

## **MEETING MINUTES**

**April 8, 2025**

In-Person Meeting

**ATTENDEES:** See Attachment 1 for copy of attendee list

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

Alexandra opened the meeting and provided the following announcements.

1. Participant introductions
2. Reminded the group about signing up for monthly presentations.
  - a. Membership is \$400 per organization, and you can send as many people as you want to monthly meetings. Membership also provides a link to your firm on our website and reduced fees for our annual training in the fall and our annual seminar in February.
3. Call for PUG Presentations
  - a. If you'd like to present, we are scheduling for Nov, Dec 2025
4. Upcoming conference dates:
  - a. AWWA CA NV 2025, Water Conference of the West – Anaheim, CA, April 7-10, 2025
  - b. AWWA ACE 2025 - Denver CO, June 8-11, 2025
  - c. Tri-States Seminar – Las Vegas, August 4-7, 2025
  - d. USEI (ASCE) PIPELINES 2025 - Tampa, Florida, August 9-13, 2025
  - e. NASTT No-Dig North 2025 – Vancouver, BC, October 27-29, 2025
  - f. PUG Vendor Showcase – May 15<sup>th</sup>, 2025 – Cal State East Bay, Concord
5. James Kohne provided a recap of the March meeting minutes.
6. James Kohne provided a recap of Denver's No-Dig 2025.
7. Adam Brown provided the financial summary report. The previous balance was \$92,664.02. With \$385.55 of income and \$758.98 in expenses, the current monthly balance is \$92,290.59.

### **Attendee Announcements and Project Discussions:**

- Solano irrigation district is hiring interns
- Central San is abandoning a LS and installing new 5,100 LF of small diameter (20-24' deep) pipe and abandoning 8500 ft of sewer. Project is going out to bid.
- Plug for people to write articles for WESTT magazine as well as submit abstracts for the WESTT conference (Scottsdale, AZ).

Minutes by James Kohne, Woodard & Curran  
Secretary, Nor Cal PUG

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## **Presentation:**

**“Horizontal Hammer Boring (HHB) – An Alternate Solution for New Installations in Rock, Cobbles, and Mixed Ground”,** by Richard Revolinsky (Geonex).

### ***Overview:***

This presentation will provide attendees with in-depth knowledge of the principles of Horizontal Hammer boring, including an overview of critical components and a summary of the fundamental differences between it and other trenchless technologies. This will further the ability of designers, contractors, and asset owners to mitigate risks during installation in formidable ground conditions. Recent installations utilizing the Horizontal Hammer Boring method will be evaluated and discussed, including how the method has been successfully utilized to complete challenging projects.

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

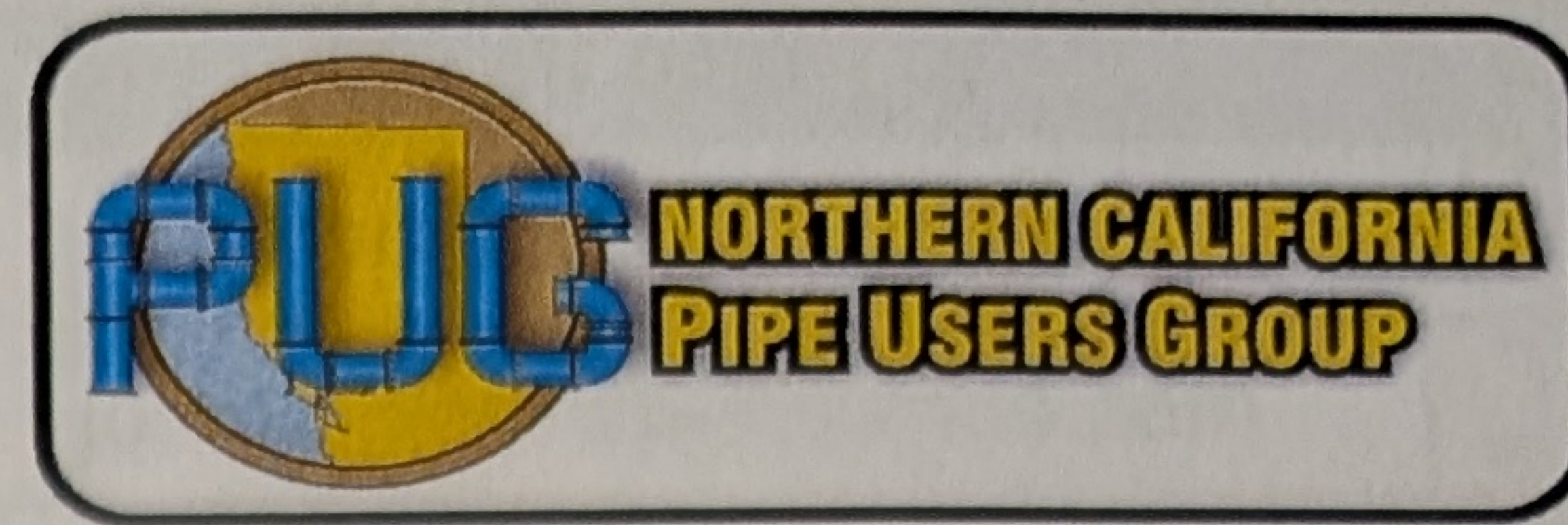
1. About Geonex
  - a. Started in Finland. Started in 2013. 5.5” to 48”. Vortek is a competitor.
2. What is HHB:
  - a. Breaking not cutting, Pulling not pushing, Linear not angular, variety of ground conditions, fast.
  - b. Trenchless, w/pneumatic hammer at front.
  - c. Major components: Downhole hammer, pilot bit, ring bit, guide auger, starter casing.
  - d. Hydraulic power pack, which is the brains of the operation. Can see all your operating parameters so you can adjust to new ground conditions. Compressor operates at ~225 psi Uses air only, so no gases in your dig hole.
  - e. Reviewed a typical site layout.
  - f. Max length is ~100m, due to potential for collar to break.
3. Technology Comparisons
  - a. Pipe Ramming vs HHB (typ max length for pipe ramming is 100-150’)
  - b. Auger Boring vs HHB (scrapes at, instead of hammering rock). Microtunneling too. Microtunneling is very expensive and has a big footprint. Higher risk of over-excavation. Extra challenges in mixed soil conditions.
  - c. Pipe Jacking vs HHB
4. Soil types and deviation expectations: Between 0.5 and 2%. Try and build in flexibility in design. Lower deviation expectations in harder materials.
5. Design Considerations:
  - a. Ensure sufficient layout space
  - b. Launch pit at higher elevation than receiving pit
  - c. Include acceptable slope range
  - d. Upsize casing size, if beneficial
  - e. Limit installations to 100m or less
  - f. Do smaller/multiple installations instead of a singular larger one.
  - g. Can dig the receiving pit after the bit gets to the other side.
  - h. Can work in submerged conditions
  - i. Single source manufacturing of complete HHB system.
6. Success Examples

- a. Southwest VA. Natural Gas. 2024. 340LF of 42". 7 days.
  - b. Congers NY. Electrical Transmission. 2024. 36", for 340'. 8 days.
  - c. Jersey, NJ. Electrical Transmission. 2024. 36" w/8 casings, 80' each.
7. Take Aways
- a. Advances through forces at the front, instead of pushing from behind.
  - b. Brakes doesn't scrape
  - c. Fast
  - d. Works in GW and mixed soils. Steel and timber are the machines enemy.
8. Questions:
- a. What is the steel thickness you use? ~3/4in at the front. Front needs to be thicker than the back since it's in tension, not compression (bad welds would be an issue).

**Next Meeting:**

The next general meeting is not a typical meeting/presentation at the Brown & Caldwell office. Instead, it will be the first (annual?) Vendor Roadshow! The Vendor Roadshow is scheduled for **Thursday**, May 15<sup>th</sup>, 2025, and will include vendor tables and product demonstrations by a multitude of product vendors. There will be two timeslots to participate, and the event will be held in-person at the Cal State East Bay Campus, 4700 Ygnacio Valley Rod, Concord, CA 94521. See the PUG website for additional information.

Please call James Kohne at 925-627-4173 or email [pugnorcal@gmail.com](mailto:pugnorcal@gmail.com) for additional information on this month's meeting minutes.



**SIGN IN SHEET**  
**MEETING DATE: April 8, 2025**

**Attendees:**

No	Name	Agency/Company	Email Address	Present?
1	Aaron Wade	West Yost	awade@westyost.com	AL
2	Adam Brown	Hazen and Sawyer	abrown@hazenandsawyer.com	X
3	Alexandra Watson	HydroScience Engineers	awatson@hydroscience.com	✓
4	Amanda Lee	EBMUD	amanda.lee@ebmud.com	AL
5	Amelia Berumen	Central San	aberumen@centralsan.org	AB
6	Ashley Stalf	East Bay Municipal Utility District	ashley.stalf@ebmud.com	
7	Ashruf Khan	West Yost	akhan@westyost.com	AK
8	Chris Hatton	SacSewer	hattonc@sacsewer.com	CA
9	Chris Peters	Brown and Caldwell	cpeters@brwnald.com	CP
10	Citlali Troncoso	EBMUD	citlali.troncoso@ebmud.com	
11	Dave Mathy	DCM Consulting, Inc.	dmathy@dcmconsults.com	
12	Diego Soto Lopez	Central San	dsotolopez@centralsan.org	DSL
13	Dolly Chen	HDR	Dolly.Chen@hdrinc.com	DC
14	Dorothy Bechler	Central San	dbechler@centralsan.org	DB
15	Dustin Rainey	Jacobs	dustin.rainey@jacobs.com	DR
16	Elena Topete	EBMUD	elena.topete@ebmud.com	
17	Eli Baterina	Harris & Associates	eli.baterina@weareharris.com	EB
18	Fidel Salamanca	Harris & Associates	fidel.salamanca@weareharris.com	
19	Iris Yuen	CDMSmith	yuence@cdmsmith.com	
20	James Kohne	Woodard & Curran	jkohne@woodardcurran.com	
21	James Kong	Central Contra Costa Sanitary District	jkong@centralsan.org	JK
22	Jane Hou	Mott MacDonald	Jane.Hou@mottmac.com	JH ✓
23	Jason Fitch	CCCSD	jfitch@centralsan.org	JF ✓
24	Jason Wong	EBMUD	jason.wong@ebmud.com	✓
25	Joe Heavin	Shannon & Wilson	joseph.heavin@shanwil.com	✓
26	Jon Pearson	EBMUD	jon.pearson@ebmud.com	✓

No	Name	Agency/Company	Email Address	Present?
27	Jordan Loyd	Central San	jloyd@centralsan.org	JL
28	Joshua Bermea	EBMUD	joshua.bermea@ebmud.com	JB
29	Kara Vasquez	North Bay Waterworks	kv@nbwh2o.com	KV
30	Karen Lee	EBMUD	karen.lee@ebmud.com	KL
31	Kevin Randeni	Central San	krandeni@centralsan.org	KR
32	Kingsley Kuang	East Bay Municipal Utility District	kingsley.kuang@ebmud.com	KK
33	Kurt Chirbas	Geotree Solutions	KURT.CHIRBAS@HENKEL.COM	KSC
34	Lisa Zou	CCCSD	lzou@centralsan.org	LZ
35	Lucy Bocanegra	West Yost	lbocanegra@westyost.com	LB
36	Mike Garcia	NOV WEFS Fiberglass Solutions	mike.garcia@nov.com	
37	Myca Icban	Central San	micban@centralsan.org	MI
38	Myra Au	Delve Underground	au@delveunderground.com	M.A.
39	Peter Symonds	Kennedy Jenks	petersymonds@kennedyjenks.com	PPS
40	Rachel Martin	Delve Underground	martin@delveunderground.com	RM
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42	Samantha Daigle	Jacobs	Samantha.Daigle@jacobs.com	SD
43	Sasha Mestetsky	CCCSD	smestets@centralsan.org	SM
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