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Natural Selections: The new, green Harriton High School LEEDs the way in LM

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By Mike Weilbacher

This Sunday afternoon the community will gather in front of the new Harriton High School on Ithan Avenue in Rosemont to formally cut the ribbon. And while students have been making good use of the building since late August, this will mark its official dedication as the newest school, the end of another chapter in the ongoing saga of the new high schools.

And while the school colors are red and white, the ribbon they cut should be green.

For as befits the high school that Philadelphia magazine christened the best in the region, that annually stomps the competition in the Science Olympiad and that has been acclaimed for its International Baccalaureate program, this building, from an environmental perspective, is smart. Incredibly smart. Mind-numbingly smart.

Just take its roof, that mostly forgotten wasteland of big buildings where you hide the machinery. Here the school did one thing simple and one thing not. Simple: the roof is painted white. White reflects sunlight, and, says Pat Guinnane, operations director for the school district, saves dramatically on the cooling costs of the building, saving more than a dark heat-absorbent roof might save on heating costs.

In fact this simple act is catching on elsewhere, as you might notice white-roofed buses (often powered by greener natural gas) traveling through the district's streets, reducing the cooling cost — and improving efficiency.

And not simple: the white roof is a rubberized material, and two-thirds of rainwater that pours onto the school is collected into special drains that lead to massive twin 25,000-gallon underground cisterns. These cisterns lead to the basement, where it is filtered, lightly treated and sent to the school's many toilets.

So when you flush a toilet in the new school, you flush the rain. Having parallel systems of water in a building is catching on; the second rain-based system is referred to as "gray water" because it is not treated as intensely as drinking water, saving a ton of energy (and money!). Think about it: piping drinking-quality water directly into a toilet is a huge waste of resources.

Pure water goes to sinks and kitchens, gray to the toilets and none to the flushless, water-free urinals. So while everyone else has been ooh-ing and aah-ing over the stunning cafeteria with its built-in booths, the gorgeous amphitheater, the gyms and locker rooms, the new Tombs, the third-floor greenhouse and the black-box theater, I'm stuck in the bathrooms.

But pushing the water theme further for a moment, when the site is all done and graded — which will take a while as they dismantle Vincent Kling's modernist 1957 school — stormwater will be handled differently from traditional school sites. The current temporary parking lot is a porous substance that allows rainwater to infiltrate through to groundwater, exactly what you want. When the permanent lots are completed, rainwater will drain into planted swales between rows of parking, strips of native vegetation that absorbs rain. Rain gardens on the site will also store and absorb water after storms as well.

That said, I would be remiss by not acknowledging that Beaumont, the lifecare community across Ithan, has been worried about its own site's pond downstream of the school, which began filling in with sediment at a faster rate then normal when school construction began. The two entities, along with the township, are in intense discussion about this, and I assume all

parties will do the right thing.

Another huge area for a large building's environmental impact is energy use, and Harriton includes numerous energy-smart features. In one tip of the hat to Kling, the school is open and airy, and daylight — nature's free sunlight energy — is generously harvested throughout, courtyards letting light in everywhere, the south-facing rooms equipped with special overhangs to allow the sun to filter through while not heating the rooms. One teacher I spoke with noted that he could look down both ends of its second-floor hall to see large windows opening into green space on either end — another nod to the old school's views.

There are 19 energy exchangers placed strategically throughout the building, large wheels that revolve between incoming and outgoing air ducts to recover heat leaving the building, making the heating system more efficient. Carbon-dioxide sensors turn lights off if no one is in a room, and the AC is turned down. There are few, if any, incandescent bulbs in the school. High-efficiency electrical transformers run the system, and though they were expensive to install, the payback is only two years.

At 330,000 square feet and built for 1,200 students while being entirely air-conditioned, while the school dwarfs the Kling building in size, Guinnane avers it uses less energy. Smart.

Keep going: much of the school is built from local materials sourced less than 500 miles away, 10 percent of the building is recycled materials, including the carpeting, and solvents and glues are eco-friendly. Some 98 percent of the construction debris is being recycled and reused, as is the old school's debris. The refrigerators used the latest CFC-free chemicals; recycling is rampant. A Zamboni-like device cleans the hallway floors using ionized water, not chemicals, and "green housekeeping" is a huge piece of the new puzzle.

Huge props to KCBA Architects, the firm that built the school, and its architect, Scott Kalner, coincidentally a Merion resident and vice chair of Lower Merion's Historical Architectural Review Board. No matter which side of the high-school divide you stand on, you can agree that Scott was unremittingly patient and gracious throughout; it must be unbelievably sweet for him to see the building open. Props also to Guinnane and his department for their strong commitment to the green program; Pat noted in our tour that he "challenged Scott all the time" on green issues. Between you and me, I don't think Scott needed any prodding. I think they challenged each other — and we all won.

The building will be formally applying for certification in the national Leadership in Energy and Environment Design (LEED) program, the Oscars of green building. That's cool, literally, as we need energy-efficient buildings to cool the climate.

So there will be huge sighs of relief when the building is dedicated Sunday — it has, after all, been a decades-long and winding road. But this road, we now know, LEEDs to a greener future for all of us. Go, Rams.

*Mike Weilbacher is executive director of the Lower Merion Conservancy and can be reached at **mike@dragonfly.org**. His weekly TV show, "Preservation Station," airs on Public Access TV (Comcast's channel 99 and Verizon's channel 34) on Sundays and Wednesdays at 8 p.m., and this week features a tour of the school. Tune in.*
