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Dear Grid Reader,

When the Philadelphia Water Department, the Community Design Collaborative and the U.S. Environmental Protection Agency launched Infill Philadelphia: Soak It Up! — a design initiative that explores how green stormwater infrastructure can revitalize urban neighborhoods — we had the highest of expectations. We are jazzed to report that our hopes for this competition — fueled by our shared vision and enthusiasm to present Philadelphia as a model for how a city can fuse green stormwater infrastructure and community renewal to result in fishable and beautiful waterways — were realized tenfold.

As we evolve Philadelphia into America’s greenest and most sustainable city, the opportunities ahead will be limited only by our imaginations and the extent of our determination. This was proven by the 28 design submissions received, which incorporated stringent design criteria with passion and creativity that thrilled the hearts of audiences — and those of the government persuasion — with a peek into the evolution of sustainable designs that can define a neighborhood by the way its landscapes use rainwater as a resource.

The implementation of Green City, Clean Waters will be the largest single investment of environmental dollars in the City over the next 25 years. By forging partnerships within the design community, we are cultivating a green legacy for future generations. And we are looking forward to starting this work through the implementation of components of these inspiring plans.

Howard Neukrug
Philadelphia Water Department Commissioner

To learn more about Green City, Clean Waters and how the Philadelphia Water Department is managing stormwater, visit phillywatersheds.org.
“The Soak It Up competition is all about innovation, collaboration and sustainability—the cornerstones of Philadelphia University’s College of Engineering and Design.

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–Rob Fleming, Founding Director

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Pre-Soak

**DESIGN COMPETITION WASN’T THE START OF SOAK IT UP!**

*Infill Philadelphia: Soak It Up!* introduced a wider circle of Philadelphians to green stormwater infrastructure. A kickoff exhibition in October 2012 highlighted 40 examples of innovative work already happening in Philadelphia, Baltimore, Cleveland and Pittsburgh. Earlier, two design “charrettes” served as a prelude to the design competition — “Transforming Urban Schoolyards” (May 10, 2012) and “Urban Remix: Creating a Sustainable Community at 46th and Market” (November 16, 2012). Each consisted of day-long brainstorming sessions in which designers met with students, teachers, parents, government officials and community leaders, giving them an opportunity to collaborate on greening schoolyards and on reimagining the 46th Street Station Area.
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Thanks to the firms, organizations, and agencies who shared their ideas and expertise.

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The Calm Before the Stormwater

INTRODUCTION

The Calm Before the Stormwater

ONCE STATE-OF-THE-ART, PHILADELPHIA’S AGING STORMWATER INFRASTRUCTURE MAY BECOME SO ONCE AGAIN by COURTNEY SEXTON

SINCE ITS FOUNDING, Philadelphia’s physical and cultural development have been shaped by the Schuylkill and Delaware rivers. The city’s location on the rivers quickly made Philadelphia a major port of trade with active fishing and shipbuilding industries. The rivers also provided recreation — boating, rowing, vistas captured in great master paintings — that remain a significant part of life here.

Perhaps the most important, and lasting, aspects of Philly’s proximity to the two great rivers (and the Delaware Bay) are the civic advancements that have come from it. As far back as the late 1700s, city planners understood the importance of supplying clean water for the city and taking wastewater away. The most iconic representation of the work of Philadelphia’s early civil engineers is the Fairmount Waterworks. Constructed and continually modernized between 1812 and 1872, the Waterworks was a proud symbol of the city’s advancement into a new era, and brought with it an efficient, state-of-the-art mode of dispersing clean water to citizens.

With the issue of supplying water under control, and as time passed and the city grew, sewage disposal became more of a concern. With the installation of toilets and sewer pipes inside of most homes — and one city block full of row-homes can hold a lot of toilets — the next big challenge was figuring out how to adequately rid neighborhoods of wastewater. Engineers developed a system whereby wastewater from showers, toilets, washing machines and dishwashers is combined with water collected from rooftops and gutters, into storm drains, which could then efficiently bring the combined water to a treatment site. In the rare event the system was inundated, the overflow would be released through culverts into the rivers rather than onto the streets.

Known as a combined sewer system, this archaic system, which is now considered unhealthy for people and the environment, still serves about 60% of Philadelphia’s neighborhoods, including some of the oldest and most dense. Due to increases in population and the amount of land covered with impervious surfaces like concrete and asphalt, as well as more severe and frequent rainstorms, instances when the systems capacity is exceeded have become commonplace, and the basins that hold the combined water before it reaches treatment plants are more regularly at risk of overflowing, releasing large amounts of waste water along with the stormwater into our rivers. Thus, Philadelphia now faces its newest challenge — how do we maintain the integrity of our historic city while simultaneously managing stormwater in such a way that we are once again known as a clean and innovative leader in urban design?

COMPETITIVE BY DESIGN

The Community Design Collaborative teamed up with the Philadelphia Water Department (PWD) and the Environmental Protection Agency to explore solutions to our stormwater management problem that would kick-start an urban revitalization revolution not only in our city, but in cities across the nation.

Through its innovative Green City, Clean Waters initiative, PWD proposed to invest $800 million of its $1.2 billion capital improvement budget on green systems to deal with stormwater where it falls, instead of focusing solely on the pipes that move it beneath the city. This bold plan will hopefully become America’s model for urban water utilities in the 21st century.

The question was how to turn that idea into a tangible reality. The answer was to involve experts from a variety of disciplines and let them loose. The partnering organizations invited teams of engineers, architects, landscape architects, urban planners and artists to submit their ideas. The incentive was strong — three $10,000 prizes and the chance to be on the leading edge of urban design — but the challenges were considerable.

28 teams, 101 firms, and 315 professionals from the Philadelphia region and other U.S. cities including New York City, St. Louis, Chicago, Oakland, and Portland responded to the design competition. While the winners proved to be those who best combined cost effectiveness and ease of implementation with engaging design, not a single loser came out of the competition.

“We were thrilled that we received 28 entries,” says Joanne Dahme of PWD, “We want to emphasize that we are looking at all of them.”
PHILADELPHIA’S HISTORIC ELEMENTS are among the city’s greatest assets. But these elements can present major challenges to a city seeking innovative paths to a vibrant urban future. Philadelphia’s decades-old combined sewer system — a vast system of underground pipes built to prevent flooding — allows overflow of both sewer and stormwater runoff to contaminate the Delaware and Schuylkill Rivers, the source of our drinking water.

As part of the Green City, Clean Waters initiative, the Philadelphia Water Department (PWD) signed an agreement with the Environmental Protection Agency (EPA) pledging that over the next 25 years, one third of the city’s impervious areas (roofs, sidewalks, streets, parking lots and other areas that cannot absorb rainwater) served by the combined sewer system will be managed by green infrastructure. To help everyone envision ways this could happen, PWD teamed up with the Community Design Collaborative to launch the Infill Philadelphia: Soak it Up! design competition.

Subject to strict guidelines regarding innovation of design, community engagement and cost-effectiveness, entrants could choose from three site plans commonly found in Philadelphia — “Warehouse Watershed” (an industrial site), “Retail Retrofit” (an outdated commercial zone) or “Greening the Grid” (an historic neighborhood represented by Queen Village). After six months of planning and juries that evaluated the designs of 28 teams of architects, engineers and designers from all over the country, one winner and two finalists selected from each category.
Edward Darby & Son, Inc., is a family-owned metal mesh fabricating and distributing company that has been a fixture in the area since 1854. The warehouse encompasses a full city block and sits across from a large vacant lot that includes city-owned land, a vestige of this once vibrant industrial district.

After assembling their team, Roofmeadow landscape architect Laura Hansplant says they chose the warehouse site because it was so challenging. “We made an appointment with the owner of Darby & Sons, and he graciously allowed us to take a tour. We came out of that thinking, ‘Wow, this is going to be a challenge. What on earth are we going to do?’” It didn’t take long, however, for the wheels to start turning. “A couple of days go by and we all started thinking… ‘Water on the roof? How can we make a green roof lighter?’ Asking questions was key to solving the challenge.”

One idea that did not make it into the team’s final design was a rooftop water turbine that would generate electricity. “That didn’t pan out,” said Muscoe Martin, another of the team’s architects, “but it was an amazing example of what could be done.”

The team’s winning design incorporated rainwater court-yards, engaging public spaces, and, most innovatively, a building that “wears its water like a skin,” with facades of directed stormwater collection. “I was very excited about the way art and technical expertise were interwoven to make stormwater function better, and also make the building more marketable,” said Hansplant. “Half the opportunity here… is encouraging involvement from property owners. These kinds of stormwater investments can energize reinvestment in the neighborhood, and help re-brand businesses.”
Blue / Green Roof combines shallow ponds with a lightweight green roof.

Entrance to courtyard with rainwater harvesting cisterns.

SOAK IT UP!

Leveraging Water + Plants in Zero Lot Sites

Overflow at trench drain

Curbide stormwater trench

Overflow at trench drain

Wire Mesh

Horizontal manifold

Overflow pipe
SOAK CITY—10 Acre Ecodistrict

**TEAM MEMBERS INCLUDE:** Rogers Marvel Architects, HR&A Advisors, Inc., Magnuson Klemencic Associates, WRT.

**SOAK CITY’S DESIGN CAUSED SOME BUZZ** in the competition in part for the striking aesthetics. One element of the plan involved breaking up the looming façade of the Darby & Sons building with glass reservoirs that hold rainwater, but look like windows.

“The big warehouse building isn’t exactly a great neighbor, because it can feel kind of oppressive,” says Drew Gangnes of Magnuson Klemencic Associates. “Those reservoirs help put it on a more human scale.”

They also found a creative way of building a green roof on an aging roof, erecting a grid that rests on the still-sturdy columns of the warehouse. But it’s the adjacent 10-acre “Ecodistrict,” complete with a “living machine” that breaks down sewage, that is truly impressive. Gangnes says the search to make the project replicable led them to discover that the area was similar to many places in the city in that it can be isolated from the main sewer system by keeping all the storm water and sewage off the grid and treating it on site.

“We feel that was a pretty big breakthrough,” says Gangnes.

**THIS TEAM CREATED A DESIGN WHERE** they collect water from an eight or nine-block area, essentially removing that portion of the neighborhood from the water system’s grid. The design also incorporates products manufactured by Darby & Sons.

“We incorporated a sort of live wall into the planters we designed for the site, as well as raised beds for a community orchard, made from Darby’s welded wire mesh,” says Earl Goven of Blades + Goven Landscape Architects. “We were really trying to be practical. We wanted this to be something where if people really looked at it, they’d say ‘I could build that.’”

The team even went beyond the Darby site, helping to divert water from an additional three acres in the surrounding neighborhood. “We took advantage of the topography, and we tried to redirect the water into the catch basin,” says Goven. “It was basically a retrofit.”

All that work added up to a plan they estimate takes 98.4 percent of annual runoff out of the combined sewer system. “Being able to create a viable community asset ... really meant a lot to me,” says Goven. “We sunk a lot of time into it, and it was an excellent project. Ours was truly built in such a way that it could be done anywhere in the city.”
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Stormwater ReStore

**SOUTH PHILADELPHIA’S GRAYS FERRY SHOPPING CENTER**

borders a residential neighborhood and is located on a former industrial site along the Schuylkill River. The shopping center is a prime example of an underutilized commercial land covered in impermeable asphalt.

Presenters Chris Gubeno and Johanna Phelps of the winning team saw this site challenge as an obvious choice. “The very technical component of the site was attractive because it required solutions to real problems of pedestrian use and community orientation,” said Phelps.

The team’s strategy was to make many small improvements that together would have a big effect. “Trying to manage a very large site with almost no green space was a big challenge, especially considering the constraints,” said Gubeno.

The team focused on reallocating space while managing stormwater and engaging the surrounding community with the site. “One of the first things we looked at was the layout of the parking lot,” said Phelps. “The site is very vehicle-oriented, so we were really trying to bring people in and make it more human-scaled. Keeping it cost-effective was actually the toughest, so we had to imagine what could be done without regrading the parking lot, and instead using small-scale interventions.”

Among the team’s most successful design improvements were a roof-drain garden created from vacant land and a new gathering space, Hidden River Plaza, created from a section of the parking lot. “By finding small opportunities,” Phelps said, “we were able to meet the demands of the project, re-direct runoff through the rain garden, and incorporate a strong public aspect.”
Plan shows how green design elements make this parking lot more walkable and inviting.

Roof Garden is fed by rainwater collected from the roof of the shopping center.
From Gray to Green

**TEAM MEMBERS INCLUDE:** Michael Baker Corporation, RBF Consulting, and Newell, Tereska & MacKay Engineering

**ONE OF THE ASPECTS THAT BROUGHT** this plan to the finalists circle was an impressive menu of interventions that would collect the first three inches of rain in a storm. This plan also offers strategies for paying for everything like renting outdoor space to a farmers market and harvesting rainwater to reduce utility bills. Paul DeBarry of Newell, Tereska & MacKay says, “We developed the plan in three stages so the owner can start out cheaply and generate the revenue to fund the next stage.”

The farmers market is “a very easy concept to get started that doesn’t cost that much,” says Laura Frein of the Michael Baker Corporation. “...We thought it was important to find ways that the improvements could help offset some of the initial costs. Not everybody has the money to do all the improvements we suggested up front.”

Frein liked how open the team was to taking on the variety of issues at the site. “I really liked the opportunity to think outside the box,” she says. The team transformed infrastructure into something more, like constructed wetlands that clean stormwater and educate children about the environment, a rainwater harvesting tank that becomes public art, and green parking that stores water and feeds plants. From the air, says DeBarry, “the site will look green, not gray.”

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**XPHIL**

**TEAM MEMBERS INCLUDE:** AGENCY Architecture, Center for Neighborhood Technology, KS Engineers, Philadelphia, Sam Fox School of Design at Washington University in St. Louis

**WHERE OTHER TEAMS WORKED TO** reconfigure parking spaces by changing up the layout, the XPHIL group did away with painted lines, opting instead for a grid of grass strips that delineate spaces. “Basically, the whole parking lot becomes part of the water system instead of shooting into the ground,” says Kees Lokman of the Sam Fox School of Design at Washington University in St. Louis.

Ersla Kripa, of AGENCY Architecture, says the plan came from having to deal with the need for spaces while addressing the negatives of asphalt. “We really had to balance water mitigation and all the requirements for spaces,” she says. “It just didn’t make sense to revert back to painted lines.”

They also worked hard to make the strip mall site far friendlier for those without cars, breaking up the sea of asphalt with dune-like areas of green and making it easier to get to the stores on foot. “Now, bikes and pedestrians never really come across motor traffic,” says Stephen Mueller of AGENCY Architecture.
Philadelphia Association of CDCs salutes the Community Design Collaborative for great design!

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Meeting Green

**With tree-lined streets,** Belgian blocks, clusters of small rowhomes and a neighborhood square, Queen Village is the quintessential Philadelphia historic neighborhood. Preserving such neighborhoods while implementing greener stormwater management systems presents a different kind of challenge — one that involves civic engagement, multiple private property owners and tight, difficult-to-navigate spaces.

For Stephen Benz and Richard Roark of OLIN, along with the rest of their winning team, those aspects were what made the challenge most appealing. “Implementing green infrastructure can be very complicated where you have a lot of small parcels and existing conditions,” says Roark. “All the utilities of city, multiple property owners — how do you make it durable where they live? And how do you create something that is civic and impactful?”

The team approached the challenge with community-building as a primary objective. “Put money into reinforcing community spaces,” says Benz, “like the triangle at 2nd and Christian. That is a unique space and is a pivotal, integral part of making green infrastructures work here. We can’t utilize an ‘add-on’ approach — the strategy must be built around the connections and integrations of those tree-lined streets, form and function together.”

OLIN’s project offered up equal opportunity for private and public involvement, giving incentives to property owners to participate. “Ours was a test template,” says Benz. “We used Queen Village as model, but want to transcend the place itself to encourage the Philadelphia Water Department to think about solutions in a broader sense of replicability.”

Added Roarke, “This is the most amazing opportunity for city-building that you can have — going where it’s going to matter, where people are going to see it and see how [green infrastructure] makes a better, more humane place by revealing the resources that we depend on.”
Above & Below: Network of green stormwater infrastructure builds community and a greener city.

Examples of green infrastructure street furnishings:

- Permeable paving
- Overflow outlet pipe
- Combined water sewer main
- Water main
- Gas main
THE UN/Plug & Flow PLAN WAS DISTINCT in that it offered a wide variety of solutions for Queen Village, each fix a part of a kit designed to work on levels ranging from homes to streets and public parks. “It really reflects the team that was cobbled together, and it’s an honest representation of the interests of the people who came together to work on this,” says Sylvia Palms, a landscape architect with Locus Partners from University City. “We really are just a group of individuals.”

The group drew on experts from a variety of fields, living in places ranging from New Jersey to Germany. “We had a broad perspective, so rather than try to just come up with one cohesive design, we had brainstorming sessions to come up with certain elements.” She says her background in community engagement and providing nature access in cities meshed well with the group and acted as a “guiding force.”

“We wanted there to be ownership of the stormwater system at all levels,” says Palms, “the other projects almost always relied on public monies or commercial partnerships ... we wanted people to be able to put their own mark on this.” She says people were even asking where they could buy elements of the plan, especially the Deluge Deck and the Storm Stack. “Those are basically modular cisterns that can be put down on the ground or stacked up on a wall,” says Palms. “They can be used in your garden to hold water there and then sent out into the neighborhood network.”

“People can build a garden around these stormwater elements,” says Palms. “They could be literally bought as a kit, attached to a downspout, and you’re off. It would hold more water than a traditional rain barrel and help people develop garden space.”

Beyond the backyard, they included plans for spaces like streets and bus stops, including concepts like the miniature green space known as a parklet. “Our bus stop was basically a parklet, but it’s at a bus stop,” says Palms. “It’s not only collecting stormwater, it’s also an informational kiosk and a traffic calming element because it would be in the bus lane and the bus would have to stay in the traffic lane. It’s a powerful way to expand the parklet with a strong emphasis on stormwater.”

GREEN city
CLEAN waters
QUEEN village

TEAM MEMBERS INCLUDE Pennsylvania Horticultural Society, JDT International Real Estate Development/Urban Roots, m2 Architecture, Meliora Environmental Design, PLACE Studio, Puttman Infrastructure Inc., and Wholly H20

THESE FINALISTS DREW THE ATTENTION OF THE JURORS with an holistic approach that incorporated solutions for major streets like Christian down to the smallest alleyways, incorporating an especially elegant design that blended the concept of a rain barrel and planter. “It takes the runoff from the roof to a planter box that was sized for the typical rowhome roof in the neighborhood and feeds it into a reservoir below the planter,” explains Linda Walczak, a landscape architect with the Pennsylvania Horticultural Society. “Then there is wicking material that brings the water to the soil. So, essentially, the top part is a planter and the bottom is a reservoir.”

“The idea was to make this something that was part of everyday life, something that people just sort of take for granted,” says Kate Evasic with Meliora Environmental Design. To them, the planter solution was a fashionable way to spruce up the streets and fight stormwater.

“It seemed to us like a no-brainer because several of the houses that we looked at had planters that were right next to downspouts, so it just made sense to combine the two,” says Walczak.
SOAK IT UP! PARTICIPANTS GENERATE A TORRENT OF IDEAS WORTH ABSORBING

by BRIAN RADEMAЕKERS

AS IN ANY COMPETITION, SOAK IT UP! designates winners and finalists among the entries. But the main point of the competition is to generate new, compelling and innovative ideas in the effort to deal with the issue of stormwater management. In that sense, all of the entries were successful. With that in mind, here’s a look at other striking ideas from the design competition.

Jules Dingle’s Soak It Up! peers can’t call him a sore loser, even if his team’s pitch was among a number of “losing ideas,” as he puts it. A principal with Philly’s DIGSAU design firm, Dingle’s team submitted a plan and concept that, like others that didn’t make it to the final round, was essentially too big in scope to succeed within the constraints of what Soak It Up! was looking for. They started at a very literal beginning: Philadelphia was founded here because of the abundance of water in the form of rivers and streams.

“We wanted to think about stormwater as a bigger concept, one part of a multifaceted problem,” says Dingle, who worked with Scott Page of Interface Studio and Shandor Szalay of AKRF on a plan that tackled issues at the Darby & Sons industrial site. Their design would transform rainwater from a pricey nuisance to a valuable commodity fueling a 25,000-square-foot aquaponic fish farm that doubles as a tourist attraction, complete with a public fishing hole and cafe. Instead of floodwater laced with antifreeze and engine oil, they envision a source for tilapia and Swiss chard. “We came up with this idea of the aquaponics facility, and it seemed far-fetched until we did the research,” says Dingle. “People are doing this all over the world. It’s a billion-dollar segment of the fishing and seafood industry.”

If a fish farm and tourism center seems like big thinking, just consider that was only Plan A. Plan B centers on an aquaponic education center. The “Food From Water” plan offered by Peter Myers (Hunt Engineering), Peter Simone (Simone Collins Landcape Architecture) and David Brawer (Brawer & Hauptman Architects) similarly looked to create a food source and cut down on the costs of stormwater fees at Darby & Sons by turning the runoff into irrigation for an urban farm. In their vision, the water running from the roof is diverted into a trellis of plant-supporting pipes that feed into vegetable beds and cisterns that can be used for watering crops. Like Dingle and his team’s plan, they envision rainwater as a driver for local jobs that help meet the demand for local, sustainable food.

On the residential front, one team sought to tackle the issue of turning a ubiquitous Philly structure — the row home — into a better tool for slowing the flow of stormwater. With an estimated 62 percent of city buildings being rowhomes, the inventors behind the “BLUE OVER YOU Stormwater Retention Mat,” including partners from Charles Loomis Chariss McAfee Architects, eDesign Dynamics, Jonathan Alderson Landscape Architects, Inc., and Rutgers University, aimed for big improvements without expensive retrofits. Recognizing that many rowhomes can’t support something like a green roof, they went with a similar concept: a type of “blue roof,” which holds the water without the soil and vegetation of a green roof. “Green roofs are expensive and difficult to put on a row house,” says Chariss McAfee of Charles Loomis Chariss McAfee Architects. “Structurally, you can have a lot of issues with a green roof. We wanted something with a quick layout that we would be able to deploy quickly. It’s a bridge technology. It’s lighter — much lighter — and it’s much less expensive.”

Blue roofs can be expensive, too, but in this case, they used kits that homeowners can install on their own. Stormwater retention mats are designed to hold 165 gallons of water during a one-inch rainstorm event per roof. “The homeowner could actually go out and buy a kit and do this. They don’t have to pay for the installation.”

On a block with 175 homes, they estimate this simple step would keep over 28,875 gallons from the sewer system. It might be seen as a temporary fix, but the team...
pitches the mats as a “bridge technology” that can help fill the gap until cheaper or more comprehensive solutions come along.

While something like a rooftop mat would go virtually unnoticed, other teams proposed plans that would drastically alter the landscape. The Retail Retrofit plan, from RamaBenaissa Architects and Birdsall Services Group, was one of those plans. Rather than go for street-level fixes like permeable pavement, they went skyward, creating dramatic funnel-like structures that form a sort of canopy over the parking lot of a Grays Ferry strip mall. The devices, made from piping and treated glass, direct the water to underground cisterns. But they had other intended purposes as well.

“We also wanted to provide an outlet for the community,” says design architect James Kerestes, of RamaBenaissa. “The [devices] act as covered areas that people can use spontaneously or for community events. We looked at the site and asked, ‘How can we use a parking lot that is often dead space?’ Rather than just keep water from the sewers, they wanted to give people another reason to come to the site—a desire expressed by a number of groups dissatisfied with the strip mall dynamic.

“We wanted to offer an intervention that the community would be interested in,” says Kerestes. “For us, to be innovative and provocative and create something that could be used anywhere, that was the driving perspective.” Another benefit of the funnels: The water never has a chance to mix with surface pollutants, but flows cleanly into the cisterns and infiltration beds.

That plan wasn’t the only striking effort to take stormwater treatment from below the pavement. “H2OII” from BAU Architecture, Cedarville Engineering Group, and SALT Design Studio proposed what they dubbed “Martini Towers.” Shaped, naturally, like giant martini glasses, the towers act as purifying devices where water is pumped (via wind power made onsite), stored and cleaned.

Lawrence Group Architects, Grove Design Group, and Austin Tao and Associates also came up with an unusual strategy for the Grays Ferry site. “It’s your typical strip mall, which made it interesting,” says Micah Hanson, a landscape architect from Lawrence Group. “You have this suburban structure dropped right into a Philadelphia neighborhood.” While they used “tried and true” methods to eliminate the mall’s impact on the sewer system, what caught the attention of the Soak It Up! folks was their plan to help pay for the improvements, and then some. The goal was to make it “totally self-financing,” says Hanson. They did that via a stormwater credit program being implemented by the Philadelphia Water Department, where property owners can reduce their bill by cutting back on rainwater going into the city system.

“If we are treating all of our water on site, the Water Department can basically bring the bill down to zero,” says Hanson. “But we can also treat stormwater from surrounding areas and drop it into our retaining system.” It’s that extra water treatment that Hanson and his teammates envisioned as a source of revenue that would help pay for the stormwater improvements, going well beyond just eliminating the shopping center’s PWD stormwater bill. If neighbors will help pay for stormwater improvements and lower their bills, the mall owner can use the funds to pay off loans for the initial improvements, they reasoned. “If you want to see things get created, you have to think about how to pay for things,” says Hanson.

Innovative thinking like that is part of what made Soak It Up! so satisfying; teams that didn’t get into the finalists circle still came out of the effort knowing they had achieved something important.

“at some point, you’re just dealing with solving the problem of stormwater, and that can be seen as being one-dimensional,” says DIGSAU’s Dingle. “Working on something like this, the point for us is to expand the thinking in our office. We put winning out of our head from the start, and we had a lot of fun with it.
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