



**MEETING MINUTES**  
**November 14, 2023**  
 In-Person Meeting

**Attendees:**

| <b>Name</b>             | <b>Company</b>                              | <b>Email Address</b>                |
|-------------------------|---|-------------------------------------|
| Adam Brown              | Hazen and Sawyer                            | abrown@hazenandsawyer.com           |
| Alexandra Watson        | HydroScience Engineers                      | awatson@hydroscience.com            |
| Anika Young             | AMERICAN DIP                                | awyoung@american-usa.com            |
| Ashley Stalf            | EBMUD                                       | ashley.stalf@ebmud.com              |
| Bob Allen               | Trident Environmental and Engineering, Inc. | ballen@Tridenteng.com               |
| Casey Smith             | SAK Construction, LLC                       | csmith@sakcon.com                   |
| Celia Kitchell          | Delta Diablo                                | celiak@deltadiablo.org              |
| Claudia I. Moran-Garcia | City of Hayward                             | claudia.moran-garcia@hayward-ca.gov |
| Diego Soto Lopez        | Central San                                 | dsotolopez@centralsan.org           |
| Dorothy Bechler         | Central San                                 | dbechler@centralsan.org             |
| Eric Biland             | Freyer & Laureta                            | biland@freyerlaureta.com            |
| Fidel Salamanca         | Harris & Associates                         | fidel.salamanca@weareharris.com     |
| Iris Yuen               | CDM Smith, Inc.                             | yuenc@cdmsmith.com                  |
| James Damasco           | City of Hayward                             | james.damasco@hayward-ca.gov        |
| James Kohne             | W&C   | jkohne@woodardcurran.com            |
| Jane Hou                | Mott MacDonald                              | jane.hou@mottmac.com                |
| Jason Fitch             | CCCSD                                       | jfitch@centralsan.org               |
| Kara Vasquez            | North Bay Waterworks                        | kv@nbwh2o.com                       |
| Kurt Chirbas            | GeoTree Solutions                           | kchirbas@cs-nri.com                 |
| Kyle Carbert            | City of Hayward                             | kyle.carbert@hayward-ca.gov         |
| Lance Chamberlin        | Psomas                                      | lance.chamberlin@psomas.com         |
| Lars Stenstedt          | V&A Consulting Engineers                    | lstenstedt@vaengineering.com        |
| Lisa Zou                | CCCSD                                       | lzou@centralsan.org                 |
| Mariza Sibal            | City of Hayward                             | mariza.sibal@hayward-ca.gov         |
| Mark Guadagni           | Delta Diablo                                | markg@deltadiablo.org               |
| Mikayla Valdez          | Mott MacDonald                              | mikayla.valdez@mottmac.com          |
| Mo Sharma               | City of Hayward                             | mo.sharma@hayward-ca.gov            |
| Molly Wedel             | EBMUD                                       | mwedel@ebmud.com                    |
| Nohemi Sanchez          | Central San(CCCSD)                          | nsanchez@centralsan.org             |
| Rosie Delgado           | Central San                                 | rdelgado@centralsan.org             |
| Rowena Patenaude        | Westlake Pipe & Fittings                    | rpatenaude@westlakepipe.com         |
| Saeed Saebi             | City of Hayward                             | saeed.saebi@hayward-ca.gov          |

Minutes by Adam Brown, Hazen and Sawyer  
 Secretary, Nor Cal PUG

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|                   |                            |                                |
|-------------------|----------------------------|--------------------------------|
| Sammy Lo          | City of Hayward            | sammy.lo@hayward-ca.gov        |
| Sasha Mestetsky   | CCCSD                      | sasha@centralsan.org           |
| Stephen P. Keller | Keller Maritime Associates | steve@kellermaritime.com       |
| Tay Nguyen        | City of Hayward            | tay.nguyen@hayward-ca.gov      |
| Taylor Fagan      | Harris & Associates        | taylor.fagan@weareharris.com   |
| Vaughan Harshman  | V&A Consulting Engineers   | vharshman@vaengineering.com    |
| VICTORIA BELLI    | HARRIS & ASSOCIATES        | VICTORIA.BELLI@WEAREHARRIS.COM |
| Vincent Marano    | CPM Pipelines              | vince@cpmpipelines.com         |
| Weizhi Cheng      | City of Burlingame         | wcheng@burlingame.org          |
| Yuan(Eric) yao    | HDR Engineering, Inc       | Yuan.Yao@hdrinc.com            |
| Dustin LaVallee   | EBMUD                      | Dustin.lavallee@ebmud.com      |
| Brooks Ryan       | Uni-Bell PVC Pipe Assoc.   | bryan@unibell.org              |
| Marie Rossen      | HDR                        | Marie.rossen@hdrinc.com        |
| Glen H.           | Mission Clay               | glenh@missionclay.com          |
| Darren Garza      | EBMUD                      | Darren.garza@ebmud.com         |
| Sarah Rahimi      | EBMUD                      |                                |
| Travis Bohan      | Mark Thomas                | tbohan@markthomas.com          |

### **Announcements and General Business:**

Dustin LaVallee opened the meeting and conducted the group's business.

1. Dustin reminded the group about memberships being due and the benefits of the membership.
2. Dustin reminded people about speaker slots for monthly meetings available for May, June, and August 2024 through the end of the year.
3. Dustin spoke about the upcoming annual seminar in February 2024.
4. Dustin mentioned the training event that PUG held in October and announced that information about CEUs will be sent out soon.
5. Upcoming conference dates:
  - a. 2024 PUG Annual Sharing Technologies Seminar (Feb 8)
  - b. CWEA Annual Conference (AC24) April 9-12, 2024, Sacramento, CA
  - c. NASTT No-Dig Show, April 14-18, 2024, Providence, RI
  - d. AWWA Annual Conference (ACE 24) June 10-13, 2024, Anaheim, CA
6. Dustin announced an event shared by Gean Na at American Concrete Pipe Association.
7. Dustin announced a job opportunity with Structural Technologies. Reach out to Ian McFatridge for more information.
8. Central San is looking for an Associate Engineer in their collection systems group. Reach out to Sasha M. for more information.
9. AWWA YP Summit will be in Portland Oregon, February 11-14, 2024. Reach out to Anika Young with American Pipe for more information.
10. James Kohne clarified the error on the PUG agenda. Kris Wall from B&K Valves will present in January. An updated agenda will be uploaded to the website.

Adam Brown provided a recap of the September meeting minutes.

Alexandra Watson provided the financial summary report. The current total in the organization account as of October 31, 2023 was \$102,437.14.

### **Project Discussions:**

1. Question was asked related to how big of a pipe can be used under a pipe ramp to avoid trenching for bypass piping.
  - a. Potential solutions include using multiple ramps with multiple smaller diameter pipes, but it was suggested that it's not a major issue to create a shallow trench at localized road crossings.
2. GeoTree is now owned by Hinkle.
3. Dustin mentioned a couple ongoing projects at EBMUD (pressure CIPP, aqueduct relining)

### **Presentation:**

**"Common Misconceptions of PVC Pipe,"** Presenters: Rowena Patenaude(Westlake Pipe and Fittings) and Brooks Ryan (Uni-Bell PVC Pipe Association).

#### ***Overview:***

This presentation will address typical questions that both non-users and users alike have about PVC pipe. Over 40,000 water and wastewater utilities in North America use PVC pipe. More than two million miles of PVC pipe are in service in North America; one million miles of water and one million miles of sewer pipe. This presentation draws on more than half a century of success that cities have had with PVC pipe in their systems.

#### ***Highlights from the presentation include:***

1. Provided an introduction to Uni-Bell PVC Pipe Association
2. Provided an overview/list of ASTM/AWWA published standards
3. Showed examples of "cheat sheets" that are published by Uni-Bell (available on website)
4. Design checks
  - a. Working pressure
  - b. Recurring cyclic surge (force mains)
  - c. Occasional surge
  - d. Hydrotstatic test
5. Testing over time has shown that PVC has good fatigue resistance.
6. Two ways to deflect PVC pipe: 1 to 1.5-deg deflections at joints allowed; also can bend the pipe after fixing either the pipe barrel or joint
7. Provided a review of compatibility with DIP and pipe repair procedures and acceptance criteria
8. Discussed a misconception that PVC pipe allows leakage at joints
  - a. Only a small amount of "make-up" water due to pipe expansion is allowed during testing.
9. Discussed pipe bell direction and how it does not affect pipe performance; however, spigot end should always be inserted into the bell end

10. Pipe is tested to 60% deflection without splitting or cracking, so recommendation of 7.5% deflection limit is conservative.
11. Showed a graph that indicates that SDR-35 and SDR-26 PVC pipe can be installed nearly down to 50 feet of cover without exceeding the 7.5% deflection limit.
12. Provided an overview of the history of PVC as well as documented studies of older installed pipe to conclude accuracy of design life expectations.
13. Reviewed studies related to wildfire damage and noted that wildfires themselves did not damage any PVC pipes in the Santa Rosa and Paradise fires.
14. Noted that freezing does not appear to affect the pipe's strength/performance.
15. Discussed aspects related to UV exposure, chemical degradation, and permeation.
16. Provided an overview of the materials that are available on their website such as calculators, technical briefs, manuals, and studies.
17. Discussed topics with the group such as UV degradation, color fading, treatment plant applications, and recycling efforts.

### **Follow-Up Questions:**

Rowena provided the following information after the meeting in response to questions after the presentation:

*Westlake has a division built around recycling PVC and TPE, recycling over 100M lbs. per year of product. Westlake Dimex is a leader in manufacturing with recycled materials: <https://westlakedimex.com/> There are other companies that offer PVC recycling. If interested, the PetroChemWire reports on what price recycled PVC is trading at every week. Typical PVC recycling consists of sorting, followed by grinding or shredding. Clean material such as post extrusion scrap from our manufacturing plants is simply ground and pulverized into pellets or powder and fed back into the compound stream to make new pipe. The material that we feed back into our pipe, however, would not be considered recycled material.*

*With respect to TiO<sub>2</sub>, we aren't able to provide the exact percentage used in our compounds. PPI TR2 range composition advises a range of 0.5 phr to 3.0 phr (parts per hundred resin), this would provide an idea of the amount.*

Thank you, Rowena and Brooks, for a great presentation and contribution to PUG's November monthly meeting.

### **Next Meeting:**

The next general meeting is scheduled for Tuesday, December 12, 2023 and will include a presentation by Vince Marano with CPM Pipelines titled "Acquaint Acquarius In-Line Inspection of Pressure Pipes for Asset Management." The November 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 [pugnocal@gmail.com](mailto:pugnocal@gmail.com) for additional information on this month's meeting minutes.

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Secretary, Nor Cal PUG

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