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June 2020 Monthly Meeting

Date: Tuesday, June 9, 2020

Time: 11:40 a.m. – 1:00 p.m.

Meeting Location:
Virtual Meeting via Zoom

Meeting Agenda Items

11:40 a.m. General Group Discussion

- Announcements
- May Meeting Recap
- Financial Update
- Project Discussions

12:00 p.m. Presentation Begins

1:00 p.m. Adjournment

[Click Here to RSVP](http://www.norcalpug.com)

Sharing Technologies Together

Presentation Topic

Advanced Investigation Tools & Case Studies for Problem Pump Stations, Joe Orkins, AECOM

The presentation will highlight hydraulic issues that can affect pump performance and longevity, and some of the advanced tools that can be used to evaluate existing and proposed pump stations.

Meeting Questions

Contact: Dustin La Vallee, EBMUD

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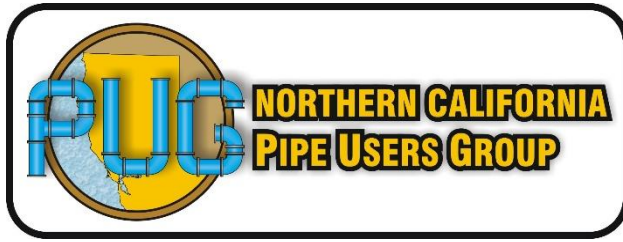
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Upcoming PUG Events

July 14: **Emerging Renewal Technology for Pressurized Pipelines**, Brad Conder, Aegion

August 11: **Resilience in Infrastructure - Recycled HDPE**, Jordan Ollanik, Advanced Drainage System

September 8: **Pipeline Inspection and Acceptance Testing**, Jeff Boschert, NCPI



MEETING MINUTES
May 12, 2020

Attendees:

Name of Attendee(s)	Company / Agency Name	Email Address
A. Coulter	Carollo Engineers	acoulter@carollo.com
Adam Brown	West Yost Associates	abrown@westyost.com
Alexandra Watson	Hydroscience Engineers	awatson@hydroscience.com
Amanda Cauble	Central San	Acauble@centralsan.org
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Amy Hwang	EBMUD	ahwang@ebmud.com
Bassam Aldhafari	SF Public Works - Hydraulic Engineering	bassam.aldhafari@sfdpw.org
Bobby Vera	West Yost Associates	bvera@westyost.com
Brent Goligoski	South Tahoe Public Utility District	bgoligoski@stpud.dst.ca.us
Bya Founas	Hydro Science Engineers Inc.	bfounas@hydroscience.com
Casey Smith	SAK Construction, LLC	csmith@sakcon.com
Christina Ramirez	West Yost Associates	cramirez@westyost.com
Cindy Preuss	HydroScience Engineers	cpreuss@hydroscience.com
Craig Smith	AECOM	craig.j.smith@aecom.com
Dolly Chen	HDR	Dolly.Chen@hdrinc.com
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Jacob Ferriera	Underground Solutions (AEGION)	jferriera@aegion.com
Jacob Monroe	ADS	jacob.monroe@ads-pipe.com
James Waples	Central San	jwaples@centralsan.org
Jason Ching	Dublin San Ramon Services District	ching@dsrsd.com
Jason Fitch	CCCSD	jfitch@centralsan.org
Jesse Yabes	City of San Jose	jose.yabes@sanjoseca.gov
Jimmy Dang	Oroloma Sanitary District	jdang@oroloma.org
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Jon Marshall	Carollo Engineers	jpmarshall@carollo.com
Jordan Ollanik	ADS	jordan.ollanik@ads-pipe.com
Kaitlyn Leong	NV5	kaitlyn.leong@nv5.com
Kingsley Kuang	EBMUD	kingsley.kuang@ebmud.com
Landon Lochrie	Castro Valley Sanitary District	LANDON@CVSAN.ORG

Minutes by: Nancy McWilliams, Solano Irrigation District
 Secretary, Nor Cal PUG

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The information disseminated on behalf of industry individuals/organizations via PUG is not necessarily the opinion of PUG, nor has PUG verified comprehensiveness or validity of the information.

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Linda Franso	City of San Jose	linda.franso@sanjoseca.gov
Lindsey Olson	West Yost	lolson@westyost.com
Liz Hirschhorn	TIDA (part of City and County of San Francisco)	liz.hirschhorn@sfgov.org
Nancy McWilliams	Solano Irrigation District	nmcwilliams@sidwater.org
Patrick Johnston	West Yost Associates	pjohnston@westyost.com
Paul	Mott MacDonald	paul.rodriquez@mottmac.com
Robert L. Allen	Trident Environmental and Engineering, Inc.	ballen@Tridenteng.com
Sarah La Vallee	Contra Costa Water District	slavallee@ccwater.com
Trevor Coolidge	South Tahoe Public Utility District	tcoolidge@stpud.dst.ca.us

Announcements:

Many conferences have been cancelled or postponed due to COVID-19

Welcome to our first virtual meeting

General:

April 2020 Meeting Minutes: An overview of the April meeting was presented.

Financial Update: The current total in the organization account is \$48,926

Project Discussions:

Effects of COVID-19 on bids:

- Adam Brown said that Union Sanitary District has decided to postpone bid due to difficulty scheduling prebid meetings, and potentially pre-construction meetings.
- Cindy Pruess said that Brentwood has project out to bid, but not opened yet.
- Amy Hernandez said that Central San had some favorable bids, but they would be rebidding to add language regarding delays due to COVID

Presentation: “Summary of the Recycled Water Model Update and Hydraulic Analysis Project” Bobby Vera, West Yost Associates and Justin Waples, Central San.

Highlights from the presentation include:

The presentation included an overview of a hydraulic modeling project that focused on evaluating whether hydraulic transients may have contributed to past pipe failures on Central San's recycled water distribution system and identifying opportunities to optimize system operations and maintenance.

- Project goals
 - Evaluate potential causes of hydraulic transients to see if they explain pipeline breaks

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- Understand recycled water system and see if there are other issues
- Evaluate impacts of new users
- Evaluate operating schemes
- Perform water age/quality modelling to understand flushing needs
- Hydraulic Transient
 - A rapid change in pressure in a distribution system as a result of a change in flow/velocity caused by pump station power failure or valve operations on mainline or turnout
 - Can be mitigated by surge protection devices and/or operational changes
- Project Drivers:
 - Reoccurring breaks/leaks on pipeline branch near Central San's Maltby Pump Station
 - District had 8-9 failures on recycled water system in 8-10 years
 - Pressure surges were suspected of causing breaks
 - Surge tank adequacy unknown
 - Need to understand system performance and limitations
- Recycled Water System
 - Branch system, with northern branch suffering most breaks
 - 1.55 mgd, average over last 5 years
 - 65% in plant
 - 32% commercial & irrigation
 - 3% other
 - Top 5 customers
 - Contra Costa Country Club: 46%
 - Buchanan Fields Golf Course: 11%
 - Delta Valley College: 6%
 - Valley View middle school & College Park high school: 5%
 - Pleasant Hill Park: 5%
 - Various others: 27%
- Project Approach
 - Update Hydraulic Model to include recycled water system detail
 - Use customer survey data to establish diurnal patterns
 - Added detail of recycled water pump station to the model
 - Added air valves to the model
 - Calibrate the model
 - Conduct hydraulic and surge analysis
- Calibration
 - Added flow monitors to customer meters
 - Added hydrant pressure monitors
 - Verified that model pressures were within 5 psi of field pressures, actually within about 2 psi
- Results
 - Found transient near end of line where most breaks occurred
 - Caused by turnout operation
 - Low pressure at turn on: 0 psi

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- High pressure at shut down: 160 psi
- Pump station operations were ok
- Hydro-pneumatic tank was appropriately sized
- Identified possible backflow condition from pond
- Recommendations
 - Install hydro-pneumatic tank at problem turnout
 - Replace all ARVs
 - Install check valve to eliminate possible backflow condition

Thank you, Bobby & Justin for being our first virtual presenters, for giving us a great presentation and all your contributions to PUG!

Next Meeting:

The next general meeting is scheduled for Tuesday, June 9, 2020. The topic is **Advanced Investigation Tools & Case Studies for Problem Pump Stations**, Joe Orlins, AECOM

Please call Nancy McWilliams at 707-455-4018 or email pugnorcal@gmail.com for additional information on this month's meeting minutes.