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LDDI Bridges is a publication of Virginia Tech's *Land Development Design Initiative*

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Spring greetings to everyone! This spring marks the three year anniversary of the beginning of the Land Development Design Initiative at Virginia Tech. It's hard to believe, but what began with four regional meetings across Virginia has grown to a collective effort of more than 70 firms and over 150 individuals. This edition of LDDI Bridges highlights a number of the achievements of the last three years, including significant expansion of the land development design curriculum at Virginia Tech and a recent award from The National Council of Examiners for

Engineering and Surveying (NCEES). Like past newsletters, this issue also showcases exciting projects from some of our sponsoring firms, and spotlights the people that help to make LDDI a continued success.

We hope you enjoy reading this anniversary edition of Bridges, and join with us in celebrating the achievements of the past three years. If you haven't done so lately, please take a few minutes to visit our recently updated website (www.iddi.net). As always, I welcome your feedback on how we can continue to build LDDI!

Dr. Randy Dymond, PE, VT LDDI Coordinator

LDDI Wins Award from NCEES

by Kevin Young

Last fall, The National Council of Examiners for Engineering and Surveying (NCEES) announced an award program designed to recognize engineering programs that demonstrate a meaningful working partnership between professional practice and education. The contest was open to all EAC/ABET-accredited engineering programs, and in total 28 universities submitted entries. In March, Virginia Tech was notified that its entry, highlighting LDDI, won a second place award! Accompanying this award is a cash prize in the amount of \$7,500 that will be given to LDDI at the May 1st Alumni Board meeting of the Via Department of Civil & Environmental Engineering.

LDDI's contest entry focused on describing the various ways in which more than 70 engineering and land development firms have joined together to support curriculum enhancement and practitioner involvement at Virginia Tech. LDDI's fundamental objective with regards to curriculum and course enhancement is to develop a strong land development design curriculum with coursework that prepares students for the land development design profession. The major purpose of LDDI's

practitioner involvement efforts is to develop a strong and sustainable relationship between the private and public sectors of the land development profession and CEE students at Virginia Tech. This relationship is intended to increase awareness of land development as a career path and to help students prepare for a career in the land development design profession.

When asked what winning the NCEES award means to LDDI, Cameron Palmore, Chair of LDDI's Curriculum and Course Enhancement Committee, said, "This award is a great success for LDDI. It showcases one of our core goals of providing the students multiple opportunities to interact with practitioners, and highlights the efforts and commitment of all of those involved."

NCEES (www.ncees.org) is a nonprofit organization composed of engineering and surveying licensing boards representing all U.S. states, the District of Columbia, Guam, Puerto Rico, and the U.S. Virgin Islands. Profiles of the contest's winning entries can be viewed at www.engineeringaward.com. We hope that you'll visit this site to read more about LDDI's entry as well as those from other universities.



Bill Pyle (right) of Greenhorne & O'Mara introduces a design project to a student in CEE 4274 (Land Development Design)

Cameron Palmore (Balzer & Associates, Inc.) chairs LDDI's Curriculum and Course Enhancement Committee. To become involved, contact Cameron at cpalmore@balzer.cc



Bryan Stevenson (AES Consulting Engineers) reviews a set of plans with students at the Fall 2008 Info. Night.

LDDI Expands CEE Curriculum at Virginia Tech

by Kevin Young

Prior to the formation of LDDI in 2006, students at Virginia Tech had only **one** land development course offering. Through the efforts of LDDI, the 2009-2010 academic year will provide students with the following **seven** land development course offerings:

- Land Development Design (two sections)
- Advanced Land Development Design
- Introduction to Land Development Design
- Sustainable Land Development
- Municipal Engineering
- Geotechnics for Land Development

While those of us affiliated with LDDI are extremely proud of all of these courses, we are particularly excited about three brand new offerings – Introduction to Land Development Design, Sustainable Land Development, and Municipal Engineering.

Introduction to Land Development Design will be first offered as a three-credit course in the fall 2009 semester. The course will introduce CEE students to a wide range of topics, including governmental roles and basic engineering principles and techniques. The course will also address a diversity of non-engineering topics including planning,

landscapes, neighborhood dynamics, finance, sustainability, and the evolutionary nature of the land development industry.

Sustainable Land Development is being taught for the first time as a three credit course during the spring 2009 semester. The course is restricted to students with senior standing; however, the course is open to students of any major. This academic “cross pollination” introduces various perspectives to classroom discussion and better prepares students for their careers where they will inevitably cross paths with professionals from different academic backgrounds.

The spring 2010 semester will introduce a three-credit **Municipal Engineering** course to the CEE curriculum. The intent of this course is to provide students with an understanding of the important role municipal engineers play in planning and managing large public projects and regulating land development through permitting programs.

We hope you will visit the Courses and Curriculum page of our website (www.lddi.net/Courses_Curriculum.asp) to read more about LDDI's course offerings.

Practitioner Involvement Key to Achieving LDDI's Goals

by Kevin Young

LDDI's Practitioner Involvement Committee (PIC) was created to support a strong relationship between land development design professionals and CEE students at Virginia Tech. This relationship is intended to spark student interest and help students better prepare for a career in the land development design profession.

Over the past three years, the PIC has initiated a number of events intended to build student/practitioner relationships. Among these events are “Land Development Information Nights,” which are held prior to the department's fall and spring career fairs and have proven to be an excellent way for students to interact with industry professionals in a casual environment. The spring 2009 event was attended by more than 30 students and 5 land development firms.

In the spring of 2008, the PIC supported the creation of the Sustainable Land Development Student Club (SLDC). Over the past year, the club has assembled for numerous social outings, including a highly successful football tailgate party attended by a number of practitioners; volunteered for a local charity; taken field trips to construction sites; and worked closely with LDDI's corporate sponsors to arrange the aforementioned Land Development Information Nights.

The PIC is also responsible for the creation and maintenance of LDDI's website (www.lddi.net). The website provides students with project showcases, career spotlights on land development professionals, a blog with a recent graduate, and curriculum information and advice. The website also provides an outlet through which students can submit resumes to LDDI's corporate sponsors.

The efforts of the PIC provide an excellent opportunity to become involved with LDDI and to make an impact on land development design education at Virginia Tech. To become involved contact the PIC Chair, Jeff Gilliland, at jgilliland@j2engineers.com.

Financial Support Critical to LDDI's Long-Term Impact

by Kevin Young

Since early 2006, LDDI has raised over \$185,000 through a combination of corporate sponsorships, private donations, and other fundraising efforts. We believe it is important for our sponsors and donors to know how these funds are used to continually improve land development design education at Virginia Tech.

Of the seven course offerings made possible through LDDI, Virginia Tech provides financial support for three. Funds raised through LDDI are used to support the remaining courses, such as Advanced Land Development Design, Sustainable Land Development, and Introduction to Land Development Design, in the form of instructor compensation, instructional materials, and field trips. LDDI's practitioner involvement efforts include website development and maintenance, support for the Sustainable Land Development Student Club, and publication of the *LDDI Bridges* newsletter and other literature promoting the land development industry. LDDI also organizes and hosts numerous social

events, all of which contribute to increasing student awareness of land development as a career path and provide an opportunity for student-practitioner interaction.

In April 2007, LDDI, Inc. was recognized by the State Corporation Commission. Creation of this non-profit entity allows LDDI to efficiently handle day-to-day operations outside of Virginia Tech and to quickly and easily contract with outside firms for PR and publication work. Operations expenses related to LDDI, Inc. include accountant and legal fees.

Without the continued financial support of LDDI's corporate sponsors and private donors, it will be impossible to maintain the expanded land development curriculum at Virginia Tech. If you are not already a sponsor of LDDI, we hope you will consider becoming one. If you are a current sponsor, we would like to thank you and we look forward to your continued support.

For more information about the benefits associated with LDDI sponsorship, please visit: www.lddi.net/annualsponsorship.asp.

Students Benefit from Professional Mentoring

by Kevin Young

CEE 4274, Land Development Design, is a tremendously popular senior design class with a typical enrollment of about 40 students per semester. Beginning with the fall 2006 offering, student design groups have been paired with a professional engineer who serves as a mentor throughout the entirety of the course. Mentors are chosen from LDDI's sponsoring firms.



CEE 4274 students Coco McBride, Reed Barton, and Doug Koch speak at the January LDDI meeting.

The student mentoring program supplements traditional classroom instruction by providing a real-world design experience. Mentors also provide technical expertise and design insight extending beyond that which is possible solely from course instructors. Since 2006, more than 180 students have benefited from having a professional engineer mentor them throughout a semester-long design project.

During the fall 2008 semester, Roy Waugh (Bowman Consulting) mentored a student group. When asked about the experience, Roy commented, "between internships, mentoring, and the CEE courses being offered through LDDI we're developing engineers that are better prepared to enter the workplace than are their counterparts from other universities. I get a great deal of personal satisfaction from being involved with this program."

Reed Barton, a senior civil engineering major said of the class, "the expectation is clear from the beginning: you will work a lot, and you will learn a lot. Our mentors were extremely generous with their time. This class is pragmatic for learning land development design skills at a rapid pace, and the mentors play a huge role in the success of that."

If you are interested in becoming a mentor, please contact Randy Dymond (dymond@vt.edu) or Kevin Young (keyoung@vt.edu).

Thank you to our current sponsors!

The sponsorships of our business partners are an essential component to the success of LDDI. We thank the following firms and individuals for their generous support:

PLATINUM:

AES Consulting Engineers • *Balzer & Associates, Inc.* • *Bohler Engineering* • *Bowman Consulting* • *Burgess & Niple* • *Draper Aden Associates* • *ESP Associates, P.A.* • *Kimley-Horn & Associates, Inc.*

GOLD:

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American Infrastructure • *Greenhorne & O'Mara* • *Patton Harris Rust & Associates* • *Wetland Studies and Solutions Inc.*

INDIVIDUAL:

Gary Bowman • *Derrick Cave* • *Bob Jansen* • *Paul Johnson* • *Bryan Stevenson*

For more information on sponsorship opportunities and benefits contact *Tommy Balzer* (tbalzer@balzer.cc) or *Bryan Stevenson* (bryan.stevenson@aesva.com).

Virginia Tech

The Via Department of
Civil and
Environmental
Engineering



The Eastern Loudoun Respite Center is expected to be completed in late 2009.



"I see my involvement with LDDI as a way to give back to this industry and to give back to Virginia Tech." - Gary Bowman, President of Bowman Consulting

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Kimley-Horn Answers Aging Residents' Needs

edited by Kelly Shayne Young

As the "baby-boomer" generation grows older, the demand for facilities tailored to fit these individuals' needs becomes greater. Loudoun County recognized the need for such facilities in the eastern portion of the county and called upon Kimley-Horn and Associates to assist with the design of the Eastern Loudoun Respite Center. The Center, an approximately 4,000-square-foot adult daycare facility, is situated on more than 70 acres of land in Ashburn, Va. along Riverside Parkway

This project presented some interesting challenges. The site was formerly a stockpile fill area from the project that created Riverside Parkway. Extensive geotechnical research was conducted to place the footings of the building on solid earth that would support the structure for years to come. Another interesting challenge was created when the fill area formed steep slopes; these slopes had to be documented, and county ordinances would not allow any impact on these areas. Thus, the site design, which included situating the building, parking lot, drive aisles, wandering garden, and associated

utilities, needed to be oriented in such way as to avoid disturbing the steep slopes.

For this type of project, the client is the end-user of this facility. Therefore, a priority for the design team, which included the architects at Gauthier, Alvarado, and Associates, along with civil engineers and landscape architects at Kimley-Horn, was to incorporate the client's input and improve the efficiency of this new building for the visitors and staff. This teamwork provided the best design possible.

Consistent with many of the jurisdictions in the Northern Virginia area, sustainable design and LEED® accreditation are top priorities with any new project. Currently, this project is striving for a LEED® Silver Rating. While many of the credits needed to receive the Silver Rating will be achieved inside the building with innovative architectural design, Kimley-Horn found opportunities for credits to be realized outside of the building. With the use of pervious concrete and recycled materials, the project has a smaller impact on the environment and should achieve the Silver Rating.

Who We Are: Gary Bowman, Bowman Consulting

Each issue of LDDI Bridges will focus on Advisory Board members who make LDDI happen.

Gary graduated from Virginia Tech in 1980 with a BS in Civil Engineering and is president of Bowman Consulting, a firm he established in 1995. Bowman Consulting has become one of the fastest-growing engineering firms in the mid-Atlantic region.

What is your specialty within the civil and environmental engineering field?

My specialty is all aspects of land development planning and design with an emphasis on water resources.

What attracts you to civil and environmental engineering (CEE)?

I love the challenge of molding a raw piece of ground into a finished state that is valuable to both the developer who undertook the business risk as well as to society as a whole. Aligning and fulfilling the often disparate interests of all of the stakeholders is especially rewarding.

What are the highlights of your professional career?

Leading the design effort of high profile and successful projects is always gratifying but the highlight of my career was when our

company became an ENR top 500 design firm. Ask me a year from now, and my answer will (hopefully) be successfully leading our firm through the recession.

What motivated you to become involved with the LDDI?

I love being involved with young people at the beginning of their careers. Directing talented students into land development design is a real boon to our industry.

What do you think are the strengths of this program?

The single greatest strength is the vision, energy, and dedication that Randy Dymond puts into the program. Industry leaders truly believe in the program and have shown tremendous willingness to dedicate time, energy, and money to the effort.

What are your hobbies/interests?

I'm one of the fortunate people who love what they do—therefore leading our firm is both my vocation and my avocation. When not involved with business related activities, I like to work out, read, and play an occasional round of golf.