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**LDDI Bridges**

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

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*Greetings from the Virginia Tech campus! As the spring 2014 semester begins to wind down, I hope this newsletter finds you and your organization healthy and prosperous. This spring marks LDDI's eight-year anniversary. It's hard to believe that a humble grass roots effort that began in 2006 has grown into the premier undergraduate land development design curriculum in the country! This newsletter is only a small celebration of our achievements, and in it you'll read about some of the special people and firms that have helped to build the program over the past eight years.*

*It's been a busy semester, and as another crop of talented young engineers prepares to take a well-deserved walk across the graduation stage, LDDI shifts its attention from the classroom to other aspects of the program. At the end of April, we will kick off our spring sponsorship drive. Corporate sponsorships are the financial backbone of our program, and maintaining and growing those sponsors is vital to our future. On April 25<sup>th</sup>, the LDDI Advisory Board will convene on campus to discuss strategic planning goals and appoint a new Advisory Board Chair and Vice Chair. During the meeting, we will also choose a date for the summer LDDI meeting in Richmond. Be on the lookout in the coming weeks for your "save the date" notification!*

*I hope you enjoy reading this newsletter and, as always, I welcome your input on how we can continue to improve and grow our unique program.*

*Dr. Randy Dymond, PE, VT LDDI Coordinator*

## SLDC Tours Sites in Williamsburg and Richmond

by Kevin Young

A major challenge for many young engineers is visualizing the relationship between their plans and specifications and the final, built site. LDDI has long recognized the value of complimenting traditional classroom instruction with visits to active construction sites. Earlier this month, LDDI sponsored a field trip to Williamsburg and Richmond to provide an opportunity for students to visit various land development projects in various stages of completion. The sites were chosen and hosted by LDDI sponsoring firms AES Consulting Engineers, Balzer & Associates, and Draper Aden Associates.

After making the drive from Blacksburg on a Friday afternoon, the students got an early start the next morning visiting several residential subdivisions in and around Williamsburg. On these active sites, the students observed the installation of wet utilities as well as GPS-controlled grading. The students then had an opportunity to see several institutional development projects on the University of Richmond campus. Finally, the students wrapped up a busy day by visiting a large, phased subdivision where they saw numerous ESC practices, roadway grading, and stormwater infrastructure. LDDI covered all of the students' travel, lodging, and meal expenses. Speaking to the value of the field trip, Draper Aden Associates President Jeff Lighthiser said, "The students learn a lot from seeing, with their own eyes, the solutions to real-world construction challenges." LDDI wishes to thank the following individuals for arranging the site visits and serving as hosts: Ryan Boshart and Graham Corson (AES Consulting Engineers), Jeff Lighthiser and Andrew Mericle (Draper Aden Associates), and Cameron Palmore (Balzer & Associates).



*Cameron Palmore (Balzer & Associates) explains the workings of a sediment trap to SLDC students.*



*The Adler Center for Caring will provide inpatient hospice care to the residents of Loudoun and surrounding counties living with serious advanced illness.*

## **J2 Leads Engineering Effort in Hospice Care Center Development**

*edited by Kelly Shayne Young*

The Adler Center for Caring on the Van Meter Campus is an inpatient hospice care center located on four acres in Loudoun County, Virginia. This 50,000 square-foot facility will provide 21 inpatient beds, a palliative care clinic, and office space for Capital Caring, the leading provider of palliative and hospice care in the Washington DC metropolitan region.

J2 Engineers, Inc. was the lead engineer and provided surveying, land planning, site engineering, and construction administration services. In true service of the area residents and their need for such a facility, the firm donated a significant portion of its overall engineering fee.

The outpatient pain and palliative care treatment center at the Adler Center for Caring is unique in that its patients will be able to receive comprehensive assessment and relief under one roof. One state-of-the-art feature of the Center is the C-arm X-ray machine/table, which will provide comfort and safety during the diagnosis and treatment of patients with complicated pain management symptoms.

The first hospice inpatient facility to serve Fauquier, Loudoun, western Fairfax, Stafford, and Prince William counties, The Adler Center for Caring will offer close-to-home, world-class care to residents living with serious advanced illness.



*Photos courtesy of Richard Boyd*

*Germanna Community College's Science & Engineering Building Information Commons was designed to generate stimulating educational experiences and enhances collaboration between students and professors.*

## **Clark-Nexsen Enhances Educational Experiences with New Facility Design**

*edited by Kelly Shayne Young*

Completed in 2012, Germanna Community College's Science & Engineering Building Information Commons provides new classrooms and laboratories for chemistry, physics, biology, and engineering students. The 51,458 square-foot facility located on Germanna's Fredericksburg campus also includes a much needed central Learning Resource Center for students and faculty. Clark Nexsen provided numerous services, including architecture, interior design, landscape architecture, civil engineering, mechanical engineering, electrical engineering, plumbing, fire protection, and structural engineering.

The new science classrooms are connected to state-of-the-art laboratories which include environmental chambers for on-going uninterrupted research and experiments. In the Learning Resource Center, students have access to computer stations and quiet study zones as well as traditional library services that house approximately 12,000 volumes and a

multimedia center. The building also includes faculty, IT, and security offices with separate break and conference rooms for the staff.

This project presented a unique opportunity to be creative and incorporate low-impact development to treat stormwater, which included the implementation of a green roof and a paved courtyard that drains into a bioretention area. Sustainable features, which have led to the project's LEED Silver certification, include a wind turbine and smart energy management controls and displays that are integrated into the main lobby of the building to help promote and teach sustainability.

The new facility has won several awards, including the 2013 IES Tidewater Section Illumination Award of Merit, the 2012 AIA DC Chapter Design Award's Presidential Citation for Sustainable Design, and the 2012 American School & University Architectural Portfolio award for Outstanding Design.

## Kimley-Horn Helps to Bring Distinctive Resort to Polk County, FL

Spanning approximately 16,000 acres in southwest Polk County, Florida, Streamsong Resort is a resource-based development showcasing the potential for the long-term use of lands previously mined for phosphate. The resort's two intertwining 18-hole golf courses and the accompanying clubhouse opened to rave reviews in December 2012. The 216-room lodge, which includes a spa, fitness center, and conference facilities, opened in January 2014.

Kimley-Horn and Associates, Inc. provided the client, The Mosaic Company, with a wide range of services. These included preliminary conceptual plans, entitlements assistance, roadway design, permitting assistance, and construction phase services. Civil engineering services included stormwater management, drainage, grading, water and wastewater

treatment and collection, and utility design and coordination.

In all areas of design, two distinct client requests were honored and implemented: the "green" theme of environmental responsibility and Mosaic's desire to minimize intrusion into the guest experience. For example, the resort's water treatment facility utilizes greensand technology, reducing the facility's footprint and power demands.

In addition to the golf courses and lodge, Streamsong will also offer bass fishing, shooting sports, and nature trails for birding and hiking. Natural and man-made reclamation created towering sand dunes, expansive lakes, and dramatic shifts in elevation that have been seamlessly incorporated into the project's drainage, grading, and stormwater plans, creating a resort like no other in Florida.

*edited by Kelly Shayne Young*



*Photo courtesy of The Mosaic Company*



*Photo courtesy of Albert Hurley*

*In addition to showcasing the client's commitment to environmental responsibility, Streamsong Resort has brought hundreds of jobs to the area, demonstrating how sustainability and economic growth can work together.*

## Bowman Lends Services to Stafford County Development

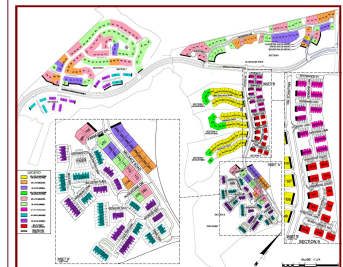
*edited by Kelly Shayne Young*

Since 2011, Bowman Consulting has been involved with the Colonial Forge development in Stafford County, Virginia. Located three miles west of Interstate 95 off of Courthouse Road, this 212-acre project is comprised of 538 residential units, including single family homes, townhomes, and condominiums. The client is Stafford Associates Limited Partnership #2, a Bethesda, Maryland-based company with a local Stafford County office, selling homes in multiple communities in the Town of Culpeper and Stafford, Spotsylvania, and King George Counties.

Though the initial rezoning was finalized in the mid 90's, construction on the project didn't get underway until 2011. Since that time, plans for the 1.3-mile four-lane divided road, the six single family sections, one of the three townhouse sections, and the condo section have been approved, along with the plans for the clubhouse and pool site.

Various other tasks were completed in order to get this multi-faceted project under construction and approved. Major Water Quality Impact Assessments were prepared to address impacts to the Chesapeake Bay Resource Protection areas for the allowed uses (utilities and roadways). Since the four-lane divided road crosses Accokeek Creek, a floodplain study and Conditional Letter of Map Revision (CLOMR) were submitted to and approved by FEMA. A large-scale stream restoration plan for over 1,500 linear feet of Accokeek Creek was also approved and implemented as a mitigation component of the wetlands permit obtained for the project. Additionally, Bowman is providing services for construction stakeout and management.

At every step, Bowman has been there to help the client coordinate with VDOT, Stafford County, FEMA, DEQ, and the US Army Corps of Engineers to ensure a successful project.



*The Colonial Forge development brings 538 new residential units to Stafford County, Virginia.*

## Thank you

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## LDDI Bridges April 2014

### Bob Jansen Inducted into Academy of Distinguished Alumni

by Kevin Young



*CEE Department Head Sam Easterling, Bob Jansen, and LDDI Coordinator Randy Dymond*

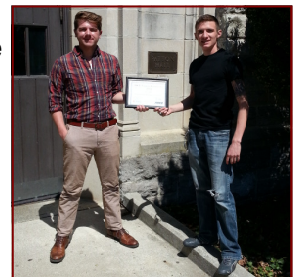
LDDI's success over the past eight years is directly attributable to the talents and commitment of individuals who believe in the program's mission and value to the land development industry. One such individual who has been there from the very beginning is Bob Jansen. One of LDDI's inaugural Advisory Board members, Bob's commitment to and vision for the program has been invaluable over the years. Earlier this month, Bob's selfless giving to LDDI as well as the Via Department of Civil & Environmental Engineering was recognized with his induction into the Academy of Distinguished Alumni.

As a young Virginia Tech graduate, Bob's first job was as a rod-chainman on a survey crew earning \$150 per week. After eight years on the consulting side of the industry, Bob made the jump to the development side and has never looked back. In 2008, Bob founded Jansen Land Consulting, and since that time has steadily grown the firm. Despite a busy career, Bob has always made time to give back to Virginia Tech. When asked why he got involved with LDDI, Bob states, "I was thrilled with the prospect of helping since throughout my career I've witnessed most folks learning the business through on the job training. I also thought the program would be a wonderful way to leave the profession I love even better than I found it. I truly believe we're raising the bar of the profession by educating such brilliant minds who will only improve the quality of land development." Bob is also heavily involved with Engineers Without Borders, working to establish clean water supply wells in rural regions of Zambia, Africa. He is also an active member of the McLean Rotary Club and is always looking to give back to his local community through various service projects. LDDI wishes to thank Bob for his commitment to the program and to congratulate him on his induction into the Academy.

### LDDI Students Win ASCE Competition

by Kevin Young

The ASCE Virginias region is comprised of fourteen engineering schools located in Virginia, West Virginia, and the District of Columbia. Each spring, these schools assemble to compete against one another in various engineering and surveying challenges. This year, the competition was held April 3<sup>rd</sup> – 5<sup>th</sup> and hosted by the University of Virginia. LDDI is proud to recognize Robert Haase and Kevin Wood who took first place in the Sustainable Land Development competition. These students did a great job representing the LDDI program and Virginia Tech Civil & Environmental Engineering!



*Kevin Wood and Robert Haase proudly display their first place award.*

### Second Annual Newsletter Vacation Challenge

by Kevin Young

Last summer, LDDI held its first annual "Newsletter Vacation Challenge." The rules were simple: take a printed copy of the LDDI newsletter with you on your summer vacation and send us a photo of you holding it. Frank Beamer autographed footballs were given for the most creative photo and the one taken the furthest distance from Blacksburg. Last year, Caleb Hurst (Clark Nexsen) and Bob Jansen (Jansen Land Consulting) won with submittals taken underwater and from Victoria Falls, Zimbabwe, respectively. As vacation season approaches, we invite you to send a picture of you holding this newsletter to [keyoung@vt.edu](mailto:keyoung@vt.edu) prior to August 31<sup>st</sup>. We will once again be awarding two prizes for creativity and distance from the Virginia Tech campus.