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Doing the right thing in Minneapolis: St. Mary's takes charge of stormwater runoff

by Sarah Sponheim, Uptown Neighborhood News • Nov. 7, 2010 • original

(<http://www.tcdailyplanet.net/news/2010/11/07/doing-right-thing-minneapolis-st-mary%E2%80%99s-takes-charge-stormwater-runoff>)



(<http://www.tcdailyplanet.net/sites/tcdailyplanet.net/files/imagecache/HugeColorbox/construction.png>)

One of many green stormwater holding tanks (at right) called a Triton buried below the surface for later dispersal below. *(Photo by Bruce Cochran)*

The golden dome of St. Mary's Greek Orthodox Church presides over the East Calhoun neighborhood and serves as a landmark above the lakeshore. From the church, large windows and a terraced patio afford a sublime view across Lake Calhoun. Historically, though, St. Mary's has had a less than ideal relationship with the water below. Rain and melting snow have run off the property - downhill, through storm sewers, into the lake. Typically, stormwater runoff carries with it all manner of pollutants, from discarded pop cans, trash and pet feces to gasoline and

engine oil residue. The city of Minneapolis is actively encouraging residents, businesses and institutions such as churches and schools to mitigate stormwater runoff. The city's goal of reducing pollutants entering waterways is articulated in the Stormwater and Healthy Lakes indicators in the Minneapolis Greenprint, a compendium of twelve indicators addressing additional environmental issues such as Climate Change, Air Quality, Biking and Waste Reduction and Recycling (see www.ci.minneapolis.mn.us/sustainability).

Today, St. Mary's is stepping up to the plate - in a big way. Within 24 hours of the conclusion of the annual Taste of Greece Festival in September, giant backhoes and bulldozers took up residence on the property as the church commenced work on a major project designed to manage its stormwater runoff. Five large rain gardens are being installed, three along the Irving Avenue side and two at the north- and southwest corners of the property. The finished gardens will feature native species, deep-rooted and drought-tolerant, planted in depressions about 18" below ground level. In addition, five Triton chamber systems are being constructed. The Triton chambers provide underground water storage and infiltration. Vivid green tubular sections, three feet high by five feet wide, are assembled into rows, positioned upon composed layers of rock, gravel, sand and fabric, then buried. Once the system is operational, water will flow through surface grates adjacent to the building and parking lots and into the chambers, to be gradually absorbed by the earth.

According to Dick Andron, Chair of the Facilities Committee at St. Mary's and Project Coordinator for the Parish Council, the project design will accommodate rainfall from a "10-year storm" (an event likely to happen once in ten years that could generate as much as 4.2 inches of rain in a 24-hour period). This means that only extreme rainfall events will send runoff into Lake Calhoun and even then the volume will be minimal.

The \$750,000 price tag for the work is offset by a Low-impact Development Grant of \$211,000 from the Minnehaha Creek Watershed District (MCWD). This type of grant from the MCWD recognizes projects, like St. Mary's, where improvements to the watershed go "above and beyond" what the fundamental rules require.

In addition to the grant, the church expects to realize an annual savings of \$10,000, the amount it currently pays to the city for approximately 80 ESUs or Equivalent Stormwater Units. (One ESU equals 1,530 square feet of impervious surface; St. Mary's has 102,000 square feet of impervious surface.) Other incentives for the project included safety concerns - ice on the parking lots and walkways in winter posed a hazard to church visitors - and the need to improve traffic flow in the parking

lots. The construction includes a redesign of the parking lots (about one-third of the new surface will comprise permeable pavers) and the addition of translucent canopies above drop-off areas and walkways at the main entrances to the church. A primary motivation, states Andron, was a desire to improve the property that has been home to St. Mary's since 1956. This environmental project was perceived by the church as the "right thing to do."

The project design and installation is by Solution Blue, a civil engineering firm based in St. Paul that has worked on Target Plaza at Target Field and the TCF Bank Stadium at the University of Minnesota. Thanks in part to cooperative fall weather, the project is on schedule for completion by late November.

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