

Public Works Department

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Paugus View Condominium Association partners with City in Water Quality Improvement

Paugus Bay is an enormously valuable resource to the City. Its waters provide the City with a quality drinking water supply and with numerous recreation, commercial, and environmental benefits.

As part of a Comprehensive Drainage Study started in 2009, the City identified several areas where simple changes to the stormwater system could help

improve stormwater management and water quality protection. The old stormwater system was designed with one intent, to move stormwater off the roads and into the lake as fast as possible. Unfortunately, this design method also moves pollutants into the lakes as well. The first inch of rainfall (first flush) in a storm event carries most of the nasty pollutants (brake dust, oil and gas drips, bird droppings, etc.). Treating that first inch of rainfall makes a significant impact on water quality.

The Department of Public Works just completed constructing a bio-retention basin located at the intersection of White Oaks Road and Weirs Boulevard. The project is partly funded through a NH DES grant secured by Lakes Region Planning Commission. The bio-retention basin, engineered by Loureiro Engineering Associates, is designed using the powerful properties of compost and plants. Compost is very effective in removing stormwater pollutants such as petroleum hydrocarbons, bacteria, nutrients, and metals. As the rain enters the basin it will infiltrate through the open rock surface and pass through a two and a half foot layer of compost. The compost will absorb the stormwater like a sponge and begin to remove the pollutants from the water. The treated stormwater will also slowly drain into the surrounding soils making its way into the groundwater, reducing the discharges to the lake. When stormwater begins to pond in the basin, plants and amended soils located on the slopes will begin absorbing the water and removing the pollutants. Rainfall amounts exceeding the first flush capacity will bypass the basin.

Bio-retention basins are capable of removing between 80% to 90% of petroleum hydrocarbons, sediment, and bacteria and 70% to 80% of nutrients like nitrogen and metals like copper and zinc which can affect the health of fish. Improving water quality in the Lakes Region is an effort that everyone who lives and works in the region needs to participate in.

The Paugus View Condo Association recognizes the importance of protecting the Lake and was very willing to allow a drainage easement on their property enabling the bio-retention basin to be large enough to make a difference. The Association's environmental stewardship is a great example of how working partners in the watershed can make a difference.

If you have any questions or the Public Works Department can be of help to you, please call us at 528-6379.