



Sharing Technologies Together

April 2024 Monthly Meeting

Date: Tuesday, April 9th, 2024

Time: 11:00 a.m. – 1:00 p.m.

Meeting Location:

Brown and Caldwell

201 N. Civic Drive, Ste 300

Walnut Creek, CA 94596

925-937-9010

Meeting Agenda Items

11:00 a.m. Business Meeting

- Announcements
- March Meeting Recap
- Financial Update
- Open Forum: Project Discussions, Industry News, Questions, etc.

11:30 a.m. Lunch

12:00 p.m. Presentation Begins

1:00 p.m. Adjournment

[Click Here to RSVP](#)

Presentation Topic

“Primus Line FFRP System for Pressure Pipe Rehabilitation”

Presenter: Derek Shields (Primus Line)

Primus Line is an innovative trenchless technology for pipe rehabilitation, offering a flexible fabric reinforced pipe system that allows for the rapid and cost-effective repair of damaged pipelines without the need for extensive excavation. It is widely used in various industries, including water, gas, and oil, to extend the life of existing pressure pipeline infrastructure while minimizing environmental impact and disruption to the surrounding area.

Meeting Questions

Contact: Adam Brown, Hazen and Sawyer

Phone: 831-521-9623

Email: PUGnorcal@gmail.com

Web: www.norcalpug.com

Upcoming PUG Events

May 14, 2024

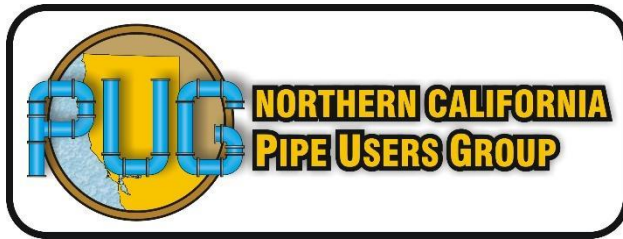
The Revolution in Pipeline Installation (Amster Howard)

June 11, 2024

All About Bypassing (Rain for Rent)

July 9, 2024

Hot Taps and Line Stops (Steve Helm, Tap Master)



MEETING MINUTES

March 12, 2024

In-Person Meeting

Attendees:

| Name | Company | Email Address |
|--------------------------|---|------------------------------|
| Alexandra Watson | HydroScience Engineers | awatson@hydrosience.com |
| Amelia Taylor | Pullman SST, Inc | ataylor@pullman-services.com |
| Ashley Stalf | EBMUD | ashley.stalf@ebmud.com |
| Ben Wright | Black & Veatch | wrightb@bv.com |
| Bob Allen | Trident Environmental and Engineering, Inc. | ballen@Tridenteng.com |
| Casey Smith | SAK Construction, LLC | csmith@sakon.com |
| Diego Soto Lopez | Central San | dsotolopez@centralsan.org |
| Dorothy Bechler | Central San | dbechler@centralsan.org |
| Dustin La Vallee | EBMUD | dustin.lavallee@ebmud.com |
| Esther Amoding | National Plant Services, Inc. | eamoding@nationalplant.com |
| Iris Yuen | CDM Smith | yuence@cdmsmith.com |
| James Kohne | Woodard & Curran | jkohne@woodardcurran.com |
| Jodie Ma | NPS | jma@nationalplant.com |
| Joe Barnes | EBMUD | joseph.barnes@ebmud.com |
| John Joseph Figueroa | National Plant Services | jfigueroa@nationalplant.com |
| John Kenny | East Bay Municipal Utility District | john.kenny@ebmud.com |
| Kevin Randeni | Central San | krandeni@centralsan.org |
| Kyle Gourley | Carollo Engineers | kgourley@carollo.com |
| Lars Stenstedt | V&A | lstenstedt@vaengineering.com |
| Lisa Zou | CCCSD | lzou@centralsan.org |
| Manuel Najjar | V&A | mnajar@vaengineering.com |
| Marc Angelo Matundan Jr. | Central San | mmatundan@centralsan.org |
| Michelle Beason | National Plant Services, Inc. | mbeason@nationalplant.com |
| Nancy McWilliams | Solano Irrigation District | nmcwilliams@sidwater.org |
| Nathaniel Johnson | CVSD | nathaniel@cvsan.org |

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 Vice Chair, Nor Cal PUG

***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. ***

| | | |
|-----------------|--|---------------------------------|
| Lennon | | |
| Nohemi Sanchez | CCCSD | nsanchez@gmail.com |
| Patrick lam | Delve Underground | lam@delveunderground.com |
| Sasha Mestetsky | CCCSD | smestets@centralsan.org |
| Seth Nickinson | Sewer AI | snickinson@sewerai.com |
| Simon Kobayashi | EBMUD | simon.kobayashi@ebmud.com |
| Turhan Bae | Stantec | turhan.bae@stantec.com |
| Victoria | Harris & Associates | victoria.orduno@weareharris.com |
| Yinu Guo | Central Contra Costa Sanitary District (CCCSD) | yguo@centralsan.org |

Announcements and General Business:

Nancy opened the meeting and conducted the group’s business.

1. Nancy thanked PUG members for a successful Annual Seminar held in February 2024.
2. Nancy reminded people about speaker slots for monthly meetings available for November, December, and January 2025.
3. Upcoming conference dates:
 - a. CWEA Annual Conference (AC24) April 9-12, 2024, Sacramento, CA
 - b. NASTT No-Dig Show, April 14-18. 2024, Providence, RI
 - c. NASCO Conference - April 17-19, New Mexico
 - d. AWWA Annual Conference (ACE 24) June 10-13, 2024, Anaheim, CA
 - e. ASCE UESI Pipelines Conference, July 27-31, 2024 Calgary, Canada
 - f. WEFTEC, New Orleans - October 5-9

Announcements:

1. Nancy mentioned that PUG board elections will be coming up in June and nominees will have a chance to introduce themselves at the May Board meeting.
2. Nancy mentioned that Solano Irrigation District is hiring an assistant/associate engineer, an engineering technician, and an intern.

Dustin La Vallee provided a recap of the January meeting minutes.

Alexandra Watson provided the financial summary report. The current total in the organization account as of February 29, 2024 was \$90,452.59.

Project Discussions:

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1. EBMUD provided an update on the Mokelumne Aqueduct Recoating project. There were 4 bids and the engineer's estimate was approximately \$18.5M and the low bid was \$15.2M. The project was awarded to the low bidder in February.
2. Nancy mentioned that large diameter HDPE pipe costs appear to be around half of PVC pipe costs and a third of the price of HDPE pipe two years ago.

Presentation:

"Data Driven Gravity Main Cleaning Optimization," Presenter: Lars Stenstedt, V&A Consulting Engineers.

Overview:

The presentation provided an overview on how data science and machine learning can be leveraged by small and medium sized collection systems for gravity main cleaning optimization. The presentation introduced and reviewed data science processes and best practices for collection systems and presented relevant case studies.

Highlights from the presentation include:

1. Sanitary Sewer Overflows (SSOs) have greatly reduced since 2008 due to stricter reporting requirements
2. Reactionary approach to optimize sewer cleaning
 - a. Reactionary approach is based on manual adjustments and increasing frequency as needed
 - b. Required good CMMS
 - c. Does not leverage GIS attributes such as location, size, slope, material, etc
 - d. Does not leverage or build on segment condition data (CCTV, etc)
3. Data is available for collection systems
 - a. GIS data
 - b. Cleaning crew observations
 - c. CCTV
 - d. SL-RAT
 - e. Smart Cover
 - f. SSO/Spills
4. Data Science and Machine Learning have created new options for using data
5. Technology progression:
 - a. 1990's: IBM PC, Netscape Browser, Google Search Engine, 2010-present: iPhone, IBM Watson, Chat GPT
6. Steps to adding a data science process:
 - a. Data - cleaning it, joining it, visualizing it
 - b. Analytics - performing data quality assessment
 - c. Using data in an application
7. Best Practices
 - a. Verify each gravity sewer is cleaned or CCTV'd per plan / SSMP
 - b. Gather Condition data during cleaning, be consistent / standardized

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- c. Scrub and fine tune the hot spot segment cleaning list
 - d. Incrementally add less frequently cleaned pipes
- 8. Cleaning crews can collect information during cleaning operations
 - a. Rank 1 - 5 for FOG, roots and other potential SSO (debris, grit)
 - i. Can be hard to get this data
 - ii. Need to clean / join data
- 9. Case Study - Hillsborough
 - a. Looked as CIWQS - collected past 5 years of data
 - b. Cleaned data
 - c. Assessed data and created a "Report Card"
 - d. Used report card to generate GIS layer to color code pipes based on priority
 - e. Created box plots showing "hot spots" and LOF scores
 - i. Looked for patterns
 - ii. Discussed segment by segment
- 10. Implementing data approach can prevent cleaning pipes that don't need it
 - a. Key takeaway - verify that every gravity main is cleaned / CCTV'd per plan and gather condition data during cleanings.

Next Meeting:

The next general meeting is scheduled for Tuesday, April 9th, 2024 and will include a presentation by John Moody from Primus Liner. The presentation will focus on pressurized pipeline repairs. The April meeting will be held in-person at Brown and Caldwell's offices located at 201 North Civic Drive, Suite 300, Walnut Creek, CA 94596.

Please call Adam Brown at 831-521-9623 or email pugnorcal@gmail.com for additional information on this month's meeting minutes.