

Villanova University Honors Schnabel Engineers

Schnabel's Greg Paxson was recently awarded The Carl T. Humphrey Memorial Award by the Villanova University Alumni Association. The Humphrey Award recognizes outstanding professional achievements of a Masters Degree alumnus from Villanova's College of Engineering. Emphasis is placed upon demonstrated leadership and substantial technical contributions. Greg has more than 15 years of experience in analysis and design for dam engineering projects and manages the dam engineering group in our West Chester, Pennsylvania, office. Greg is an active member of the Association of State Dam Safety Officials (ASDSO), the United States Society on Dams (USSD), and the IAHR, International Association of Hydro-Environment Engineering and Research, Committee on Hydraulic Structures. Additionally, he has participated in 25 publications, has been a contributor and reviewer for two IAHR International Junior Researcher and Engineer Workshops on Hydraulic Structures, and is collaborating with faculty at Utah State and Idaho State on labyrinth spillway physical and numerical modeling. In addition to Greg's award, Dave Campbell was honored with the Villanova Alumni Award for Meritorious Service. This award recognizes alumni who have given continuing support to the College of Engineering, have been

instrumental in directing individuals to Villanova, and have been willing to give their support to assist the education activities at the College. Mr. Campbell is a long-term advisory committee member for Villanova's Civil and Environmental Engineering Department. In addition to this recent recognition, Mr. Campbell received the John J. Gallen Memorial Award from



Villanova, as well as the ASDSO National Award of Merit. Greg and Dave join Schnabel's John Harrison, who was also honored with the John J. Gallen Memorial Award in 2002.

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From the Director's Chair

Let's talk about achievement and a success orientation. It is imperative to highly value the need for a positive attitude and esprit de corps in the work place. I recalled a set of fundamental tenets that Schnabel's Board of Directors prepared seven years ago. They seem to be worth sharing with our friends. The concepts presented provide a foundation that can, with minor modifications, fit into most organizations.

Schnabel Engineering – Keys to Success

1. Emphasize and strengthen a client oriented mentality, not a job mentality. Clients come first!
2. Build relationships on commitment, trust and respect.
3. Encourage competitiveness in selling our work and reward those who are unselfish in supporting others.
4. Maintain an entrepreneurial spirit focused on quality technical work, effectively managing projects and people, and boldly selling our services.
5. Grow enough to provide opportunities for our staff to develop and flourish.
6. Keep communications open at all levels.
7. Provide our employees satisfying careers, not jobs.
8. Promote advocacy at all levels to meet our goals.
9. Remember that we can clearly accomplish whatever we can clearly visualize.
10. Commit to enhancing the skills of our people through on-going education and training.
11. Encourage creativity and innovation (with appropriate checks and balances).
12. Maintain our capabilities basis at the leading edge of technology.
13. Provide our clients with solutions based on the level of technology that best brings them value.

14. Provide a safe and supportive working environment.
15. Provide an environment where our employees can have fun in their careers with the firm.

Adding to these Keys to Success, following are observations I have made over the years regarding factors that tangibly define success.

Leadership

Lead by example (people in charge set the pace). ■ Be demanding in setting performance standards. ■ Meet regularly to coordinate, plan, collaborate and listen. ■ Give credit freely.

Sweat equity

The lights going on early and staying on late: e-mails and calls outside of normal business hours are a good sign. ■ Always be ready to make a call and to answer the call.

Passion

Do what you love – love what you do. ■ Shared passion is contagious.

Teamwork

Identify and build allies at every opportunity. ■ Collaborate within your office, across the firm and with fellow professionals. ■ Think things through with others: plan and then follow the plan.

Perspective

Know you can and do make a difference. ■ Focus on understanding and meeting client's needs and solving problems. ■ Recognize that not making a decision is a decision. ■ Carry yourself with confidence, but not cockiness. ■ Recognize the world could use more humble.

Getting the Job Done

Roll up your sleeves to get it done when overloaded with work. ■ Work even harder when underutilized – your survival is on the line. ■ Embrace difficult times – this is where leaders emerge. ■ Never think you are too busy to market.

Business Sense

Defend the value you bring and the fees that come with it. ■ Understand the importance of contract terms and conditions. ■ Those that don't share our values need to focus on opportunities for a great future elsewhere.

By setting our vision on working for you, our focus is sharpened, our aim is true, our grasp is firmer, our reach extended, striking the target as it was intended.

BOTH CAN DO A DAM GOOD JOB - WHICH ONE IS RIGHT FOR YOU?



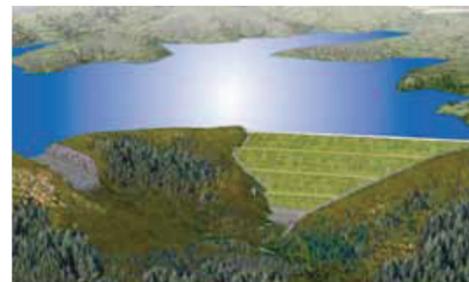
Snake Creek Dam, Carroll County, Georgia



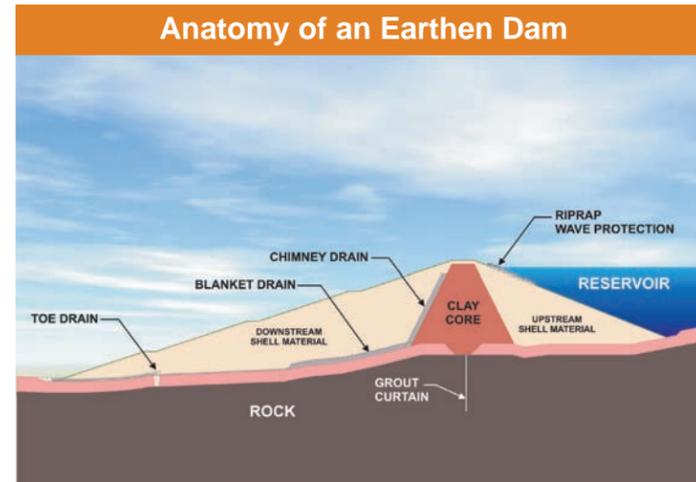
Cedar Creek Dam, Hall County, Georgia



Rocky Pen Run Foundation Grout Curtain
Stafford County, Virginia



New Ragged Mountain Dam
Charlottesville, Virginia



EARTHEN DAM

PROS

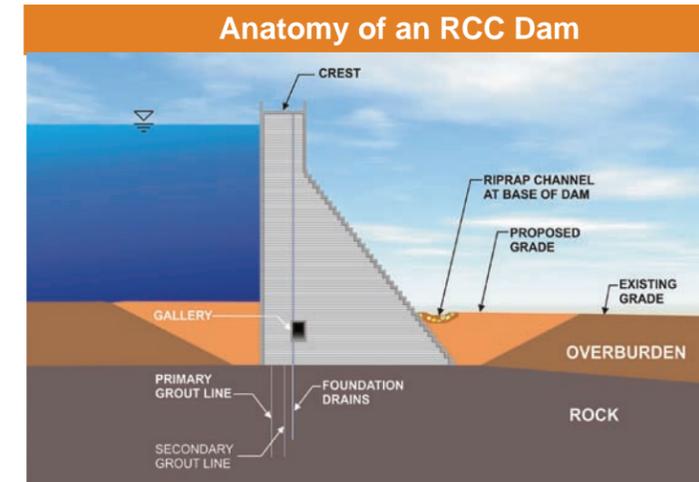
- Can Usually Use On-site Material
- Less Specialized Construction – More Contractor Competition
- Less Foundation Excavation/Preparation
- Can Construct During Most Seasons of Year

CONS

- Requires Longer Construction Period
- Larger Footprint/Environmental Impact
- Increased Cost/Technical Complexity for Spillway

Key Engineering Considerations:

- Foundation Stability and Seepage
- Embankment Core Material Availability
- Internal Stability, Seepage and Settlement
- Dynamic Forces - Earthquake Loading
- Outlet Conduit
- Stream Diversion



ROLLER COMPACTED CONCRETE (RCC) DAM

PROS

- Shorter Construction Period
- Smaller Footprint/Less Environmental Impact
- Incorporate Spillway in Dam
- Lower Stream Diversion Risks

CONS

- Specialty Contractors/Limited Competition
- Aggregate Source Availability
- Prefer Shallow Rock Foundation
- RCC Placement Requires Cool Seasons

Key Engineering Considerations:

- Concrete Mix Design
- Concrete Thermal Evaluation
- Foundation Treatment
- Internal Drainage
- Facing
- Stream Diversion



Hickory Log Dam, Canton, Georgia



Early Construction, Hickory Log Dam
Canton, Georgia



Deep Creek Dam 5D, Yadkin County, North Carolina