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Member News and Events Calendar on pages 13, 14 and 15
My opening column for my presidency was “Taking Back the Profession”. The forces that threaten to erode our influence and marginalize us as professionals still exist. Our Legislative and Government APAC has been very active this year in getting our concerns if front of our Legislators, we should all continue to support their effort.

We are especially proud of the high standard we achieved in bringing interesting programs and events to our League members in 2007. Highlights included:

**January** - Installation dinner at Liberty House Restaurant in Liberty State Park.
**February** - AIA National’s Grassroots Leadership & Legislative Conference.


**March** - Westside Presbyterian Church Ridgewood: McCann Systems LLC presented new design opportunities in Audio/ Video systems.

We celebrated the 150th anniversary of the AIA.

BPMIA Joint Meeting: Joint panel discussion with Bergen Passaic Municipal Inspectors Association on NJ-IBC 2006 code changes.

**April** - Annual Joint ALNNJ/ N&S Trade show at Marriott Glenpointe in Teaneck. We appreciate the many vendors who have supported us over the years.

**May** - Upper Ridgewood Tennis Club Ridgewood: National Fire Sprinkler Association demonstration with their Bum Room trailer. Philip C Dondai, AIA, LEED, gave a presentation and Overview of LEED with focus on new developments.

We improved our swing at our annual Golf outing – High Mountain Country Club, Franklin Lakes.


**September** - Special Member Event: 2007 OPEN HOUSE LONDON WEEKEND see behind normally closed doors throughout London.

Crowne Plaza Hotel Englewood: Clifford Zink spoke on the background and history of the Hackensack Waterworks by; then a Design Charrette for alternative uses for the facility.

**October** - Homer Stryker Center, Mahwah, New Jersey: “Using Design Psychology to Create Ideal Places” by Toby Israel, Ph.D. Design Psychologist.

Special Member Event: First Annual Ted Kessler Walking Tour visited the Austrian Cultural Institute, Grand Central Terminal, the Municipal Arts Society and Time Warner Center.

**November** - Fair Lawn Community Center: Arthur Davis Lecturer – Dr Mitchell Joachim of Tereform, a futurist who shared his vision of Architecture of the future to sum up our celebration of AIA-150. We presented our second annual Peer Awards and the 2007 Scholarships.

Special Member Event: 2007 DESIGN CHALLENGE for high school students thinking of becoming an architect or designer.

I am grateful and enjoy the reward of seeing our League’s plans come to fruition. We look forward to a New Year stewarded by our very capable incoming president Kim Vierheilig.

**Kevin C. Gore, AIA**
AIA-ALNNJ President 2007

First, I would like to take this opportunity to thank Kevin Gore, our past president and his entire Board for all their hard work last year. The quality of monthly lecturers, special events and walking tours were both fulfilling and informative. Several of those events, we plan to make annual traditions for the League, like the Kessler walking tour of Manhattan and the Peer Awards.

It is so hard to believe it is the start of a new year and the beginning of my term of presidency. There are a few new faces on our Board this year; the following individuals will be serving as Trustees this year, Joseph Bianco, Dan Cummings, Richard Bettini and Amy Hummerstone. I would like to welcome them on Board. Secondly, we are adding a new committee to our lineup. The Architect’s League has started its own Committee on the Environment (COTE). This committee will work locally and as our representative to the AIA-NJ COTE chapter. Its focus will be to further the green movement, and provide green resources and support to our members. Mark Giessen will be heading our section’s committee. As a new committee we are looking for members who may want to get involved. Those individuals interested in volunteering, please contact him directly at mgiessen@cbellis.com.

As sustainable architecture becomes more and more mainstream, it is imperative that architects be at the forefront. Nationally, the AIA, has taken a strong stance in supporting legislation, which promotes green design strategies. One of which, Green Infrastructure in Federal Facilities, is a provision in the Senate-passed energy bill that would require the federal government to use green infrastructure practices to reduce storm water runoff from their facilities. Other green initiatives the AIA is supporting include legislation that would promote Federal Building Energy Efficiency, an Energy Efficient Commercial Buildings Tax Deduction and Sustainable Design and Greenhouse Gas Reduction. For further information on any of these items, visit www.aia.org/advc_fed.

This year, our meetings will be focusing on Sustainable Design, Innovation and Technology. As such, in February, our lecture series will start with Jack Armstrong from BASF discussing the Near Zero Energy House. Mr. Armstrong will be describing the design of the dwelling’s building envelope, mechanical and solar power systems. This home has been selected by the US Green Building Council pilot testing for the LEED-H (Leadership in Energy and Environmental Design for Homes) rating system. In addition, Wayne Heath from Insulspan will be joining us to discuss the use of Structural Insulated Panels. SIPs were an integral part of making the BASF house energy efficient.

In March we will be going to Stone Source’s new warehouse and showroom in Carlstadt, NJ. The program will focus on Porcelain Tile. Additionally, we are planning a tour in the spring of the new Prudential Center in Newark, NJ. Details on all these events are to follow via email.

To kick off the year, Frank Cunha, our 1st Quarter Leagueline editor has put together an exploration of sustainability from varied industry viewpoints. I hope you enjoy this publication and look forward to an exciting year serving as your president.

**Kim V. Vierheilig, AIA**
AIA-ALNNJ President 2008
Dear ALNNJ members and friends,
It is my privilege to be your Editor for this very special expanded issue.

In this issue, the Leagueline committee has compiled a series of perspectives on green design. The views vary from The Architect, to the Paint Vendor, to the Furniture Vendor; but all share a common vision, a vision of sustaining the environment. For me this topic is extremely relevant and timely given the attention that it currently has received from the media. Although our 1Q issue only begins to scratch the surface, I hope it sparks a dialog amongst you, your colleagues, your families, and your friends.

I know that being green is not always easy and the choices we make on a daily basis are not always the ones that are most sensitive to the environment (i.e., do we have a coffee mug at work or do we throw away our cup). However, whether or not humans are responsible for the accelerated state of global warming, we owe our children and their children accountability for our actions as Architects and as builders.

I recently took my oldest son who is four to the local recycling center. He was so happy to help throw the cans, bottles, and papers in the designated bins that he asked if he could come and help again next time. Immediately after, we met some folks around town and he was thrilled to tell them where we just came from.

This issue is dedicated to my children who inspired me to share this message.

Frank Cunha, III, AIA
1Q Editor

P.S. Many thanks to our contributors, sponsors, supporters, graphic designer, communications committee, all of whom without this issue would not be possible. I would love to hear your thoughts on this issue, please contact me at fc3aija@gmail.com

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**LEEDing the way for Good Business**

by Steve Leone, AIA, LEED AP

“The era of procrastination, of half measures, of soothing and baffling expedients, of delays, is coming to a close. In its place we are entering a period of consequences.”

Winston Churchill, 1936

The time is now. The world is calling. It is our duty to answer the call. Leadership is required.

We are arguably in the midst of the greatest global crisis in history. We continually see signs of abuse caused by human intervention, with nature’s aggravated responses. “Global warming will dominate future trends”, according to NASA’s Goddard Institute of Space Studies (GISS). While we can argue that the earth may be headed towards a natural warming cycle, there can be no doubt that a population 6.7 billion people will have had a significant impact on that trend. With this number of individuals driving automobiles, buying consumables and generating trash, it is estimated that it could take 16 months to replenish what humans consume in a year. Human impact on this scale, has undoubtedly affected if not exacerbated changes in the natural environment.

To effectively lead our way through this crisis, we must commit to a proactive stance on protecting the environment while strengthening communities and being fiscally astute. Architects, engineers and interior designers have an incredibly timely opportunity to seed transformation through the building industry. Buildings have an enormous impact on the environment, consuming 70% of the world’s electricity, producing 85% of the world’s waste output, producing 30% of the world’s greenhouse gas emissions and consuming 12% of the world’s water. By contrast, green buildings, those that are energy efficient, minimize pollution and reduce overall environmental impacts, are much less demanding. In fact, in some cases, green buildings can be restorative to their immediate environments and in nearly all cases, green buildings provide long term cost savings.

Sustainable design principles help to promote regeneration of the natural environment, minimizing impact on its resources while affording sound economical development. They include among other things, energy efficient building systems, conservation techniques and reduction of waste and use of caustic materials.

*Sustainable Design is Good Design.* Good design is the implementation of systems and strategies that are clearly guided by sustainability, durability, budget and common sense. Building materials and systems are selected on their ability to perform over a significant life span while maintaining their intended appearance and efficiency. Believing every decision is made to make our clients successful, we work collaboratively with all stakeholders to implement solutions that are effective, economical, and environmentally responsible.

With each client and project, architects should carefully consider the impact on the community and lessening its burden. Sustainable design promotes and supports environmental, economic and social well being in the following ways:

1. **Environmental** – By reducing building impact on the environment and becoming more restorative.

2. **Social** – By minimizing strain on local infrastructure, enhancing occupant comfort and building community support.


Sustainable design means good business. Green buildings have been shown to save owners 30% in energy costs, 30-50% in water costs and 50-90% in waste disposal costs. Green buildings create healthy environments, increase productivity in workplace and learning environments, reduce absenteeism, improve morale and encourage retention. These factors also help to create an impressive marketing and public relations position that owners can leverage for that competitive edge. These outcomes add value while significantly reducing risk. As evident through the benefits above, sustainability in its broadest definition, affects every aspect of our lives. It addresses the “Big Picture” of our life condition, our behavior and habits as a civilization. As architects, our collective vocational training Companies can embrace sustainable design by incorporating it into their corporate culture, embraced across all levels. Corporate initiatives can include creating a committee dedicated to sustainability, adopting a company wide environmental policy and doing business in a sustainable manner. For architecture firms this means embracing the USGBC’s LEED Rating System.

continued on next page...
The US Green Building Council’s LEED™ Rating system is a tool to guide us. Though sustainability is much broader than a single building or qualifying system, LEED™ has become the tool of choice when determining how green projects are. LEED™ is a rigorous, performance based system that is organized to address projects in the sequences with which they are built. The LEED™ Rating System is organized to address projects in the sequences with which they are built. The LEED™ Rating system does allow for flexibility with respect to level of performance and some building types.

New Jersey has embraced sustainable design and the LEED™ system with the Waterfront Technology Center, several PNC Bank branches and The Richard Stockton College of New Jersey Academic Expansion among the many sustainable projects within the state. Each of these projects shows the dedication that the state and these organizations have to provide healthy working and learning environments for the building’s end-users. Increased productivity, bottom line savings and reduced environmental impact are just a few of the benefits these and all sustainable buildings can have.

Increased productivity, improved health conditions, reduced absenteeism and decreased maintenance costs are components of good business. Organizations are not only decreasing clear costs such as maintenance and life cycle costs for buildings and equipment but more importantly they are creating better environments. This can lead to variables such as decreased turnover, increased production, and improved physical and psychological health. A happier and healthier end-user results in better business for all.

Sustainable projects are significantly important as they provide data and outcomes as well as providing incremental chronology of efforts, strengths and weaknesses. Companies can measure their success in regard to sustainability by gauging client support. Together designers and clients can create a holistic approach to variables such as decreased turnover, increased production, and improved physical and psychological health. A happier and healthier end-user results in better business for all.

In today’s building industry, more and more buildings are being designed in an eco-friendly manner. Sometimes by choice, sometimes by requirement, an increasing number of buildings are striving to meet the guidelines set forth by the LEED rating system. As the industry continues to move in a ‘green’ direction, designers and specifiers are educating themselves on the practice of sustainability, however with the amount of products and systems available, these professionals need to be aware that the USGBC is fairly strict in evaluating credit compliance. Drawings and specifications need to address the subtle differences that are present within a project that may affect whether or not your project qualifies for a certain LEED credit. One such area that can cause major head-aches for designers is paint. The proper paint products are NOT always identified in the paint schedule in Division 9. When this happens, it can lead to increases in cost or the use of the wrong products. The following synopsis will help designers and specifiers ensure that the specifications carry the correct language and the paint point is achieved.

The first thing to remember is that ONLY interior paints matter. Exterior coatings must be VOC compliant in the jurisdiction where the project is located, nothing more and nothing less. For interior paints, there are three main criteria;

- Flat paints must be 50 g/l or less in VOC content.
- All paints with higher sheens must be 150 g/l or less in VOC content.
- All paints must NOT contain any of the chemical components listed in Greenseal GS-11.

Note: Primers are considered to be top coats in the LEED system and are subject to the same criteria.

Do not specify that the paint used have the Greenseal Approved label. LEED is only concerned about those three criteria mentioned above.

When specifying paint for Drywall, Plaster or Concrete, you need not worry about any of the exceptions to the criteria mentioned above. MAB Paints, Sherwin Williams and PPG all manufacture 0 g/l VOC products for use on these substrates. Benjamin Moore makes a less than 50 g/l VOC product for these uses.

Now for the Exceptions!

**Wood (painted)**

Block fillers are used in this application and block fillers are considered sealers. Sealers may have up to 200 g/l of VOC content and meet the LEED standard for use on a project. Top coats must meet the three criteria mentioned above.

**Metal (all types)**

LEED allows for the use of rust inhibitive paints for this application and references Greenseal standard GC-03, which allows for up to 250 g/l of VOC content in both primers and top coats.

**Wood**

LEED follows the SCAQMD Rule 1113 for VOC limits for the following wood applications. This standard can be downloaded by going to www.agnm.gov and hitting quick links to find rules.

- **Clear Finishes –**
  - Varnish 350 g/l
  - Laquer 250 g/l
- **Shellacs –**
  - Clear 730 g/l
  - Pigmented 550 g/l
- **Stains –**
  - 250 g/l
- **Sandling Sealers –**
  - 275 g/l

floors (Concrete)

LEED also uses the SCAQMD Rule 1113 for this application.

- **Clear Sealer –**
  - 100 g/l
- **Painted**
  - 100 g/l

Other Exceptions

There is no standard for:

- paint in aerosol cans
- paint applied off-site

The guidelines listed above will help designers and specifiers ensure that their projects meet the intentions of the LEED 2.2 EQ Credit 4.2. However, please keep in mind there are other issues that can arise when specifying paint for a LEED project. These include color, high performance coatings and special applications. Please be aware when selecting paint colors for your project, some manufacturers do not offer dark color paints in low-VOC options. Contacting your favorite Paint Rep early in the process is one way to make sure that you get the results you desire.

Les Cadigan, CSI, CCPR is an Architectural Rep for MAB Paints covering both the NYC and New Jersey markets. He is a member of the USGBC and CSI and serves on both the NJ and NYC CSI boards.

Mark Giessen, AIA, LEED AP is an Associate at Cubellis. He is a member of the AIA Architects League of Northern New Jersey as well as the NJ Chapter of the USGBC.

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Mark Giessen, AIA, LEED AP mgiessen@cubellis.com

1. Findings from the study, conducted by researchers Drew Shindell and Gavin Schmidt NASA’s Goddard Institute of Space Studies (GISS), New York, 2006.
2. Source: The U.S. Green Building Congress (USGBC) is the nation’s foremost coalition of leaders from across the building industry.
One major difference between LEED and traditional building practices is the level of integration called for between professionals. LEED creates a new approach to the dynamics of a building team by compelling a higher level of collaboration between project team members. This raises the bar, demands a higher level of performance, but also provides a greater measure of mutual support and reduced risk.

Integrated Process is a procedure whereby, the main stakeholders who affect the economics, performance and character of a project, collaborate, starting from the Pro-forma stage. The end goal is to have discovered it is possible to build a property for less, while producing a higher performing building, by incorporating integrated design into their sustainable projects.

The environmental goals for each project and owner will affect the natural environment in a multitude of capacities; the largest impact being energy consumption. As good stewards, we should look at alternative means to rely on for our energy needs and requirements. By changing, or diversifying, the source of our energy supply, companies will see a positive impact on their economic bottom line.

T3 goals are defined by assessing the economic, environmental, and social goals of each project for each owner, developer, and company.

 integrate methodologies and building systems into a cohesive and holistic product. In following the concepts behind Integrated Process, each aspect of the project lifecycle (such as financing expenditures, pre-development costs, design fees, and construction costs) is added as a line item in the project budget. As one line item increases, as a result of increasing the project’s Triple Bottom Line (T3) goals (i.e., economic, environmental and social), another one must decrease in order to have a positive impact on the budget, building, and the community the project resides in.

T3 goals are defined by assessing the economic, environmental, and social goals of each project for each owner, developer, and company.

The economic goals are driven by the project’s upfront costs versus the life cycle costs. If we look at the green giants of today, as leaders for environmental and integrated design, the financial institutions have proven to us it is possible to save on capital budgets, energy and operational costs, increase productivity, while, from a maintenance standpoint, produce a high performance building with efficient, low maintenance products. Some of the most experienced asset or portfolio managers

Social goals relate to people and for most companies, people equal money, because as a business owner, your largest expense is your payroll. By using integrated design and implementing LEED, you will create an environment that is beneficial to the health and well-being of your employees. Therefore, with cleaner indoor air quality and a healthier staff, you can decrease turnover and absenteeism while increasing productivity, your return on investment has then increased tenfold.

When evaluating the T3 goals during the Pre-forma stage, since it is a new process, it is challenging not to turn back to the simple economic return on investment (ROI) calculation. With Integrated Process, there is a new and stimulating means to calculating the ROI.

Traditionally, ROI has been a simple economic calculation but, with Integrated Process and sustainable practices, we can now approach ROI in a dynamically new fashion. We now can move past “How can I build this project for the least amount?” to thinking “How can this project have the greatest impact and still be within the T3 goals?” This change in approach and thinking, at the conception of an endeavor, will allow a greater means of return and

equity, increased performance and reduced risk.

Implementing LEED practices and integrated design will allow developers, owners, and individual companies to seize opportunities to benefit their employees, the environment and their economic bottom line. The overall goal for integrated design is to increase the performance, while remaining within the means of the T3 line. Although incorporating integrated process into the business model requires fundamental changes, the end results are great for the environment, and the return on investments becomes a driving force for a bigger business bottom line.

How to get the most amount of value within your T3 Goals

By Michelle Cottrell, IIDA, LEED AP and Scott Chrisner, LEED AP

One major difference between LEED and traditional building practices is the level of integration called for between professionals. LEED creates a new approach to the dynamics of a building team by compelling a higher level of collaboration between project team members. This raises the bar, demands a higher level of performance, but also provides a greater measure of mutual support and reduced risk.

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 Michael Cottrell, IIDA, LEED AP, is the founding principal of Design Management Services, a strategic partner of Chrisner Group. Design Management Services, is a certified SBE focusing on interior design, project management and LEED consulting services.

Chrisner Group is a green building solution provider specializing in LEED consulting for assessments, design side and construction side services.

As consultants and practitioners of the “integrated design approach,” we make green building rating systems work for architects, builders, non-profits, municipalities, and municipalities as an independent, third-party consultant affecting process.

Chrisner Group project list includes Commercial projects, Institutional projects, Higher Education and K-12 schools. Building types include new and existing commercial office buildings, historic preservation, municipal industrial facilities, as well as, classroom buildings and recreation centers.

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American Society of Heating, Refrigerating and Air Conditioning Engineers is an international technical society for all individuals and organizations interested in heating, ventilation, air-conditioning, and refrigeration (HVAC&R), and was founded in 1894 at a meeting of like-minded engineers in New York City. Examples of some ASHRAE Standards are Standard 62.2 Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings and Standard 90.1, Energy Conservation for Buildings Except Low-Rise Residential Buildings.

Cradle to Cradle is phrase coined by William McDonough and Michael Braungart in their 2002 book Cradle to Cradle: Remaking the Way We Make Things. This framework seeks to create production techniques that are not just efficient but are essentially waste free. In cradle to cradle production all materials inputs and outputs are seen either as technical or biological nutrients. Technical nutrients can be recycled or reused with no loss of quality and biological nutrients are composted or consumed. By contrast cradle to grave refers to a company taking responsibility for the disposal of goods it has produced, but not necessarily putting products’ constituent components back into service.

LEED

The Leadership in Energy and Environmental Design Green Building Rating System, developed by the U.S. Green Building Council, provides a framework for assessing building performance and meeting sustainability goals. LEED standards are currently available or under development for commercial buildings, homes and neighborhood developments. Since its inception in 1998, LEED has grown to encompass over 14,000 projects in 50 US States and 30 countries covering 1.062 billion square feet of development area.

LEED AP

Individuals recognized for their knowledge of the LEED rating system are permitted to use the LEED Accredited Professional (AP) acronym after their name, indicating they have passed the accreditation exam given by the USGBC.

USGBC

The U.S. Green Building Council is a non-profit organization devoted to shifting the building industry towards sustainability, targeting how buildings are designed, built and operated. The USGBC is best known for the development of the Leadership in Energy and Environmental Design (LEED) rating system and Greenbuild, a green building conference.

VOCs

Volatile organic compounds are organic chemical compounds that have high enough vapor pressures under normal conditions to significantly vaporize and enter the atmosphere. VOCs are sometimes accidentally released into the environment, under which they can damage soil and groundwater. Vapors of VOCs escaping into the air contribute to air pollution.
“People will always need buildings, and the next generation wants them green. By far the most talked about topic in the architecture universe is how to reduce the environmental impact of everything from summer cottages to skyscrapers”

The Wall Street Journal
January 31, 2005

In the past, most industries and businesses focused their efforts primarily on preventing or minimizing pollution in production. Today, the focus is broadening to include every stage of a product’s life — from material extraction to end-of-use and every stage in between. The growth in sustainable product design and green product specification is, in part, being driven by legislation by many state and local governments. It’s certainly the trend to require and reward sustainable design and business practices.

For the most part, talking green comes easy. There is an abundant source of environmental information available, which has led to progress made in recent years due to the increase in training for design professionals. The US and Canada alone have over 9,000 individuals who have earned LEED accreditation and the number keeps growing. The problem is that much of the information available is conflicting, unclear, or downright misleading making it difficult to make an assessment. It’s still hard to tell which products are really best for the environment.

Newly designed sustainability standards help architects and designers sort out sustainability claims and concerns. The LEED Green Building Rating System is perhaps the best known, accepted as the green standard for the built environment. C2C certification is an ideal complement to LEED. As LEED emphasizes the broader building process and the building itself, C2C emphasizes the material characteristics of products that compose the building or occupy it. By adding criteria related to water stewardship, energy and social responsibility in the production process, C2C gives designers assurance that in addition to getting a sustainable product, they are getting it from an environmentally responsible company.

C2C was introduced almost three years ago by McDonough Braungart Design Chemistry (MBDC), a third-party sustainable product and process design consultancy in Charlottesville, VA. Its foundation is an analysis of component materials against 19 human and environmental health criteria. In addition to material assessment, C2C measures four other criteria including energy use, water stewardship, recyclability, as well as a manufacturer’s record of social responsibility.

Since few manufacturers are vertically integrated, tracking down the materials in every last nut and bolt of a complex product means researching multiple outside suppliers of raw materials and OEM parts. Steelcase is one manufacturer that pursues Cradle to Cradle certification of their products because it mirrors their environmental aspirations and business philosophy of a rigorous holistic approach. One example is the Think Chair by Steelcase. Only materials safe for the environment are used in the chair. There’s no PVC, no benzene, lead, mercury, etc. It disassembles in five minutes, and every part that weighs more than fifty grams, or about two ounces, is clearly labeled for recycling. It’s 99% recyclable. Steelcase plans to have C2C solutions for all of its major systems products by the end of 2007.

Certified Cradle to Cradle (C2C) products are safe for both human and environmental health. They are designed for easy recovery and use of materials. As a way to identify “green” products across a variety of industries from cleaning products to commercial interiors, C2C is an important new sustainability benchmark.

We at General Office Environments are discovering that more and more clients are willing to make sustainability a priority in their new projects. By embracing sustainable solutions and using C2C products, they are reducing waste, improving air and water quality, conserving resources and delivering significant health and economic benefits to their businesses. Together with Steelcase, General Office Environments is committed to supporting the design community along with our clients in offering seminars and continuing education courses on sustainable design.

The investment is nothing less than the future health and well being of our planet.

REFERENCES: Steelcase 360 Articles
2. “Cradle to Cradle”, January 2006
3. “A Deeper Shade of Green” by Eileen Raphael

For more information please contact Ricardo Costa – Account Manager
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Decentralized Urban Water Infrastructure

By Franco Montalto, PhD and Eric Rothstein

Nationally, urban water infrastructure is aging and in need of repair, while construction of new facilities is required to meet the challenges posed by urbanization, population growth, climate change, and increasingly stringent environmental regulations. As municipalities begin to contemplate how to address these challenges, increased attention is being directed to how engineers, architects, and landscape architects engineer the movement of both drinking and sewer water through developed landscapes.

Specifically, the load that buildings and landscapes exert on urban water infrastructure systems is determined by the rates of drinking water inflow and wastewater outflow, and by how these sites interact with the local hydrologic cycle. Drinking water inflow includes the rate of drinking water consumption, but also the usage of potable water for landscape irrigation, commercial and industrial washing, toilet flushing, air conditioning, and similar non-potable uses. On the downstream side, outflows include the rate of generation of "black water," itself contributing about 50% of dry weather flow in the sewer, as well as the rate at which other flows of water are discharged to the sewer system. These "other flows" include stormwater runoff, water extracted from dewatering efforts and basement sump pumps, as well as air conditioning condensate, chillier flows, and other industrial flows.

Conventionally and historically, when urbanization or population growth increased the demand for urban water infrastructure, large and costly interventions were undertaken to augment the capacity of centralized infrastructure systems to provide drinking water and sewer services. These efforts included the designation of huge tracts of originally rural land for municipal water supplies, construction of complex networks of water tunnels to extract and distribute the water where it was needed, all of which was typically followed by the required construction of filtration plants to ensure reliable quality of water piped out of these areas as development encroaches on them. Downstream of the city, storm drains, ditches, and canals, catch basins, sanitary sewer lines and pump stations have all been designed in an effort to collect, convey, treat, and dispose of "waste" waters (runoff and domestic sewage), an approach not too different from the way sanitation departments manage garbage.

Decentralized water management approaches that reduce drinking water consumption and wastewater and stormwater generation at the individual building scale are increasingly being considered as an important means of lessening the burden that development exerts on urban water infrastructure systems. This is akin to how a switch to fluorescent light bulbs can reduce overall energy demand.

The integration of water conservation measures and systems that capture, treat, and utilize stormwater, greywater, and groundwater for toilet flushing, landscape irrigation, air conditioning top-off, and other non-potable uses can significantly reduce both the quantity of drinking water buildings consume, and the quantity of wastewater and stormwater they discharge to municipal sewer systems. In one recent residential building project, we estimated that such measures could reduce the "waste" water stream by up to 65% over the conventional approach. However, the relatively low cost of water and waste-water services and the fact that building owners are rarely rewarded for reducing stormwater discharge from a site can pose a challenge in justifying additional consulting and construction costs associated with design of water re-use systems. Landowners typically pay for water and sewer services as a function of metered potable water usage and these prices are on the order of one dollar for every 1.4 cubic meters (375 gallons) of drinking water supplied or for every 0.9 cubic meters (235 gallons) of wastewater discharged. These relatively low water rates give little incentive to landowners and developers to install water conserving devices, let alone systems that treat and reuse greywater and require storage tanks, disinfection units, and dual plumbing lines. Until water rates increase significantly and / or policy makers make some difficult decisions, owner's of existing buildings will have little incentive to retrofit the buildings systems and developers will remain un incentivized to spend additional capital for reducing wastewater flows.

Nonetheless, an increasing number of developers are choosing to incorporate innovative water conservation and recycling technologies into the design of buildings and landscapes. Recent projects undertaken by our firm have included the harvesting, filtration, disinfection, and pressurization of roof runoff for use in flushing toilets, green roof irrigation, sprinkler systems, and pressure hoses for patio wash off for clients as diverse as restaurant owners, private and nonprofit developers, architecture firms, and individual land owners. While some of these clients are motivated by a deep environmental ethic and are fortunate to have extra resources to invest in water-efficient infrastructure, others have leveraged water conservation and recycling for eligibility for a variety of green building grants. A third set of clients are motivated by projected financial savings and expedited building permitting. Zoning boards concerned with the growing municipal water infrastructure liability are becoming increasingly reluctant to permit larger than as-of-right buildings, due to the increased load they will exert on already heavily burdened urban water infrastructure. Water conservation and recycling technologies that are shown to produce less wastewater than typical as-of-right buildings can help to convince local planners to permit these buildings, raising the bar for developers.

We have been engaged by a developer to present to a NJ zoning board a model demonstrating how water saving devices and the use of all greywater and stormwater runoff onsite by our client could reduce the quantity of wastewater generated from his proposed 32 unit residential to the quantity typically generated by a standard 10 unit building. If this building is granted a zoning variance, the client will see higher revenues, the load on the sewer infrastructure will remain unchanged, the City's tax base will be increased, and energy savings will be increased due to the larger building size (surface to volume ratios).

To be sure, there is much ground still to be covered. Many zoning, building, drainage, and health codes make implementation of innovative water management schemes difficult. Municipal incentives and policies that do promote innovative lot-level water management often apply only to new development, while the integration of dual plumbing systems into existing buildings can be cost-prohibitive. In most cases discharge of stormwater to the sewer system is "free," and small-scale water filtration and disinfection technologies are still relatively costly. Further, little is known about the effect of stormwater infiltration on building foundations and other buried structures. Perhaps more formidable a challenge is the pervasiveness of a design philosophy on the part of some engineers, architects, and landscape architects that treats potable water as an infinitely available resource, and still allows good water to become waste. Urban watersheds consist of a mosaic of publicly and privately owned land, and both new and existing development. If the scale of drinking water, sanitary sewer and stormwater infrastructure serving these landscapes is to be reduced, a more enlightened approach to water management needs to be integrated into all aspects of urban design.

Founded in 2002, eDesign Dynamics, LLC is an environmental engineering firm based in New York City that takes a multi-disciplinary approach to design and analysis. Dr. Franco Montalto is the President of EDD and a professor of Civil, Architectural and Environmental Engineering at Drexel University. Mr. Eric Rothstein is EDD's Managing Partner.

For more information please contact Franco Montalto, PhD at fmontalto@edesigndynamics.com or Eric Rothstein at E.Rothstein@edesigndynamics.com
LAN Associates – Engineering, Planning, Architecture, Surveying, Inc. is proud to congratulate our own Kim V. Vierheilig, AIA on her accomplishment in becoming the 2008 President of the Architects League of Northern New Jersey. Kim’s talent and hard work have played an instrumental role in LAN’s success since joining our firm in 2003. The same talent and hard work will also make her a great ALNNJ President. We wish her the very best this coming year!

CONGRATULATIONS
Kim
ALNNJ Associate Members Selected as Finalists

ALNNJ Associate Members Nicole Wrobel and Cesar A. Parra, along with Stevens Institute classmate Nash Hurley, have been selected as finalists to the Materials and Applications: Growing Structures competition in San Francisco, California. The goal of the competition is to structurally create an organic form by giving inorganic materials a second life for further use. The submission, entitled “Crystal PET: The Harvest Moon For Plastic”, outlines an ever-growing art installation.

During the first phase of installation, which begins with the New Moon, visitors drop off used plastic bottles and learn about the process and benefits of recycling polyethylene terephthalate (PET). PET is a plastic resin and a form of polyester from which bottles are made.

On the Full Moon of the month, visitors observe the process of the PET bottles being transformed into organic forms that are then used to initiate and grow the installation. The ritual repeats each month. As the installation grows, participants will be invited to participate in communal productions, reminiscent of past harvest moon events.

As part of the submission, Wrobel, Parra and Hurley were required to demonstrate the PET transformation process by melting the PET harvested from plastic bottles and extruding it into a mold to create the sculptural shapes that symbolize organic growth.

Winners of the competition will have the opportunity to demonstrate their proposal to the public at a forum in San Francisco.

Wrobel and Parra are intern architects with LAN Associates in Midland Park.

AIA NJ Awards and Officers

AIA NJ Awards Banquet was held Saturday, January 12, 2008, at The Newark Club, Newark, NJ

2007 Award Winners

AIA New Jersey’s Michael Graves Lifetime Achievement Award: J. Robert Hillier, FAIA
Distinguished Service Award: David DeVecchio, FAIA
Architect of the Year: Hugh Boyd, FAIA
Architectural Firm of the Year: NK Architects
Young Architect of the Year: Stacey Kliesch, AIA
Intern Arch of the Year: Danielle A. Matuch, Assoc. AIA
Resident of the Year: Freeholder William S. Haines

Installation of the 2008 AIA NJ Officers

President Seth A. Leeb, AIA
President Elect Stacey Ruhle Kliesch, AIA
First Vice President Jason Kliewinski, AIA
Second Vice President Thomas Meyers, AIA
Secretary Michael J. Hanrahan, AIA
Treasurer Glenn W. Pellet, AIA
Regional Director David Del Vecchio, AIA
Past President Jerome Leslie Eber, AIA

Leadership

The AIA NJ Leadership Conference was held on November 2nd & 3rd at the Seaview Marriott in Galloway Township. It was an opportunity to look ahead to 2008, improve the efficiency of the services we offer to the AIA NJ membership, and to maintain a well-trained and enthusiastic leadership. The program began on Friday with a Professional Facilitator, who customized a program for the AIA NJ leadership and ended on Saturday with specific goals set for the year ahead. The event was well attended by the ALNNJ Executive Board and Committee Chairs.

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The rapid adoption of green strategies in buildings over the last five years has resulted in some hasty conclusions about different techniques and technologies. Daylighting has been hailed as an important strategy to adopt. It is sustainable, saves energy, increases value and creates a positive impact on occupants.

As our understanding of daylighting becomes more sophisticated, designers are grasping the concept that simply placing windows or transparent glass on the envelope does not equal daylighting. The act of harnessing the sun requires a more sophisticated approach.

Enter the light shelf. The light shelf is often the most visible tool that demonstrates a building’s daylighting strategy. Light shelves are intended to redirect light onto the ceiling, thus driving the light deeper into spaces and away from the floor. The most effective use of light shelves are on southern elevations with a combination of interior and exterior light shelves, so while the exterior light shelves block any direct glare and thermal gain, the interior light shelves drive the light deeper into the spaces. By redirecting the light from the ceilings we can achieve 1.5 to 2.5 times greater light penetration and overall illumination of a space.

Light shelves are most effective when they are designed in line with daylight modeling on software such as Radiance. Expertise in such techniques and software is both complex and often held by only a handful of daylighting consultants. Therefore, in practice light shelves are either designed using rules of thumb and are not as effective, or budgets have to include a daylighting analysis.

Even if budgets do allow for detailed analysis at the design stage, it is at the cost review stages that light shelves usually suffer their most brutal battles. The construction of light shelves does increase material and labor costs of the project, therefore making them easy picking.

Recent case studies have also shown that interior light shelves collect dust and dirt. This is at odds with indoor air quality objectives and creates a substantial maintenance and cleaning cost. There have also been cases in offices and schools where light shelves were in reach of occupants and used as book shelves.

We have noticed an increase in designers and contractors approaching glazing manufacturers and requesting a more affordable solution to light shelves. When we conducted daylighting simulations and studies, the results revealed that the use of light diffusing panels up to the point where the light shelves were designed, achieve as good if not better daylight penetration, whilst eliminating glare and thermal gain.

The act of harnessing the sun requires a more sophisticated approach.

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Membership Meeting at Stryker Center

The October 23rd League meeting was held at the Homer Stryker Center, a new building designed by KCG Architects that includes classrooms, a research library and medical training lab on the Stryker Orthopaedics Campus in Mahwah. The speaker was Toby Israel, Ph.D. a visionary founder of the new field of Design Psychology, discussed how psychology is applied to real residential, institutional and corporate projects.

First Annual Ted Kessler Walking Tour

On Sunday, October 28th from noon to 4 pm the ALNNJ held the First Annual Ted Kessler Walking Tour. It was an outstanding event professionally prepared and conducted throughout Midtown Manhattan by our own Joe David, AIA of KCG Architects. The tour which began at Grand Central Terminal and ended at Columbus Circle honored Ted Kessler, a longtime League member known for leading tours throughout Manhattan. Join us again in 2008!
Members ideas for Hackensack Waterworks

On September 18th there was a Meeting and Design Charette at the Crowne Plaza Hotel in Englewood. Following a presentation about the background and history of the Hackensack Waterworks by speaker Clifford Zink, members were given an hour to work on designs for alternative uses for the facility.

Meeting at the Fairlawn Community Center

The November 15th League meeting was held at the Fairlawn Community Center designed by Studio 5 Partnership of Glen Rock. The Arthur Davis Lecturer was Mitchell Joachim, PhD, of Terreform a nonprofit organization and philanthropic design collaborative that integrates ecological principles in the urban environment.

AIANJ 2008 Scholarships Awarded

The ALNNJ Awards Committee is happy to announce the following winners for the 2007 ALNNJ Scholarship Awards:

Richard J. Wells of NJIT is the recipient of the Albert O’ Halse Award given to undergraduate students for excellence in architectural delineation and/or architectural models.

Andrew Lewis of Virginia Tech is the recipient of the Architects League Scholastic Achievement Award given to undergraduate & graduate students for scholastic excellence in architectural design.

Each received $3,300 for the Fall semester and an opportunity to display their work at this year’s Awards Night.

If you know of someone who is eligible and interested in our scholarships, please contact Frank Cunha at fc3aia@gmail.com.

The design competition winning team consisted of:

John B. Fitzgerald
Vince Blehl
Robert McCarthy
Michael Herbig
Terry Durden
Joseph F. Sarra Jr.

Vierheilig Residence

Painting by Gus Rosenlof - www.rosenlofgalleries.home.att.net

The ALNNJ Awards Committee is happy to announce the following winners for the 2007 ALNNJ Scholarship Awards:

Richard J. Wells (right) receiving his award.

Painting by Gus Rosenlof - www.rosenlofgalleries.home.att.net

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New Members
The Architects League is pleased to announce their newest members:

- Asmita B. Gami, Associate AIA
- Donald R. Jackson, Associate AIA
- Cristiano R. Pereira, Associate AIA
- Matthew Schott, Associate AIA
- Giuseppe Munafo, International Associate AIA

Russ Warnet, AIA
Moves to Florida
Congratulations and Best Regards to long time member Russell W. Warnet, AIA on his retirement and move to Florida! Russ may be reached via e-mail at: rwsquared@aol.com or snail mail at: 86 Palm Beach Plantation Blvd., Royal Palm Beach, Florida 33411. We will miss him and look forward to seeing him soon!

Feeling Creative?
Check out these Design Competitions:
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- http://bustler.net/index.php/archinect
- www.archpaper.com/competitions
- www.deathbyarchitecture.com

MILESTONES
Welcome to the Cunha twins
Daniel (Bibs-14oz, 19-1/2") and David (Bibs-15oz, 19 1/2") were born to Cindy and Frank Cunha on September 2, 2007.

Russ Warnet, AIA
Moves to Florida
Congratulations and Best Regards to long time member Russell W. Warnet, AIA on his retirement and move to Florida! Russ may be reached via e-mail at: rwsquared@aol.com or snail mail at: 86 Palm Beach Plantation Blvd., Royal Palm Beach, Florida 33411. We will miss him and look forward to seeing him soon!

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AIA NJ Young
Architect of the Year
Stacey Rhulie Kiesisch, AIA

... and Congratulations to the 2008 AIA NJ Officers, especially our own ALNNJ member, President Elect Stacey Rhulie Kiesisch, AIA.
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