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LDDI Bridges
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*Land Development
Design Initiative*

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Warm greetings from a chilly Blacksburg! I hope this message finds you and your organization happy and healthy and looking forward to a prosperous 2014. The spring semester is about to kick off at Virginia Tech, and those of us involved with LDDI are excited about what's happening both inside and outside of the classroom. As we ramp up for the spring 2014 semester, I continue to be amazed at the outpouring of support from our industry partners to ensure that Virginia Tech continues to lead the way in undergraduate land development design education. I want to take this opportunity to offer thanks and recognition to those who give of their time and resources to advance the LDDI program. On a sad note, one of our leading supporters, Mr. Julian B. Bell, Jr., recently passed away; you can read more in the article below.

On January 24th, LDDI will host its annual winter meeting. The primary focus of this meeting is to bring our industry partners up to speed on recent achievements and emerging goals for the program, as well as to provide attendees with opportunities to become involved in curriculum and course development, practitioner involvement, and program outreach. Meeting attendees will also hear a talk on public and private partnerships in land development, delivered by Christopher Clemente (Comstock Partners), Robert Stalzer (Fairfax County), and Luis Fernandez (Fernandez and Associates).

As LDDI enters its eighth year of existence, I want to thank all of those who have contributed to our success. Best wishes for a fantastic 2014!

Dr. Randy Dymond, PE, VT LDDI Coordinator

LDDI Remembers Julian B. Bell, Jr.

by Kevin Young

Earlier this month, the LDDI program lost one of its strongest supporters with the passing of Mr. Julian B. Bell, Jr. Between 2009 and 2011, Mr. Bell contributed nearly \$200,000 to the LDDI program. These funds were critical in helping LDDI to grow and prosper during a very difficult economic period. Mr. Bell was a 1962 Virginia Tech civil engineering alumnus and founder and president of Bell Development located in Chattanooga, Tn. While he held many fond memories of his time at Virginia Tech, he never forgot about the financial burdens faced by many college students. In addition to his donations to the program, Mr. Bell also funded seven scholarships for students enrolled in the LDDI curriculum.

Following his graduation from Virginia Tech, Mr. Bell began his career with the DuPont company. He later served as the Director of Public Works for the City of Chattanooga before founding Bell Engineering Company, which eventually became Bell Development Company. He was twice named Greater Chattanooga Developer of the Year. Mr. Bell maintained a lifelong love of Virginia Tech, and in 2011 his philanthropy to the university was recognized with his induction into the Academy of Distinguished Alumni. Mr. Bell is survived by his wife of 51 years, Carola, three sons, and seven grandchildren.



Jeff Lighthiser and Randy Dymond present Julian B. Bell, Jr. (far right) with the LDDI legacy award at the 2012 summer meeting.



“Industry support and involvement, I believe, are LDDI’s greatest strengths. LDDI’s specialized curriculum gives students unique insight into the industry and allows them to work one on one with practicing engineers.” - Ryan Yauger, Bohler Engineering Design Engineer

LDDI Graduates in the Industry: Ryan Yauger
Bohler Engineering Design Engineer

by Kelly Shayne Young

Like numerous other fortunate students involved with Virginia Tech’s Land Development Design Initiative, Ryan Yauger had multiple offers of employment prior to graduation. After completing his bachelor’s degree in civil engineering in June 2012, Ryan began serving as a design engineer in Bohler Engineering’s Warrenton, Va. office and has spent the past 18 months honing his skills on commercial and residential projects.

During his time at Virginia Tech, Ryan took advantage of LDDI’s curriculum, namely Intro to Land Development, Land Development Design, and Sustainable Land Development. “I can’t stress enough how much the design class prepared me for the real world,” explains Ryan. “The class gave me the opportunity to learn the steps of the design process from start to finish by working with a team to put together an entire plan set. I also learned AutoCAD Civil 3D, a program that I use every day in my career.”

Since joining Bohler, Ryan has faced numerous challenges that come with transitioning from student to practicing engineer. “One of the biggest challenges has been managing expectations from numerous

parties involved on a project,” says Yauger. “When you are a student, there is one professor giving instruction and guidance; in the real world, there are several people, all of equal importance, sometimes wanting different things.” This challenge brings to light a social element within the industry, one that Ryan believes needs to be embraced. He elaborates that “land development is a social industry due to the daily interactions with internal staff, jurisdictions, and clients. Having an outgoing and caring personality is essential to making connections and building strong relationships.”

Wanting to give back to the program that jumpstarted his career, Ryan now serves as a mentor in LDDI’s design class, playing the role of client to a group of students as they design their semester long project. When he isn’t mentoring students or designing developments, Ryan spends as much time as he can outdoors; he enjoys hunting and fishing and is an avid sports fan. He even spent his last two years at Virginia Tech going to basketball games dressed as “The Hokie Cowboy.”



“LDDI provided a great avenue for me to learn, to network within the land development industry, and to get a great job.” - Brett Buckland, LDDI Advisory Board Student Representative

Who We Are: Brett Buckland– AB Student Representative

Each issue of *LDDI Bridges* focuses on Advisory Board members who make LDDI happen.

Brett earned his B.S. in civil engineering from Virginia Tech in 2012 and plans to finish his M.S. in Spring 2014.

What is your planned specialty within the civil engineering field?

Land development. I have also taken a great deal of water resources and hydrology classes.

What attracts you to land development?

The breadth of areas studied. There is a wide array of interesting, yet very different, fields that are all geared towards helping the general public.

Please mention the highlights of your academic career?

Graduating in the top 5 of the civil engineering class, and being selected and trusted to be a TA for the land development classes.

What motivated you to become involved with LDDI?

I really like the design aspects of land development and how there are so many

facets of the design process that must be taken into account to produce a successful design. While first taking the Intro class, I was also very impressed by the amount of student-practitioner interactions that are available.

What do you think are the strengths of this program?

I think that it all begins with the professionals that are willing to develop the courses and then spend their time in meeting and mentoring the students to make them the best land development engineers possible.

Could you please share a few of your personal hobbies and/or interests?

I greatly enjoy fishing on the New River with Kevin Young and Dr. Dymond. I am also an extremely avid Virginia Tech sports fan. My alarm that I wake up to every morning is the “Enter Sandman” entrance to the 2003 Miami game, and I have collected more than 100 tickets from Virginia Tech sporting events that I have attended.

Maser Consulting Helps Sustain Communications with Wireless Engineering

Due to the wireless industry's continuous growth in demand, carriers are expanding their networks by affixing wireless antennas to a variety of tall structures, including monopoles, buildings, utility towers, steeples, silos, billboards, and water tanks. Architecture/Engineering (A/E) firms, such as Maser Consulting P.A., provide services to these carriers to design the physical installations of their networks.

One of the most challenging aspects of this work is the diversity of engineering services that are required. The A/E project managers need to have working knowledge of the following fields: civil/site, structural, electrical, mechanical, plumbing, geotechnical, environmental, survey and high-definition scanning, planning, construction inspection, and site acquisition/leasing. A single wireless site may require many or all of these disciplines.

Another challenge specific to A/E design is the local site approval process. A/E firms must have expertise in local requirements for town, county, and state regulations for locating new structures within their jurisdictions. There are currently no federal regulations for siting wireless facilities on new properties (raw land site builds). For example, the state of New Jersey has 565

municipalities, each with its own zoning and design requirements for wireless installations.

Site designers face another, more specialized challenge when covering an area that has a large amount of people in a small geographic area and doing so in a short amount of time. Concerts, sporting events, and conventions are some examples of these types of projects. A/E firms design Distributed Antenna Systems (DAS) to adequately cover these events. Maser Consulting was recently tasked with designing a DAS within the Izod Center in East Rutherford, New Jersey for a nationwide wireless carrier in time for it to host America's favorite pro football championship game of the year. Modifications included the addition and/or upgrade of antennas and incorporation of new LTE/4G technology.

The future evolution of this industry is an astounding effort that continues to grow in leaps and bounds in order to meet the demands of the public at large. It is the tireless efforts of the telecommunication professionals continually working in the background that connects this fast-paced industry seamlessly into the hands of the user.

edited by Kelly Shayne Young



The Izod Center in East Rutherford, NJ has its transmitting antennas ready for the biggest professional football championship game of the year.

Dewberry Lends Services to Virginia Gateway Development

edited by Kelly Shayne Young

Located just 35 minutes from Washington, D.C. in Gainesville, Va., Virginia Gateway sits at the crossroads of I-66 and Route 29 and serves as the commercial hub of western Prince William County. This 470-acre mixed-use development consists of general retail, commercial, and office use. Dewberry has been performing A/E services for the site as well as consulting services to assist the development team with implementing the overall vision. The project has required extensive coordination with Prince William County to process rezonings, special use permits, impact studies for neighboring communities, site plans and construction permits.

Dewberry also provided A/E services for the Promenade, the final phase of the Virginia Gateway development. The Promenade is a 300,000 SF lifestyle center that will offer upscale dining, shopping, and entertainment with integrated walk ways, pocket parks, and amenities. The first stores and Regal Cinema opened in fall 2013.

Virginia Gateway provides area residents and visitors with over one million square feet of retail, restaurant, hotel, and office use, including some of the nation's leading brands and the region's finest merchants.



Virginia Gateway consists of over one million square feet of commercial, industrial, and office space in western Prince William County, Va.

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LDDI Sponsor Receives Prestigious Award

by Kevin Young

In November, LDDI platinum sponsor christopher consultants, ltd. (ccl) was honored as the "Firm of the Year" by the Northern Virginia Chapter of the Commercial Real Estate Development Association (NAIOP). ccl has been an active member of NAIOP for nearly 20 years and ccl employees serve as co-chairs for NAIOP Northern Virginia's Government Relations Prince William and Loudoun subcommittees and are involved in the chapter-wide Government Relations Committee. ccl has been a sponsor of LDDI since 2007, and the firm's president, Bill Zink, is a former LDDI Advisory Board Member. LDDI congratulates Bill and the entire firm on this recognition.

Jansen Land Consulting Manages the Unique Challenges of the Wincopia Development

edited by Kelly Shayne Young

Situated on 127.6 acres in Howard County, Md., Wincopia Farms is a residential development of 171 single family homes and 49 townhouses currently being developed by Beazer Homes. Jansen Land Consulting is managing the entitlement and development of the project as a consultant to Beazer.

As required by recent Maryland Department of the Environment (MDE) and Howard County regulations, the project will have extensive pervious sidewalks and driveways, and many of the lots will have rain barrels and drywells. These measures will promote infiltration of rainfall into the groundwater instead of the runoff passing through the storm sewer system and into nearby waterways, as has been the case in the past. In addition, there will be approximately 43 micro-bioretenion facilities located on the site, each on its own parcel. Given how new the MDE regulations are, the maintenance of these improvements will pose a challenge to the County, the homeowner's association, and the individual homeowners. Each will be charged with varying responsibilities related to the cleaning, maintenance, and repair/replacement of different components of the facilities. Of particular interest will be the homeowners, who will be responsible for cleaning and maintaining the pervious driveways, dry wells, and rain barrels located on their lots.

Another development challenge is the relatively new MDE requirement limiting the maximum area of disturbance at one time to 20 acres. On a project of this size (approximately 83 acres of total disturbed area), the 20-acre limitation causes some unique concerns, particularly when it comes to the earthwork balance. In the past, on a typical development site, the earthwork contractor would make cuts from portions of the site that are higher than the proposed grades and make fills on other portions of the site that are lower than the proposed grades, all (potentially) at one time. With the 20-acre disturbance limitation, Jansen Land Consulting and the project owner had to strategize with the earthwork contractor on how to best make partial cuts and fills, given that grading out the entire site at one time wasn't an option.



Located close to Laurel and the I-95 corridor in Howard County, Md., Wincopia Farms will be comprised of 171 single family homes and 49 townhomes.