward 723 diesel engine

TJCAA designed and programmed a new control system for OLEPS that provided redundancy by replacing all of the existing PLCs and engine controllers with two Schneider Electric Quantum Unity process automation controllers (PACs). The new PACs run in parallel and pass process control information over an Ethernet network. Each PAC controls two pumps, one electric and one diesel. That way, if one of the PACs is out of service, the pump station can still have one electric and one diesel pump available for operation. The project goal of having no one single point of failure was met!

Mike Erwin of TJCAA explains that one of the interesting parts of getting the system up and running was tuning the new PAC-based diesel engine controls (controlling the fuel into the diesel pumps to maintain constant speeds). TJCAA worked with Calcon Systems, Inc.

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Controller Upgrade for the Oro Loma Effluent Pump Station

Industry Note - Code Updates

Did you know?

to have the system installed last winter.

Mike and David Stoops of EDBA developed and presented training for the new system last winter, as well. We are happy to say that with its new controllers OLEPS is now running more reliably as part of the important regional discharge system. "We thought it was a great project," EBDA tells us.



Oscillating Engine Speed During the Tuning Process



Tuned Engine Speed

We are proud to provide services for an industry so important for public health. If you would like to discuss a controls upgrade for one of your important facilities, please contact us.

## Industry Note - Code Updates

The 2016 California Building Code is available for pre-order with an "early bird special" until June 30. The expected release date is July 1 and it will become effective on January 1, 2017. Any California project that will be permitted after January 1, 2017 (including bid sets for municipal water and wastewater treatment plants) will need to comply with the 2016 edition of the CBC. To order your 2016 CBC, or for more information, go to [www.iccsafe.org/earlybird](http://www.iccsafe.org/earlybird).

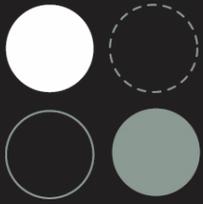
## Did you know?



Paul Playing the Trumpet

Did you know that the beautiful music you hear on our phone system, if you ever happen to be on a brief hold, is the Junius Courtney Big Band, featuring our own Paul Giorsetto on trumpet? The

song we're enjoying now is "Savoy" from the band's "US" album. You can catch more of the Junius Courtney Big Band at a couple of nice events this summer. See below in our Dates to Note section and get more info at [juniuscourtneybigband.com](http://juniuscourtneybigband.com).



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## TJCAA Fun Fact

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### TJCAA Fun Fact - Latham Square Update

From TJCAA's Oakland office in the landmark Cathedral Building, we have a birds-eye view of the ongoing Latham Square Project. This project includes an expansion of the Latham Square Plaza, improvement of the nearby intersections, upgrades to traffic signals, new roadway surfacing, bulbouts, restoration of the fountain, informational panels, landscaping, and pedestrian and decorative lighting. The Latham Square Project is being funded through a state grant and with Measure B funding from Alameda County.



Latham Square Plaza Improvements -  
View from our Conference Room.

As we noted in our spring newsletter, Latham Square Plaza was historically a hub for transit in an extensive streetcar

system. The City of Oakland describes its location as a "prominent and architecturally important intersection in the City of Oakland." The triangular shape of the plaza is created by the intersection of two significant Oakland



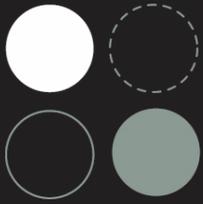
Latham Square Plaza and the  
Cathedral Building.

streets (Telegraph Avenue and Broadway), an intersection that functions as a "gateway to the emerging Uptown neighborhood and entertainment district." The City notes that Latham Square is "flanked by the Rotunda and Cathedral buildings, two of the best local examples of early 20th century architecture."

A pilot project in 2013 evaluated the potential for plaza enhancement by placing temporary improvements in an expanded pedestrian area. A series of community meetings, along with

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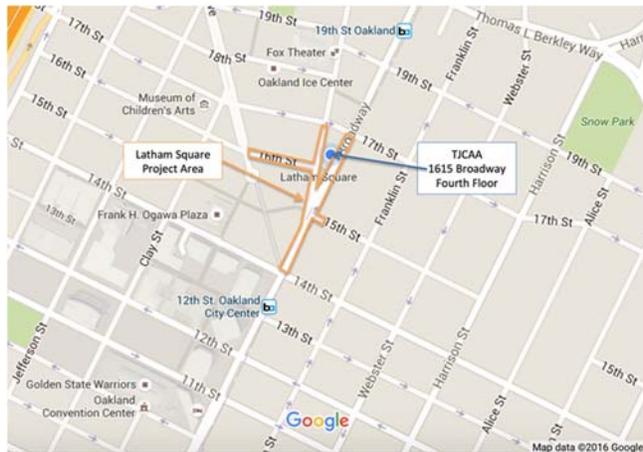
Dates to Note

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feedback received during the "Pilot Plaza," helped to shape the final project design.

With the current Latham Square Project construction, the City is seeking to enhance and permanently expand the plaza with a larger pedestrian space and improve two-way travel on Telegraph Avenue. The City anticipates that the project will be complete near the end of June. We look forward to seeing and enjoying this upgraded public space.



## Dates to Note

June 20	The Summer Solstice
June 25–26	Maker Faire® Kansas City
June 27– July 10	The Championships at Wimbledon
July 2–24	Tour de France
July 8–24	California State Fair
July 12–14	Intersolar North America, San Francisco
July 14–17	The Open Championship at Royal Troon
July 28–31	PGA Open Championship Baltusrol Golf Club
July 30–31	Maker Faire® Detroit
August 5	Junius Courtney Big Band at the Sausalito Jazz and Blues by the Bay Festival, 6:30 p.m. Gabrielson Park, Sausalito (FREE)
August 11–13	Perseids Meteor Shower
August 29– September 11	US Open Tennis Championship
September 8	NFL Season Opener Panthers at Broncos

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