

# Team 8: Stormwater Management Plan for the Two Rivers Magnet Middle School in East Hartford

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The Connecticut Stormwater quality manual sets runoff standards that a site that meets certain criteria must follow. In our case the site meets the criteria of the disturbance of greater than 1 acre of land. Therefore in developing a stormwater management plan we must bring our site to compliance with specific parameters set by the manual. The manual focuses specifically on two standards that must be met through the management plan. The first one addresses the pollutant reduction in the water quality volume (WQV) of the rain event. The WQV is defined as the volume of stormwater runoff generated by the first inch of rainfall on the site. This value is based on the fact that one inch accounts for the treatment of 90% of average annual storm events. The second standard of the stormwater plan is to store the WQV on site before releasing it to a water body or a treatment plant. Both of the standards can be met through the implementation of best management practices (BMPs) on the site. The overall goal is to reduce the impact that stormwater runoff has on water bodies as well as treatment facilities that deal with an increase flow during storm events.

The site is located at the confluence of the Hockanum and Connecticut Rivers, adjacent to highway 2 and floodplains. The 3.6-acre plot is 90% impervious cover, and is mainly comprised of a large building and two parking lots; therefore there is a high amount of runoff during storm events. The lack of pervious cover leaves very little space for the implementation of best management practices (BMPs) on site. To better understand the flow of stormwater runoff on our site we used Bentley StormCAD software to develop a stormwater model. We first designed a site plan on AutoCAD using elevation data collected while surveying the site and plans obtained from the town of East Hartford engineering department. We also worked alongside a team of landscape architecture students who provided input on visual design of the BMPs we selected. A series of rain gardens were strategically placed to capture runoff from the parking lot, and a modular green roof was applied to the membrane roof. Any associated water diversions necessary to re-route runoff are detailed in the designs.

