

The Impervious Cover TMDL Project

An update for Mansfield commissions and citizens

April 28, 2011

Summary

The Town of Mansfield and the University of Connecticut are engaged in a national precedent-setting project to protect local water resources from the effects of urban runoff. This project focuses not on specific pollutants but on the impervious, or impenetrable, surfaces that play a large role in the degradation of waterways in urbanizing areas. The emphasis of the project is on reducing and treating stormwater from roofs and paved surfaces through the use of “low impact development” (LID). LID encompasses an array of innovative site-level practices that involve promotion of infiltration of stormwater into the ground, and the use of soils and vegetation to absorb and treat runoff. Progress is being made: a number of LID practices have already been installed on campus; a watershed plan to help guide future action is being developed, and; Mansfield and University officials are working with the project team to ensure that official plans, procedures, and regulations support LID.



Project team members check drainage patterns on campus (the hard way).

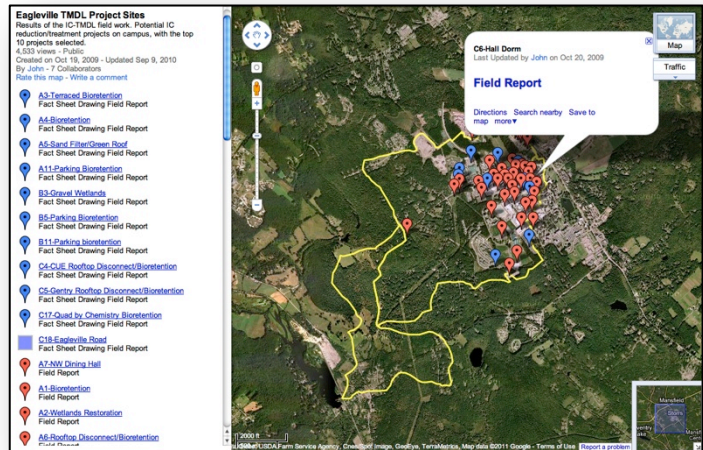
Background

The *Total Maximum Daily Load* (TMDL) section of the national Clean Water Act directs states to develop and implement pollutant “budgets” for waterways that are known to be degraded. In 2007, the Connecticut Department of Environmental Protection (CTDEP) issued the first TMDL in the country based on impervious cover, which has been shown by both national and statewide research to be a strong indicator of the impacts of urbanization on water resources. The location for the Impervious Cover TMDL (“IC-TMDL”) is Eagleville Brook, a small watershed in Mansfield that is part of the Willimantic River system and drains much of the UConn campus. The innovative idea of using a *surrogate* pollutant such as impervious cover is a response to the fact that many streams in urbanizing areas suffer from a complex array of problems that cannot easily be separated. Since the use of this surrogate approach is very likely to expand in the future, the Eagleville project is important nationally, as well as locally.

The IC-TMDL Project

A partnership was formed between CTDEP, UConn and Mansfield to fashion a logical and feasible response to the IC-TMDL. The project team is led by the *Nonpoint Education for Municipal Officials* (NEMO) Program, an outreach program of UConn’s Center for Land Use Education and Research. The watershed evaluation phase was carried out by NEMO faculty and experts from the Center for Watershed Protection, a widely respected national nonprofit, and Horsley Witten Group, a consulting firm from Massachusetts with extensive LID expertise and experience. 51 potential sites for stormwater “retrofit” projects –LID installations in already developed areas – were identified by the project team, most of them on the UConn campus. Of

these, a list of ten priority projects was compiled. These “Top Ten” projects include a wide range of practices, located in a cross-section of campus environments and treating stormwater from a number of different types of impervious cover. The list includes green roofs, vegetated “bioretention” areas, porous pavements, and other practices. The location of these practices, and additional information on each (including fact sheets and drawings of the Top Ten) can be found in the “Findings” section of the project website (bottom of page). Recommendations have been made for changes to University and Town policies, and a watershed plan to frame the future of the project is under development.



A Google Maps “mashup” shows potential retrofit projects. The yellow line is the Eagleville watershed boundary. Visitors can click on the “balloons” for more information on each site.

Progress

As new construction, renovation and maintenance projects on campus are planned, LID practices are being built in. Already, a porous concrete lot in front of the Field House (below, right) and a porous asphalt lot near the Towers dorms (below, left) have been completed, and both porous parking and rain gardens treating roof runoff have been built at Northwoods Apartments (below, middle). The new academic building under construction includes a partial green roof and bioretention cells.

Although the focus to date has been on the heavily developed central campus region, the goal of both University and Mansfield planning officials is to establish LID as the norm for both new development and redevelopment – not just in the Eagleville watershed, but in all other areas as well. The project is entering a critical phase toward realizing this goal, as both the University and the Town consider changes to plans, regulations and procedures that will codify, and thus help to ensure, strategies for reducing the impact of stormwater runoff on their water resources.



LID projects on campus. Left: Towers parking lot repaved with porous asphalt. Center: all buildings in the Northwoods Apartment complex have rain gardens to accept roof runoff. Right: porous concrete parking lot at the UConn Field House.

<http://clear.uconn.edu/projects/tmdl>

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