

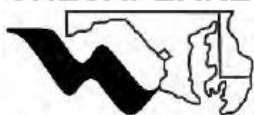
ecoletter

AUTUMN 2010 ISSUE

Braving the Waves at the 2010 Tri-Association Conference



CHESAPEAKE



*A Publication of the
Water and Waste Operators Association of
Maryland, Delaware, and the District of Columbia, and the
Chesapeake Water Environment Association*



Engineers Without Borders – USA – Not Just for Engineers: Continuing a Lifelong Multi-Disciplinary Education After College

—By Kristen Markham, University of Maryland,
College Park Civil Engineering Graduate Student;
5-year member of EWB-USA

Entering the working world is a bit like being a freshman in college again—a new environment, new people, new expectations, a world in which you are relatively inexperienced, and where finding your niche is somewhat of a daunting task. Read any book or website on career advice, it recommends getting involved in professional organizations outside of the workplace for an expanded knowledge base and network of contacts. Yet amidst the multitude of professional organizations established it is hard to know what might be most amenable to our individual interests. Engineers Without Borders—USA (EWB-USA), a nation-wide volunteer organization, is one such organization where both young and experienced professionals alike have found a rewarding way to apply their skills and passions, and enjoy doing it. Side-by-side with other like-minded professionals of all levels of experience and backgrounds, members join together to design and build engineering solutions to help address the needs of communities in the developing world.

“That’s what attracted me to Engineers Without Borders-USA” states Patrick Williams, a graduate from Virginia Tech in Chemical Engineering. “On every international project that Engineers Without Borders-USA works on, members have the opportunity to be intimately involved in something you might never have experienced before” explains Mr. Williams. “Even if you



Members of CPC and the University of Maryland Chapter of EWB-USA at the Kickball Without Borders Tournament in September 2010. Patrick Williams congratulates the winners.

are working on something far outside your field of expertise, you have the ability to affect the lives of those less fortunate while simultaneously being able to expand your knowledge base, and develop friendships with other professionals you might otherwise never have a chance to interact with.” As a young professional and doctoral student at the University of Maryland, Mr. Williams, like many other professionals, joined the Chesapeake Professional Chapter (CPC) of EWB-USA hoping to apply his strengths for the benefit of others. Already he has been intimately involved in the CPC through the organization of one its most recent fundraisers—Kickball Without Borders—a kickball tournament for professionals and students.

The Chesapeake Professional Chapter (CPC) of EWB-USA is one of over 250 professional and student chapters across the country in which multi-disciplinary teams of professionals, students, and professors collaborate together to implement sustainable engineering projects for the benefit of communities in need of the everyday essentials that we often take for granted. As CPC member Sebastian Smoot, explains, “EWB-USA plays a crucial role in addressing the serious challenges that face the world, and it is great to feel like you’re a part of that.” Building water distribution and chlorine dosing systems, latrines, youth center buildings or wastewater treatment systems are just a few of the thousands of EWB-USA projects that have been completed by EWB-USA chapters today.

The national non-profit organization started at the University of Colorado only ten years ago with a small group of students, and a professor who desired to help address a small Belizean community’s need for water. The project’s success led to the exponential growth of the program over the past decade, attesting to its benefit to both those involved and those communities that receive the end product of its member’s efforts.



Sebastian Smoot, CPC member.

Amidst the growth, the organization has been able to maintain the opportunity for anyone interested and motivated, to find a niche within an individual chapter, such as the CPC.

Despite what its name might suggest, EWB-USA is not just an organization for engineers—in fact its members assert that a diversity of fields of knowledge is beneficial to the creativity and efficiency of the organization. “It is for anyone with a desire to make a difference,” explains Paul Hlavinka, a three-year member and current treasurer for CPC. While many of the projects might be considered civil engineering-type projects, there is a great need for much more than just civil engineers. Just as with any U.S. based engineering project, the projects of EWB-USA require funding, design and approval, planning, material acquisition, and travel arrangements, among other things. Skills in project management, fundraising, language, culture, public policy, and the ability to teach and listen are only some of the many skills that are useful to have beyond engineering expertise. “The projects we work on in the communities abroad are as diverse as our skill sets,” Mr. Hlavinka continues. For those professionals desiring to expand their skill set, “what better opportunity?”

Projects within EWB-USA typically take 1-2 years to complete a full cycle from assessment of the community’s needs, to the final design approval and implementation of the project. Within that time the project first starts with an assessment trip of a small travel team of project members to determine the greatest needs of the identified community. The travel team then returns to the U.S. to collaborate with the project team on the possible solutions to the identified problems. The team comes up with several designs, and determines the most feasible, sustainable, and economically viable option. “The idea is that we build something that solves the problem, that the community can understand, maintain, and ultimately replicate in the future,” explains Mr. Smoot, “that is sustainability.”

Once approved by the national umbrella organization, the EWB-USA team then returns to the community to implement the design. As is imaginable, much pre-trip planning must occur for a successful implementation trip—something that requires especially detailed project scheduling, as well as safety and cultural training.

The Chesapeake Professional Chapter recently began a potential new project in El Toro, an Argentinean community in the Jujuy Province. This small community in the extreme north of Argentina endures harsh weather conditions that limit its ability to grow sufficient crops to sustain itself. In addition it lacks sufficient potable water and sanitation systems. As the CPC gears up to complete their assessment trip this fall, the project team is gathering information on the village and its inhabitants, determining a travel schedule,

and brainstorming potential solutions to the known problems to discuss with the village.

To teach its members about what to expect in Argentina, in August 2010 the chapter organized a Spanish Language and Culture Workshop. “Understanding the cultural dynamics in the developing world is critical to the success of a project,” explains Kate Strass, member of the CPC, the lead organizer of the workshop, and former Peace Corp volunteer in Honduras. “I would say one of the most important skills in



Kate Strass teaches CPC members about Spanish language and culture in preparation for their new project in Argentina.

the professional world is the ability communicate effectively with others,” explains Mr. Smoot. “Here in the U.S. engineers must be able to fully understand their clients’ needs and concerns and express their recommendations and designs effectively, but when working in EWB-USA, cross-cultural communication becomes even more important. EWB-USA helps improve these skills to help you become a more effective engineer.”

After their assessment trip this fall, the CPC will focus their efforts on designing a sustainable solution to the community’s most important needs, drawing from the unique experiences of each of its project members.

The CPC meets once a month at varying locations throughout the Washington D.C. and Baltimore metropolitan areas, varying their location in attempt to accommodate as many members as possible. Project meetings are held separately in small groups at a time and location that works best for those involved. Many of the members have regular work schedules, families, and other commitments to juggle, but Mr. Hlavinka assures, “there’s definitely the possibility of making EWB-USA fit into your schedule.”

In addition to the professional chapter’s projects, members of the CPC also have the opportunity to serve as mentors for projects of the student lead chapters in the D.C. and Baltimore metropolitan areas. “Each EWB-USA student project must have a professional mentor that reviews designs and helps provide technical guid-

Continued on page 32

Engineers Without Borders

Continued from page 31

ance,” explains Sarah Ness, CPC member and South East Regional President of EWB-USA. Student chapters complete similar projects to those that professional chapters complete, yet they require the help of professionals and professors to ensure that their design ideas are reasonable. “It’s a true mentorship,” explains Mr. Hlavinka. “You help provide credibility to the students’ efforts, and a sounding board for ideas.”

Members of the CPC come from a diversity of fields, and vary in experience from recent graduates to senior professional engineers. “It’s what makes it such a unique experience,” explains Teresa DiGenova, current president of the CPC. Even if problem solving or mentoring is not your forte, the CPC, like many other EWB-USA chapters, holds fundraisers, participates in conferences and committees, and much more. “And if you have a thought or suggestion, we’re always open to new ideas.”

As the former president of the University of Maryland student chapter and five-year member of EWB-USA, I can certainly attest to the positive impact it has had on my life and the lives of people I know. It has helped open my eyes to some of the most fundamental problems that developing countries face, and how much impact that a team of passionate, driven people

can have on a community. The Chesapeake Professional Chapter works intimately with multiple student chapters of EWB-USA, providing support and guidance to their projects in addition to working on projects of their own. Anyone, however great or small a contribution they can make—whether it be technical expertise, translation, or something else—can find their own niche in this organization doing something they enjoy.

Facing the challenge of improving the essential infrastructure in the developing world is no small task, and one that remains to be resolved. Every little bit helps. Everyone has something unique to bring to the table and that’s what makes it fun and interesting.

If you are interested in joining or finding out more about Engineers Without Borders-USA, visit the Chesapeake Professional Chapter’s website at <http://www.chesapeakeewb.org/>



Kristen Markham, a CPC and University of Maryland chapter member.

On The Ground to Meet Your Utility Needs

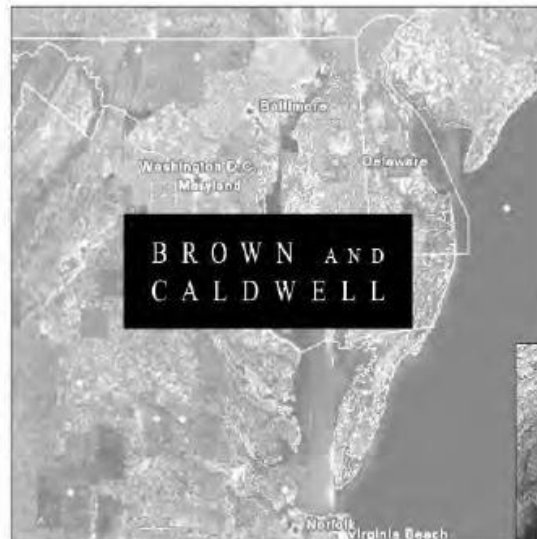
Beltsville, MD

Alexandria, VA

Virginia Beach, VA

Specializing in:

- Enhanced Nutrient Removal Design
- Biosolids Management and Treatment
- Electrical Process and Automation Services
- Asset Management
- Pipeline Rehabilitation
- Sewer System Evaluation Surveys
- Wastewater Treatment Plant Upgrades
- Energy Recovery
- Water and Sewer Modeling



www.browncaldwell.com

Telephone: 301.273.2170