



PIPE USERS GROUP Northern California

MINUTES May 16, 2006

Attendees:

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Dan Callnon	Cherrington	dcallnon@cherrington.com
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Presentation: *HDD Design Considerations*, by Dan Callnon, Vice President of Business Development, from Cherrington.

Dan presented on the following main topics:

- Geotechnical Evaluation
 1. Circulating pressure must be increased as bore is advanced
 2. Recommend borings every 20 feet along the alignment
 3. Core samples should be backfilled with cement slurry if immediately atop the pathway of drilling alignment
 4. Recommend an exploratory pilot hole to ensure will make it when comes to actual construction
- Environmental Issues
 1. Permitting process: recommend involving contractor early on. Can give valuable information and guidance.
 2. Drill mud and cuttings disposal – make sure cuttings are cleared from the hole or results in sticking
 3. Fracturing with loss of drill fluids may pose problems in environmentally sensitive areas. May instead use horizontal directional boring, where only enough mud is kept on the outside of the pipe to keep the system lubricated. All drilling fluids otherwise

exit through the pipe versus the borehole, reducing risk of frac-outs. Contact Dan Callnon for a white paper on this technology.

- Profile Design
 1. Entry and exit angles for steel pipe are 12°-15° and 8°-10°, respectively. Exit angles can go steeper (18°-20°) if necessary.
 2. Depth of cover should be determined from the lowest surface elevation of the alignment, construct at roughly 40' below grade (consult the HDD contractor on the design).
 3. Radius of profile is commonly 100 feet per diameter inch.
 4. Design profile at 1:1 or will have elliptical versus circular profile – too difficult to construct if not circular.
 5. Incorporate core data into the design criteria.
 6. Consider specifying the contractor must monitor continuous borehole pressures so is on top of potential frac-outs.
 7. Benefit of HDPE: tight radius on bigger pipe can shorten the crossing and result in lower construction costs. Benefit of steel: can withstand higher external pressures, and can push for outfalls.
 8. Always put in conductor barrel when drilling in rock.
 9. Use 30%-50% over the OD of product pipe for the reamed hole. Do bigger reamed hole with softer soils. Gravels, cobble, boulders, glacial till are no good for HDD technique.
- Execution Plan
 1. Such a plan includes mobilization, set-up, pilot hole, hole opening & cleaning, pull back, and demobilization and cleanup. Also includes mitigation measures.
 2. Recommend HDD contractor must prepare execution plan as requirement of contract documents.
 3. Such a plan is separate from a SWPPP prepared by the General Contractor.
 4. Exploratory pilot holes are used to test if HDD is possible. There is a tool used to see if HDD is possible in “iffy” ground. “Size each joint” – push one stick of pipe in, pull back & see if hole collapses immediately.
- Risk Allocation
- General / Q&A
 1. HDD can be used for gravity sewers if the slopes are 2% or greater.
 2. Mini rig versus maxi rig: high pressure and low volume versus low pressure and high volume. Note that pressure and volume associated with maxi rigs may result in more frac-outs, so would want to go deeper.

A big thank you to Dan Callnon for this informative and educational presentation!

General:

Call for Papers: 2007 No-Dig in San Diego. Deadline is June 1, 2006. May submit online at NASTT.org.

NASTT/WESTT Training Course: Tentatively scheduled for August 15. Will be on Pipe Bursting, and will be full day course complete with CEUs. Negotiating a reduced cost registration fee for PUG members. Looking for rooms to accommodate ~50 people; Sasha with CCCSD will investigate possibility of using their facility for this event. More details will be forthcoming.

Field trip: So far 16 people are signed up. Will allow more than 2 people to go from each agency if there is still space available nearing the RSVP deadline. Date: June 13, Location: Gladding, McBean (clay pipe manufacturer) in Lincoln, CA. This will replace our June 20 meeting and will last all day.

Executive:

Non-profit application status: Will be sent in week of 5/22 sans the financial report. Financial report can be sent in as amendment since will take a lot of time to prepare. Allen will prepare as his schedule permits.

Treasury status: Currently have \$33,762 in the treasury. Checks still need to be given to Cara to wrap up the seminar accounting; Allen will follow-up.

Membership renewals: Allen will be sending out membership renewals June 1. Executive Committee will review the mailing list for updates and provide to Cara who will turn around to Allen by Friday, May 26. Allen will stuff & send using updated mailing list. Allen will ensure the agency is highlighted on the form to ensure there is no confusion as to whether the member is an individual or the agency. (Is agency!)

Next Meeting:

June's general meeting is replaced with the **TUESDAY, JUNE 13** field trip to **Gladding McBean Clay Pipe Manufacturing Plant**. Contact Cara Ingebriksen at Cingebriksen@BrwnCald.com for more details.

Our next general meeting will be held **TUESDAY, JULY 18, 2006** at the offices of **RMC Water & Environment** located at **2001 N. Main St., Suite 400, Walnut Creek, CA 94596**. The topic will be on **Horizontal Direction Drilling of Ductile Iron Pipe**, given by Harry Niles of the Ductile Iron Pipe Research Association (dipra.org). Please call (925) 627-4151 or e-mail Jennifer Glynn (JGlynn@rmcwater.com) to RSVP.