



MEETING MINUTES

May 14, 2024

In-Person Meeting

Attendees:

Name	Company	Email Address
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Claudia Garcia	City of Hayward	Claudia
Travis Bohan	Mark Thomas	tbohan@markthomas.com

Announcements and General Business:

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

1. Nancy reminded people about PUG membership renewals coming up in July.
 - a. \$400 per agency

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- b. One membership per agency (unlimited attendees)
2. Nancy announced that monthly speaker slots are booked through February 2025 but we will always entertain requests to schedule presentations into the future.
3. Nancy reminded the group to always RSVP to attend monthly meetings, and please attend if you RSVP.
4. Nancy made an announcement about upcoming Board elections in June
5. Upcoming conference dates:
 - a. AWWA Annual Conference (ACE 24) June 10-13, 2024, Anaheim, CA
 - b. ASCE UESI Pipelines Conference, July 27-31, 2024 Calgary, Canada
 - c. Breakthrough in Tunneling, September 9-11, Denver, Colorado
 - d. WEFTEC, New Orleans - October 5-9
 - e. AWWA Cal/NV Fall Conference Oct 21-24, Reno, NV
 - f. PUG Training Day – October 17 (topic TBD)

Announcements:

1. AWWA Cal/NV YP is interested in finding speakers for the group.
2. PUG Board elections for 2 openings are happening now (nominations close 5pm, 5/24)

Adam Brown provided a recap of the April meeting minutes.

Alexandra Watson provided the financial summary report. The current total in the organization account as of April 30, 2024 was \$89,379.60.

Project Discussions:

1. ASTM standards that govern testing for flexural and testing for CIPP liner do not appear to be tailored to a pressure application for a glass-reinforced liner. Research shows that standards and testing may need to be updated/improved to account for this. Diameter in question is approximately 42”.

Presentation:

“The Revolution in Pipeline Installation,” Presenter: Amster Howard.

Overview:

The presentation included a discussion of the significant improvements in the construction of buried pipe. The AWWA Manual M55 provides the best summary of these changes and serves as the best reference. Example topics include uncompacted bedding, an uncompacted zone over the top of the pipe, and uniform terminology.

Highlights from the presentation include:

1. The presentation is largely related to AWWA M55 2020 version
2. All changes to M55 apply to all flexible pipe; M23 is for PVC pipe and has some changes as well
3. Explained how various industry references don’t currently agree on terminology
4. ASTM D2774: Table 8-1 replaces old table 8-3 (soil classifications)

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- a. Should use Class 2 for embedment of all pipe types
 - b. Has been adopted in various references, except DIP and Steel
5. Discussed the deflection of plastic pipe
- a. Reviewed soil moduli and E' values
 - b. Stronger material means deeper burial depths allowed
 - c. ASTM D4253 is very hard to do accurately; not advised to use
 - i. ASTM D7382 is a better method and uses a vibratory hammer
 - d. Very difficult to do a proper nuclear gauge test
6. Basic engineering versus engineered installation
- a. Basic
 - i. 24" or less
 - ii. DR equal to or less than 21
 - iii. 10' or less of cover
 - iv. No live or surcharge load for cover 6 feet or less
 - v. Ground water below the pipe
 - vi. Excavated soil can be used as embedment and backfill
 - vii. Embedment doesn't need to be backfilled
 - viii. Backfill over pipe does not need to be compacted
 - ix. Foundation not expansive clay, collapsing soil, or landfill
 - x. Foundation, embedment max particle size limit
 - xi. Native trench walls are stable and stiff
 - b. Engineered installation should be used when these conditions aren't met
 - i. Uncompacted bedding of gravel or crushed rock
 - 1. Helps avoid point loads at the bottom of the pipe
 - 2. Helps transfer loads to the compacted material at the haunches
 - 3. Tested at USBR in Denver
 - ii. 0.7D embedment
 - 1. Avoids damage to pipe by not compacting above 0.7D
 - 2. Can't obtain 95% compaction over a flexible pipe that flexes
 - 3. If necessary under a roadway, use crushed rock or material that can be vibrated into place, not mechanical compactors
 - iii. E' prime updated values
 - iv. Uncompacted padding layer above the pipe
7. Trench Width
- a. Recommended to leave the trench width up to the contractor.
 - b. It's up to the contractor to determine what trench width is required to achieve the required compaction
8. Flowable Fill
- a. Should be around 50 to 100 psi
 - b. 3'x6' cylinder test (don't use a slump test)
 - c. Can use native soil
9. Migration of soils
- a. Geofabric used to separate soils to prevent soil migration

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- b. Migration may weaken the support soils
10. Compaction
- a. ASTM D653: recommends 95% (D 698)
 - i. 95% is for “percent of maximum density”
 - ii. D 698 is the test for maximum density
 - b. Offered up short-hand methods for clearly stating compaction requirements related to the different ASTM standards
11. Amster’s Book = Pipeline Installation 2.0, AmsterHoward.com
12. Amster also offers an online training for pipeline installation for inspectors

Questions:

13. All changes talked about today are referenced in the M55 manual?
- a. Yes.
14. How long should CLSM set before you backfill?
- a. ASTM standard uses a “kelly ball” test to determine how long it takes to set up
 - b. Depends on the mix/design/materials (native materials take longer)
 - c. Typical waiting time is about a day, but could be as quick as 15 min
 - d. Recycled concrete is a great material for making flowable fill
15. How do you mitigate pipe floating in flowable fill?
- a. Need to calculate at what point the pipe will float and then install the CLSM in lifts.
 - b. Other options include physically holding the pipe in place during CLSM installation and setting

Next Meeting:

The next general meeting is scheduled for Tuesday, June 11th, 2024 and will include a presentation by Tony de Bellis and Garrett Rehs with Rain for Rent titled “Sewer Bypass 101 for Specification Writers”. The presentation will provide an overview of basic information that should be in any given project specification from a contractor’s point of view. The June 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.