

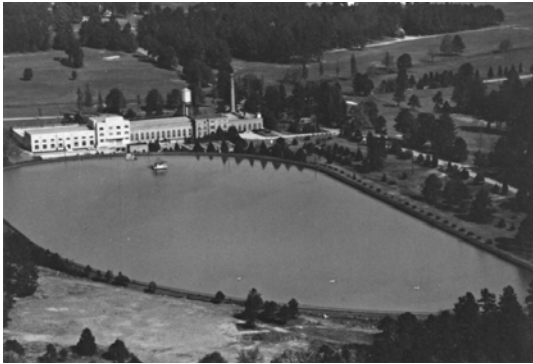


The Durham Engineers Club Cordially Invites You
to our Thursday, January 19, 2017 Meeting

Durham Water Supply Reservoir Projects

featuring guest speakers

***Alex Rutledge, PE, PG & Charles Johnson, PE, SE
Schnabel Engineering***



[Register Now!](#)

You can now pre-pay with a credit card or PayPal account as you register!

Meeting time is at 6:00 pm.

When

Thursday January 19, 2017 from
6:00 PM to 8:30 PM EST

[Add to Calendar](#)

Where

Croasdaile Country Club
3800 Farm Gate Ave
Durham, NC 27705

Dear Fellow Professional :

Please consider this special invitation to attend our regular monthly meeting on Thursday, January 19, 2017 from 6:00 to 8:30 PM.

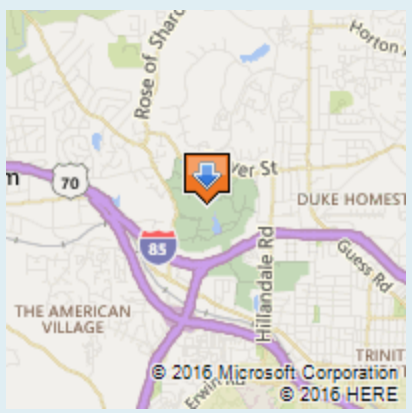
Durham Reservoir Projects:

**Part 1: Rehabilitation of Williams Water Treatment Plant
Terminal Reservoir**

**Part 2: Asset Management for the City of Durham's
Reservoirs**

Part 1: Williams Water Treatment Plant

The Williams Water Treatment Plant in Durham, NC was built in the early 1900s, and will undergo major renovations and upgrades over the next several years. The slopes of the Terminal Reservoir are lined with severely deteriorated



[Driving Directions](#)

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concrete that has been in service since original construction. Schnabel Engineering evaluated alternatives for repair or replacement of the reservoir slope lining system. Alternatives included a concrete lining system, articulated concrete blocks (ACBs), and concrete-filled Geoweb®, all of which are viable stormwater channel lining systems.

Prior to construction of the new slope lining system, approximately 100,000 cubic yards of normally consolidated backwash sediment will be removed from the reservoir. Schnabel evaluated alternatives for dredging the backwash sediment. Part 1 of the presentation will compare and contrast the lining system and dredging alternatives, highlighting performance, maintenance, operational, and cost differences.

Part 2: Lake Michie and Little River Dams

The second part of this presentation will overview assessments and rehabilitation work at the City of Durham's two water supply reservoirs, Lake Michie and Little River Reservoir, which have supplied the City's water for 90 years. To meet anticipated demands for the next 50 years, the City will need the safe yield from both existing dams and a water supply allocation increase from Jordan Lake.

This presentation will overview the City's approach to infrastructure planning and challenges of incorporating dams into their asset management program. This typically includes condition assessment, consequence of failure evaluation, and prioritization of maintenance, repair, and rehabilitation projects based on risk. Because the Lake Michie Dam was constructed prior to the existence of dam safety criteria in North Carolina, a Potential Failure Mode Analysis and risk assessment were performed, revealing other dam safety concerns. A rehabilitation plan was developed for a 50-year planning horizon and is currently being implemented.

Alex Rutledge is a Senior Engineer and Geologist with Schnabel Engineering in Greensboro, NC, where he has worked for the past 10 years. Alex received his BS in geology from West Virginia University, his MS in geophysics from the University of Kentucky, and an MS in geotechnical engineering from Virginia Tech. Most of his career has been focused on dams; including design, rehabilitation, site investigations, and construction oversight. Alex is currently serving as the Past Chair of the Association of Environmental and Engineering Geologists (AEG) - Carolinas Section, and on the national AEG Governance Committee.

Charles Johnson is a registered Structural Engineer and Civil Engineer, also with Schnabel. Charles received his BS and MS from North Carolina State University, focusing in Structures & Mechanics. He has worked on a wide variety of concrete and steel projects. He has performed international research on bulkheads and maintenance closure structures for dams, including Grand Coulee Dam, which is the largest electric power-producing facility in the United States. In addition to dam projects, Charles also has worked in the nuclear and commercial building industries

Please click on the link below to register; the cost to attend is \$25 for members and \$35 for non-members. You can now pre-pay as you register with a credit card or PayPal account, mail a check, or pay at the door with cash or check. We cannot accept credit cards at the event.

The price includes a buffet dinner at the Croasdaile Country Club. The buffet features a salad bar, and a variety of hot dishes; the food is excellent. Social hour is from 6:00 to 6:30 pm and there is a cash bar. Dinner is from 6:30 to about 7:00 and the seminar will begin about 7:00, the presentation will be about an hour followed by Q&A.

One (1.0) PDH will be provided; a terrific bargain! Please join us for this great presentation by clicking on the "Register Now" link below, if you cannot attend please let us know as well, and feel free to forward this invitation to as many others as you would like using the button below.

Happy New Year!

Dues are due - \$40/year

Upcoming Meetings:

Feb. 16th

Register Now!

Forward to a Friend !

I can't make it

If you do not wish to continue to receive event invitations from the Durham Engineers Club please unsubscribe using the link at the bottom. The Durham Engineers Club has one meeting per month.

We look forward to seeing you at the meeting!

Sincerely,

Jennifer Buzun, PE
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