

Case study: City of Newport

Vermont Municipal Green Infrastructure Toolkit

Green Infrastructure (GI) means different things to different people depending on the context in which it is used. In Vermont we define it as “a wide range of multi-functional, natural and semi-natural landscape elements located within, around, and between developed areas at all spatial scales.” This includes everything from forests and meadows to wetlands, floodplains, and riparian areas. For municipalities Green Infrastructure can be promoted in two ways: by using Low Impact Development (LID) concepts at both the macro-level of town planning and site design and by promoting the use of Green Stormwater Infrastructure (GSI) practices and techniques. LID seeks to maintain a site’s pre-development ecological and hydrological function through the protection, enhancement, or mimicry of natural processes.” GSI consists of systems and practices that restore and maintain natural hydrologic processes in order to reduce the volume and water quality impacts of the built environment while providing multiple societal benefits.”

Review and Assessment

As part of a project with the Vermont Agency of Natural Resources and with other Regional Planning Commissions in Vermont, the Northeastern Vermont Development Association (NVDA) sought to assess regulatory gaps and barriers to the adoption of green infrastructure programs and practices in a few of our more developed or developing towns. In our initial consideration of the communities of Newport, St. Johnsbury, Lyndon, and Jay, we discovered the following:

- At the local level, the concepts of Low Impact Development and Green Stormwater Infrastructure are general at best and not specifically discussed in detail in the vast majority of local plans and/or land use regulations in the Northeast Kingdom region, and;
- There is, however, a general awareness and interest across most communities of the need to protect land and water resources, environmentally sensitive areas, and municipal infrastructure. This would indicate that a discussion of LID and GSI concepts and techniques with local communities may help them to address environmental and infrastructure goals.

NVDA selected the four above-mentioned municipalities that it would consider for focus on for this project by scoring those communities (and all towns in the region) on criteria related to water quality and infrastructure development.

Staff decided to limit our final focus to the Town of St. Johnsbury and the City of Newport given their greater levels of development, proximity to lake and river resources, and their more substantial land use plans and regulations. Reviews were undertaken of the local comprehensive plans and zoning regulations. Again, we found that even in the larger, more developed communities in the region, Low Impact Development and Green Stormwater Infrastructure were not discussed in detail in either the Newport or St. Johnsbury town plan or zoning regulations. However, there were numerous statements within documents from both communities of the need to protect land and water resources, environmentally sensitive areas, and municipal infrastructure – statements that we see in many communities. This suggests that a discussion of LID and GSI concepts and techniques with local communities may help them to address environmental and infrastructure goals.

Newport City

In its 2015 City plan, “Newport City recognizes that its present and future economy is rooted in tourism and recreation, and that its economic health and growth are dependent on a healthy Lake Memphremagog and its watershed. Therefore, priority is given to the restoration, protection, and preservation of water quality in the City’s practices, and in the operation and maintenance of its infrastructure, specifically as it relates to wastewater treatment and stormwater management and mitigation. Newport City is committed to following State of Vermont best practices of low impact development (LID) in all future new and/or retrofit development especially

as it applies to the minimizing of impervious surfaces and the mitigation of stormwater runoff. Development will follow the permitting requirements of Vermont's Shoreland Protection Act and/or local by-laws where necessary and appropriate. The city also acknowledges the importance of public access to the waterfront and lake shore as it grows and develops." This is a stated priority within the 2015 Newport City Plan.

Challenges

Gaining a thorough understanding of threats to water quality will help the City to determine measures and regulations needed to protect the water resource. In Newport, there are many resources available to achieve this understanding, including the Memphremagog Watershed Association (MWA), ANR's Watershed Planning Program and the Basin Plan for the Memphremagog Watershed, and the Orleans County Natural Resource Conservation District (OCNRCD).

There are both public and private infrastructure and assets impacted by stormwater runoff to consider, such as roads, bridges, ditches, culverts, rooftops, driveways, and yards. Identifying these impacted assets, especially those that experience repetitive damage or are significantly threatened, is essential to protecting them. The City's Public Works Department, MWA, and OCNRCD would have knowledge of many of these assets.

While Low Impact Development and Green Stormwater Infrastructure are increasingly and more significantly utilized in neighboring states and urban environments, these concepts and practices are relatively new and underutilized in Newport.

A review of the City plan revealed that most land in Newport is already built out, so identifying areas with high potentials for stormwater attenuation is important. Similarly, any undeveloped lands or lands being redeveloped should consider low impact development techniques. Because of Newport's proximity to Lake Memphremagog, establishing shoreline buffer protections are critical. Reducing the amount of stormwater runoff entering municipal drainage

systems and minimizing impervious surface areas through better design and use of GSI and LID techniques holds great potential for Newport.

While there seems to be much work to do in Newport regarding to reduce the impacts of stormwater on water quality, the challenges are not for Newport alone. The adjoining communities of Derby, Newport Center, Coventry, and other communities in the Lake Memphremagog Watershed all have impacts on the water resource. Education, outreach, and implementation efforts should target communities beyond Newport as well.

Next Steps

NVDA will introduce and encourage more language supportive of Green Stormwater Infrastructure and Low Impact Development during the City of Newport's next planning process. This will serve the purpose of educating the public, while strengthening the City's policies on water quality protection.

Realizing that GSI and LID are still relatively new concepts for Newport and other communities in the region, more information and education is needed if we expect implementation to be successful. NVDA will seek to enlist the aid of the MWA and other watershed associations, ANR, and the county Resource Conservation Districts to educate communities on the impacts of stormwater runoff on water quality and the need to address this important issue. This outreach and education could be combined with ongoing or beginning efforts such as implementing flood hazard area and river corridor protection measures or helping towns address their TMDL requirements.

Concurrent with, or following on the heels of any education and outreach efforts, NVDA will utilize model language or recommendations developed by other RPCs or the VT League of Cities and Towns as part of this project in its review of local plans submitted to NVDA for regional review and approval.

For more information on building Green Infrastructure in the Northeast Kingdom region, please contact the Northeastern Vermont Development Association (NVDA) at info@nvda.net

or, visit <http://vpic.info/GreenInfrastructureToolkit.html>