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Summary of Findings on Feasibility of Implementing a Lake County Stormwater Management Department Residential Credit Program

INTRODUCTION

Most stormwater utilities in Ohio do not offer fee credits to residential customers. Northeast Ohio Regional Sewer District (NEORS) does have a residential stormwater fee credit program. The City of Columbus does not have a residential fee credit program, but does offer rebates to its customers for rain barrels, compost bins, native plants, and approved tree species. This Green Spot Community Backyards Conservation Program is offered in partnership with Franklin Soil and Water Conservation District. Communities outside of Ohio that have residential stormwater fee credit programs include: Minneapolis, Minnesota; Oshkosh, Wisconsin; Harrisonburg, Virginia; Lynchburg, Virginia; and Portland, Oregon.

NEORS's individual residential property owners can receive a 25% credit for effectively implementing rain gardens, on-site-stormwater storage, impervious surface reduction, permeable pavement, or vegetated filter strips. In order to receive credit, rain gardens must treat runoff from at least 25% of the house's roof or equivalent impervious area. 50% of the house's roof must be directed to rain barrels, cisterns, or rain bladders that provide at least 40 gallons of storage per downspout and storage containers must be drained in no less than 24 hours and no more than 4 days after a rain event. Replacing 500 or more feet of impervious area with vegetated pervious area earns the impervious surface reduction credit. Residents can earn the permeable pavement credit by installing at least 1,000 square feet of permeable pavement that has a stone reservoir depth of at least 10 inches and meets municipal standards for driveway installations. If 50% of a property's roof area travels through a fully vegetated area at least 50 feet long with a minimal slope, a vegetated filter strip credit is granted. Documentation of maintenance of these SCMs is required to continue to receive credit (recertification occurs every 3 years). Residential property owners can also receive credit for stormwater storage provided by stormwater control measures that detain water from their subdivisions with appropriate documentation of their function.

In order to assist residents with participating in the credit program, NEORS has a separate credit manual for residential properties. Education of rate payers is one of NEORS's primary goals of this program. NEORS residential stormwater fee credit manual includes lots of graphics that explain activities that generate credit, clear guidance for what activities are eligible for credit, and examples of credit applications and application checklists that remind residents of program requirements and application components. The residential credit manual includes a broad overview of NEORS's stormwater program and how granting residential credits helps NEORS meet program goals. Customers can receive assistance with credit applications from NEORS's Watershed Team Leaders and/or their watershed organizations. NEORS provides financial support to local watershed organizations with annual service agreements that allow watershed organizations to assist residents with implementing stormwater control measures and applying for credits along with other services provided by watershed organizations.



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The City of Minneapolis, Minnesota offers residential property owners the opportunity for credit reductions. Residents can receive water quality credits if they install and maintain rain gardens, permeable pavers, wet ponds, dry wells, sand filters, filter strips, infiltration trenches, or green roofs. Credit discounts are based on the percent of impervious area treated by SCMs. Residential property owners can also receive credit for stormwater storage provided by SCMs that detain water from the 10 or 100-year storm.

Oshkosh, Wisconsin offers residential customers stormwater fee credit for installing rain gardens or rain barrels or equivalent stormwater control measure with documentation of function. Rain gardens receive up to a 75% stormwater fee credit and rain barrels receive up to a 25% fee credit. Oshkosh also offers credits to residents that drain directly into a water body without using City storm sewers. Oshkosh residents must pay a \$10 application fee to apply for stormwater fee reduction.

The City of Harrisonburg, Virginia offers credits for downspout disconnection, rain gardens, vegetated filter strips, rain barrels/cisterns, tree planting, conservation landscaping, homeowner nutrient management and lawn care agreement, impervious cover reduction. If 50% of the roof is disconnected from the storm sewer network by traveling through a lawn or to an SCM, the property owner receives a 10% credit. If 100% of the roof is disconnected, the property owner receives a 20% credit. Rain gardens that treat runoff from 25% of the impervious surface on a parcel receive a 25% credit and rain gardens that treat runoff from 50% of the impervious surface on a parcel receive a 50% credit. Residents can receive a 10% credit vegetated filter strip if downspouts are directed into fully vegetated areas with minimal slope that are at least 25 feet long and not treated with fertilizers and pesticides. The City waives its Tall Grass and Weeds Ordinances within dedicated vegetated filter strips that meet these criteria. Harrisonburg offers 20% credit to homeowners that use rain barrels or cisterns. Tree planting credit of 10% is given to homeowners that have canopy coverage on at least 20% of their parcel. Planting mulch beds with perennials, shrubs and/or small trees earns a credit of 10%. Native plants and organic mulch are recommended for this conservation landscaping credit. Homeowners that commit to adhering to measures to reduce fertilizer and pesticide use receive a 10% credit. Impervious cover reduction results in fee savings because Harrisonburg's fees are based on each 500 feet of impervious surface. Homeowners must grant the City the right to inspect the SCMs and must provide evidence of maintenance at least every 5 years to continue receiving the credit. Homeowners whose stormwater is treated by a regional SCM that they contribute to the maintenance of are eligible for 15-50% credit depending on whether the SCMs were built to comply with the Virginia Stormwater Management Program and the City's Stormwater Management Ordinance.

Lynchburg, Virginia allows its residential customers to earn up to 50% reduction of their stormwater fees by implementing stormwater control measures. Treating 50% of a property's impervious area with a rain garden receives 20% credit. If 50% of a property's roof area drains to vegetated filter strips that have a minimum flow length of 50 feet with a slope of 5% or less and a splash block is used, residents receive 20% credit. Residents can direct 50% or more of their roof area to self-emptying rain barrels that drain 24-48 hours after a rainfall for a 20% credit. At least one gallon of storage must be provided for every 3 square feet of roof area with the goal of storing the 0.5 inch rain event. If at least 1,000 square feet of permeable pavement is installed with at least 10 inches of reservoir storage, the property owner receives a 20% credit. The City requires photos of installed stormwater control measures with credit applications. A



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construction photo illustrating the depth of stone underlying permeable pavement is required for permeable pavement credit.

Portland, Oregon allows residents to receive discounts of up to 35% of their stormwater fee by managing their roof runoff using downspout disconnection, rain gardens, dry wells, infiltration trenches, or green roofs. Residents can also receive discounts for having less than 1,000 square feet of impervious surface on their properties and/or more than 4 trees taller than 15 feet. To receive the discount, residents fill out a simple one page form indicating what stormwater control measures they are using and whether they treat all or a portion of their roof runoff. The City conducts random site visits to residential property owners to verify stormwater control measure existence and functionality. The City offers materials on its website to assist residents with implementing stormwater control measures including: how to guides for stormwater control measure installation and maintenance, lists of design and construction contractors who attended City-offered stormwater retrofit training, and a brochure explaining what City permits are or may be required for stormwater retrofits. The City also offers site-specific recommendations for stormwater management to its residents.

Running a residential credit program requires substantial utility resources. Personal communication with Northeast Ohio Regional Sewer District (NEORS) staff (2016) indicates that their residential credit program requires substantial staff time to implement. One of three Watershed Team Leaders initially reviews each application, coordinates with applicants if additional information is needed, and confirms that the application is acceptable to the municipality where the resident lives. NEORS's billing, customer service, and GIS departments are also involved in administering this program. Processing each application takes a minimum of 2 hours of NEORS staff time, and some applications take substantially more if the application results in an appeals hearing.

The stormwater utilities that offer residential credit programs described above charge more than LCSMD. NEORS has 3 tiers of residential fees: customers with less than 2,000 square feet of impervious surface pay \$3.09 per month, customers with 2,000 -3,900 square feet pay \$5.15 per month, customers with 4,000 or more square feet pay \$9.27 per month. There is also a homestead rate of \$2.07 per month. Harrison, Virginia charges \$6 per 500 square feet of impervious surface per year. Prior to 2016, Harrison, Virginia charged \$10.50 per 500 square feet of impervious surface per year. Lynchburg, Virginia charges property owners with less than 1,300 square feet of impervious surface \$2 per month, property owners with 1,301 – 4,300 square feet of impervious surface \$4 per month, and property owners with 4,301 square feet of impervious surface \$6.40 per month. Oshkosh, Wisconsin charges middle-tier single-family residential customers \$11.38 per month. Portland, Oregon is charging residential users \$27.44 each month for stormwater management for the 2016-2017 fiscal year. In contrast, all LCSMD residential users pay \$3.50 per month.

RECOMMENDATIONS

Chagrin River Watershed Partners, Inc. (CRWP) recommends that if LCSMD adds a residential stormwater fee credit program, it also increases its fees. This would support an increased staff size to implement the program. Staff resources would be needed to develop the residential fee credit manual, process credit applications, and confirm implementation of residential stormwater control measures. LCSMD could also choose to contract with its partner



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organizations (Chagrin River Watershed Partners, Inc., Lake County Soil and Water Conservation District, and Lake County General Health District) to provide assistance to customers with implementing stormwater control measures and applying for credits.

NEORS and Harrisonburg, Virginia provide good examples of the types of stormwater control measures that could be credited by LCSMD and how to layout residential stormwater manuals. Before undertaking a residential stormwater fee credit program, LCSMD staff may also find it helpful to review guidance documents on how to run effective residential stormwater control measure programs, such as [Chesapeake RiverWise Communities](#). LCSMD staff may also find it useful to review the [nutrient load reduction estimates](#) for residential stormwater control measures put forth by the Urban Stormwater Work Group in the Chesapeake Bay basin.

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