



**TJC**

and ASSOCIATES, Inc.

Message from  
the President

Featured  
Project -  
Novato Sanitary  
District

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
- Sacramento Municipal Utilities District (SMUD) SEED Vendor

# The TJCAA Quarterly

# 2014

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Message from the President,  
Gianna Zappettini



During this time, we inevitably look back at our accomplishments and successes throughout the year. As for TJCAA, we have been fortunate in achieving many of our goals for 2014. We could not have done that without collaborating with our great clients, colleagues,

and friends. For that, we thank you. We hope you have a wonderful holiday season and we look forward to further interactions in 2015.

Featured Project -  
TJCAA Helps Recycle

TJCAA's work on the Novato Sanitary District's Wastewater Facility Recycled Water Project included designing a new building on an existing foundation, effectively recycling the foundation so that it could be used in a new 1.7 million gallon per day Title 22 Tertiary Treatment Facility—a water recycling plant. The facility is at the District's Treatment Plant site and fulfilled a vision of efficient asset use by adding the new facility without land purchases or major reorganization of the existing plant. In addition, for many components of the new facility, the District was able to make use of existing structures and processes.

TJCAA also helped the District to "upcycle" an existing filter structure. Early in the design process, it appeared that part of the building stood over a deposit of young bay mud, a soil type that is prone to liquefaction. Because this

condition would have required a more expensive foundation, the District made sure it had an up-to-date geotechnical report, to accurately describe soil conditions across the site. The recent geotechnical report showed that the location was not over young bay mud, and TJCAA was able to incorporate the existing foundation in the new design. Eighty percent of the existing structure was demolished for the new facility, but the foundation was left in place. Throughout the project site, sequenced demolition was used to make way for incorporation of the new facilities into the existing plant.

We were pleased to continue our productive collaboration with RMC Water and Environment for this \$4.2 million recycling facility, which will save Novato an estimated 150 million gallons of water per year. As part of this innovative project TJCAA also advised the District on refurbishment of the circular clarifiers. The new facility went on line in August 2012.

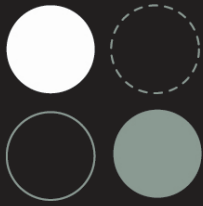


Filter Feed Pump Station and Tertiary Filter

As part of a separate, digester rehabilitation project, TJCAA inspected Digester No. 1, an older structure at the plant, and performed a structural analysis to verify that it could meet

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TJCAA is  
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UL2703

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current Code requirements. The digester was designed with a compressive strength that was close to the current requirements. The Structural Engineer of Record, Richard Thow, explains that through physical testing, TJCAA found that the concrete exhibited proper strength, and concluded that the visible cracks in the structure were determined to be merely aesthetic.

The District pursued this project to address aging treatment plant infrastructure, meet regulatory requirements, and provide capacity for the projected build-out of the service area in accordance with the adopted City of Novato General Plan. The District was able to rehabilitate and reuse the digester without a seismic retrofit, even with today's more stringent seismic requirements.

#### TJCAA is Accredited for UL2703

TJCAA is pleased to announce that our sister company, Terrapin Testing, is accredited with the International Accreditation Service for Mechanical Testing under UL2703. The UL2703 Standard, which is close to ANSI accreditation, is titled "Mounting Systems, Mounting Devices, Clamping/Retention Devices, and Ground Lugs for Use with Flat-Plate Photovoltaic Modules and Panels."

This standard is one of more than 1,000 that UL has developed and published over the years. Manufacturers often seek and advertise certification that their products meet the requirements of these standards.

Rick Cavanagh notes "My business partner, Terry Cavanagh, S.E. worked many hours with the UL2703 Standards Technical Panel, a committee that helped to develop these testing standards."

Rick highlights the benefits of testing according to the standards: "The standards evaluate and shine a light on the strengths of these racking systems. The standards allow for safer installations in many configurations."

Terrapin Testing also offers testing services for PV roof panels and many other materials:

- Structural insulated panels (sandwich panels) for roofs, floors, and walls
- Exterior windows, curtain walls, doors, and skylights
- Structural adhesives
- Sloped glass glazing
- Metallic materials (tension testing)
- Foam plastic insulation
- Wood plastic composites and plastic lumber
- Concrete
- Fasteners
- Plastics

Rick adds, "Having recognition under UL2703 allows Terrapin Testing and TJCAA to further our green goals, by assisting our clients to evaluate their products in order to bring them to market and help reduce our nation's dependency on fossil fuels. Expanding into this area of testing is also a 'feel good' thing for everyone at Terrapin. We like helping to increase the options for energy."

Please contact us if you have questions about Mechanical Testing under UL2703 or any of the other testing services we offer.

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Fun Fact about  
Our Company

Entertainment  
Review

Did you Know?

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## Fun Fact about Our Company



Terrapin Testing

Did you know that Terrapin Testing, our structural test lab, got its start in a backyard in Costa Mesa? It started as C.I. Professional Services, founded by Terry and Rick's father, Warren Cavanagh, in the 1970s.

Warren's company tested laminated sandwich panels that were used for walls and roofs.

The original lab was in the rear corner of the Cavanagh's yard. To make a place for the lab, Warren dug the plants out of an existing 8-foot-wide planter, filled it with concrete, and erected a roof over it using some panels that he had tested. It was about 20 feet long and Warren tells us "From the front of the lab area, you could see right into the living room and keep track of what was going on." That was probably a useful feature for the parents of four boys.

"Our clients would drive up into the side yard by our corner house," Warren chuckles, "unload the panels on to the parking strip, and we would bring them right on in and test them."

Very few manufacturers were in the business at the time, Warren tells us, and he got his start working for another testing lab. He eventually went out on his own and his business expanded with the industry.

In the early '90s, Warren moved the lab into a "huge" 800-square-foot building in Scottsdale, Arizona before selling the business to Terry and Rick in 1997, when they relocated it to Rancho Cordova, California. Warren recalls with a laugh that "The boys called and said 'We're going to retire you and buy your business.' They indicated that they wanted to take it lock, stock, and barrel. I

didn't really think much of it until they showed up with a truck." He stopped laughing when he recalled that he still hasn't been paid for the business!

After a few years, we moved Terrapin Testing to our current 5,000-square-foot facility .

## Entertainment Review

If you haven't already checked out some of the series that appear on PBS' Masterpiece Theater, you might want to. In particular, we are fond of Mr. Selfridge, Sherlock, and Downton Abbey. Downton Abbey will begin its much-anticipated Season 5 on January 4. This drama by writer and creator Julian Fellowes features the aristocratic Crawley family and their many servants, and is filmed at the stunning Highclere Castle. We enjoy watching as the characters struggle to adapt to the changing times, and we especially relish the priceless barbs and one-liners of Mrs. Crawley and Lady Grantham (the latter is played by the venerable Dame Margaret Natalie "Maggie" Smith). We encourage you to check out this great drama and others. Be warned—Masterpiece Theater is sponsored by a cruise company—you might soon find yourself inspired to make plans for a European vacation!

## Did you Know?

Did you know who is touring in support of their 50th year? The Who—that's who. Horton is not involved.

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**Working Fitness  
into your  
Workday**

**Dates to Note**

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## Working Fitness into your Workday

Our CADD operator Andria Prior encourages us to incorporate fitness into our workday. She recommends a brisk walk at lunch hour, for example. Here are some of the "Fitness at Work" recommendations offered by the Mayo Clinic ([mayoclinic.org](http://mayoclinic.org)).

1. Walk or bike to work. If you drive, park so that a walk is required.
2. Use stairs instead of the elevators.
3. Try working standing up.
4. Take fitness breaks, such as that lunch hour walk. Organize a group to walk together for fun and encouragement.
5. Consider trading out your chair for a fitness ball.
6. Try some gentle stretches at your desk.
7. Pick up the pace, or as the Mayo Clinic puts it, "If your job involves walking, do it faster."
8. Incorporate exercise into your work travel. Plan ahead to use fitness facilities and make use of your time for a walk when you are waiting at the airport or train station.

## Dates to Note

December 21	The Winter Solstice
December 27	SOL at Angelica's in Redwood City, Dinner and show at 8:30
January 1	The Rose Bowl
January 4	Downton Abbey Season 5 Premiere
January 16	TJCAA's 17th Anniversary
February 19	Chinese New Year
February 2	Groundhog Day
February 1	Super Bowl XLIX
February 22	The Daytona 500
February 28	Mario Andretti's 75th Birthday
March 12	Formula 1 66th Season opens in Melbourne Australia
March 25	Junius Courtney Band at "The Addition" (formerly Yoshi's San Francisco)

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