

**TJC**  
and ASSOCIATES, Inc.

Message from  
the President

Featured  
Project -  
Recycled  
Water for  
Napa

TJCAA's Business  
Certifications

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

# The TJCAA Quarterly

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Message from the President  
Gianna Zappettini



We have made it through almost three months of 2014 and it has already been a busy and productive year at TJCAA. We know that our continued success is due in part to our collaboration with great clients like you. Therefore, we look forward to keeping that connection going, now and in the future.

Featured Project -  
Recycled Water for Napa

Water supply is a continuing challenge for California, even in non-drought years. Purveyors must plan far ahead, and often choose to rely on a portfolio of water sources, rather than a single one. Recycled water is a dependable source, and TJCAA has performed several projects to help our clients upgrade, expand or develop systems that store, pump and distribute recycled water.

Napa Sanitation District and Napa County are pursuing one such project that will make additional recycled water available for irrigation and other outdoor uses: the Milliken-Sarco-Tulocay (MST) Recycled Water Project. Continuing our productive team relationship with RMC Water and Environment, TJCAA provided electrical, controls, and structural engineering design services for the project.

Our electrical and controls engineers, led by TJCAA Project Manager Paul Giorsetto, developed a design for service and power distribution equipment, pump station motors and motor controls, and electrical building auxiliary electrical and lighting. TJCAA provided structural design of the booster pump station and support structures

for pipeline creek crossings. Our design was completed in February 2014, and as of this writing, bidding is in progress. Andrew Damron, the Capital Program Manager for the Napa Sanitation District, informed us that the bid opening will be in April.

The MST Recycled Water Project is intended to provide an additional 400 acre-feet per year of recycled water in the short-term and potentially over 2,000 acre-feet per year in the long-term to local Napa Valley agricultural and commercial customers.

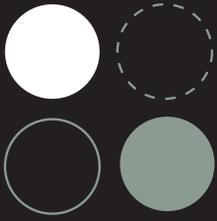
To provide information that will support financial decision-making, explains TJCAA Project Engineer Daisy Yu, the team was tasked with preparing two designs for the project. Alternative A features the flexibility to expand from three pumps to five as system subscriptions increase, and a smaller-scale Alternative B sizes the facilities to accommodate only three pumps. Both of the structural designs include a 12-foot-tall concrete masonry unit block building on a reinforced concrete slab on grade, with a gabled roof and skylights. Because the station is in an architecturally sensitive area near the historic Napa State Hospital, stucco finish was included to improve aesthetics.

Elaine Tee was the engineer of record for the electrical design, which included a new switchboard, remote telemetry unit panel (based on a programmable logic controller), operator interface panel, and radio communications equipment. Unusually, the control design also required implementation of a closed-system, series pump station scheme that included control modifications to the District's Soscol Pump Station to work in tandem with the new booster station.

The SCADA system concept also required additional expansion to incorporate a radio repeater station located at the West Napa Pump Station to ensure reliable communication of

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Did you know?

Entertainment

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operational data and control signals. To maintain proper operational pressure for recycled water delivery to the District's customers, the design for motor controls includes variable frequency drives.

The County explains in its MST newsletter that recycled water is already in use locally "to irrigate Chardonnay and Eagle Vines Golf Clubs, Napa Golf Course, Napa Valley College, Napa Valley Gateway Business Park, Kennedy Park and others. Recycled water can be used in place of groundwater or other sources for landscape and vineyard irrigation." TJCAA is proud to be part of water supply solutions. If you would like to discuss your recycled water project, please contact us.



Project Team Members at Soscol Pump Station

## Did you know?

Maker Faire is coming around again! The two-day Maker Faire is billed as the "largest DIY festival on Earth." (makerfaire.com) We have attended the Faire in San Mateo, and we agree that it is a wonderful, giant show and tell. Makers at the event set up booths, displays, and/or interactive exhibits, or sometimes, simply *drive around* in their exhibits. You might see everything from flying robots to fabric art techniques, all within a short walk.

Highlights of previous Maker Faires include watching RC boat battles, getting doused by a giant Coke-and-Mentos display, hearing a presentation by a world record paper airplane maker, and testing out a beautifully simple solar maker model, crafted in wood. A personal highlight for young maker Eli C. was talking with an astronaut, who told Eli about the time he phoned NPR's "Car Talk" call-in show from his "government vehicle" —the Space Shuttle!

Maker Faire is of course not the only place you can demonstrate your maker cred. Did you know that the MIT admissions application process includes the opportunity for applicants to submit a "Maker Portfolio" that will be reviewed by MIT staff or faculty? The portfolio could include many different types of projects, such as the following examples offered by mitadmissions.org: "new origami designs, a chainmail suit, a potato cannon, a knitted fractal, or a computer program/app." With an emphasis on learning, making, and perhaps even struggling to create a project, the maker portfolio lets applicants describe their problem-solving skills as applied in extracurricular settings. A young maker we know submitted his online game as part of his portfolio. Cool!

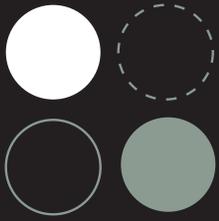
Did you know that once you get into MIT, you can make use of your maker skills by building with Legos and Lego robots in MIT's Media Lab? Now that's fun in education! For more fun, we are including photos of Lego creations by some of our own young makers on the last page.

## Entertainment

In keeping with the theme, "The Lego Movie" (PG, 100 minutes) is this spring's entertainment focus. This movie features an ordinary Lego minifigure (one of those little "Lego guys") who finds himself

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## Dates to Note

Engineering Position Open at TJCAA

Lego Creations from our Young Makers

becoming a central figure in a grand adventure. Our hero must stop a powerful villain from—oh, no!—gluing everything in the world together permanently. Lego fans will see many of their favorite Lego themes and sets come to life on the big screen. Seeing this even prompted one of our kids to make several of his own stop-action movies. Here is a still frame from one of his films; contact us if you want to buy the international rights to this action thriller.



Scene from Eli C's movie "Stan and Gus"

## Dates to Note

- March 20 The Vernal Equinox
- March 29 SOL at Angelica's (angelicasllc.com)
- March 30 Formula 1 Grand Prix of Malaysia
- March 31 Major League Baseball Opening Day
- April 10-13 Golf - The Masters at Augusta
- April 15 Taxes Due
- May 3 140th Running of the Kentucky Derby
- May 14 The Flower Moon (full moon)
- May 17 Pole Day for the Indianapolis 500
- May 17-18 Maker Faire, San Mateo Event Center
- May 18 Bay to Breakers in San Francisco
- May 19 Carburation Day for the Indianapolis 500
- May 25 Indianapolis 500

## Engineering Position Open at TJCAA

TJCAA is looking for a bright, energetic, CA licensed engineer to fill a mid-level position in its Instrumentation, Controls and Electrical division. We specialize in public sector projects for water, wastewater and other environmental infrastructures. If you know someone who is well suited for this great opportunity, please have them contact us via email at [officemanager@tjcaa.com](mailto:officemanager@tjcaa.com). We will gladly provide more details.

## Lego Creations from our Young Makers



Firetruck scene by Aiden Yang



Train and Lego Scene by Cameron Prior

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