Low Impact Development

NH Charitable Foundation Grant Project

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What is the Difference Between Stormwater and Sewer Water?

Stormwater Sewer System- rainwater and snow melt that flows through storm drains and into local waterways to prevent flooding.

Wastewater Sewer System- this system is designed to transport indoor wastewater (sinks/toilets/showers) to a treatment plant.

What is Low Impact Development (LID)

Local Ordinance Definition

Low-impact development (LID) is an approach to land development (or redevelopment) that works with the existing surface hydrology to manage stormwater as close to its source as possible. LID employs principles such as preserving and recreating natural landscape features, minimizing effective imperviousness to create functional and appealing site drainage that treats stormwater as a resource rather than a waste stream.

(Laconia, NH Zoning Ordinance)

LID Definition

NH Stormwater Manual (2025)

The LID design approach begins early in the site planning process, well before the designer makes decisions about density, placement of buildings, configuration of roadways and other infrastructure, and the design of larger scale structural SCMs. The approach discerns how water moves through the landscape under existing conditions and then works with those site characteristics and drainage patterns to integrate the development design with natural drainage features and functions.

Why is Low Impact Development Important to consider

The Importance of LID

Improvement of Water Quality: prevents stormwater from traveling and picking up contamination which can lead to surface water contamination.

Reducing Flood Damage: LID practices reduce the volume and speed of stormwater runoff. LID practices maximize stormwater filtration on-site which limits the travel of stormwater to nearby waterbodies or culverts.

Ground Water Recharge: Stormwater that leads to ditches/drains into nearby waterbodies limits groundwater recharge. By allowing for infiltration of rainwater on-site, water enters the ground and is filtered through the soil as it enters the water table.

Neighborhood Aesthetics: example, a cul-de-sac island on a dead-end road or parking lot with natural features like native plants might look nicer than plain concreate.

Traditional Drainage without LID Practices

- Water travels a great distance carrying with it trash, chemicals from pavement and debris.
- Water does not stay at the point of impact.
- Maintenance is required after rain events because of clogged drains, debris on roadway and flood damage.
- Anything that was carried by the water, ends up in the drainage system and eventually in your local water body.

LID Practices that Allow for Water Infiltration

- Natural filtration of water occurs and creates a recharge of the water table
- Stormwater runoff infiltrates the ground instead of traveling to nearby water bodies
- Less damage and maintenance for your stormwater utilities
- Rainwater stays at the source of impact

Protecting our Lake and Eco-systems

A quote from the Lake Winnipesaukee Alliance:

“85-90% of Lake Pollution Comes From Stormwater Runoff. Relentless in our pursuit of the best practices to ensure a healthy, vibrant lake, we work to raise awareness about this issue. With increased development comes more impervious surfaces – roofs, driveways, parking lots, and roads, which do not allow the infiltration of rain or snow into the ground; resulting in increased amounts of polluted stormwater runoff. Too much stormwater runoff causes flooding and erosion and carries pollution that results in unclean and unhealthy lakes, ponds, beaches and habitats.”

Statistics from LWA:

- Undeveloped area: 50% of precipitation will soak into the ground and 10% will run off.
- Highly Developed area: 55% of precipitation will run off and only 15% will soak in.
- Around Lake Winnipesaukee, stormwater pipes discharge untreated water directly into our lake.
- Why are we seeing more Cyanobacteria blooms in Lake Winnipesaukee? Nutrient pollution and extreme weather events.

What was the Funding Source and Project Scope?

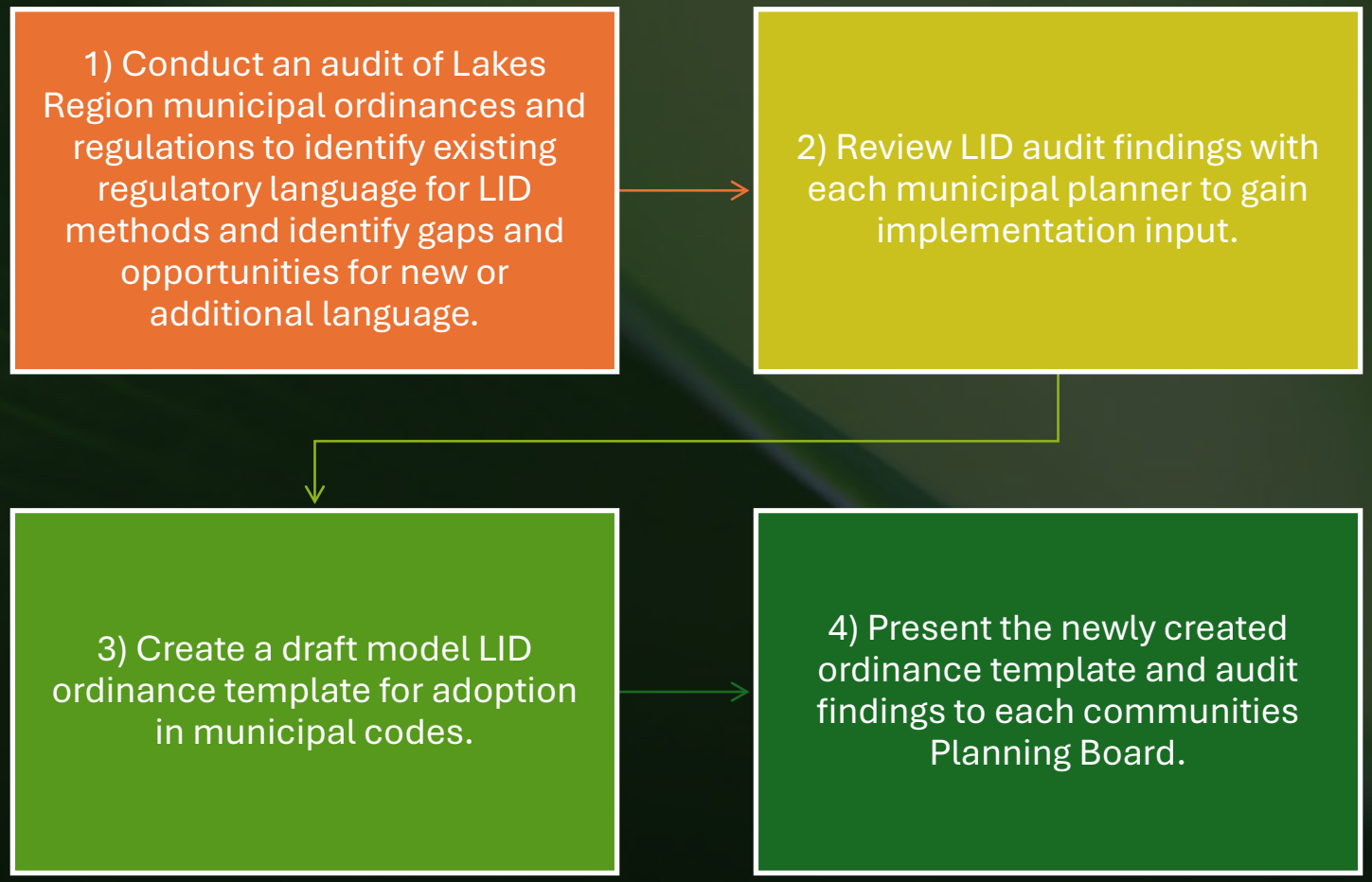
New Hampshire Charitable Foundation Grant

A rolling grant funded by private investors from the State of New Hampshire.

The grant is a non-federal grant with funding focused on improving health, environmental protection, education, housing and other basic needs.

LRPC applied for this grant in May 2025 and was awarded $25,000 in January 2026.

Grant Scope of Work



Audit Communities Include.....

- Gilford
- Laconia
- Meredith
- Moultonborough
- Wolfeboro

A few examples of language we were looking for when conducting the ordinance audit.

Examples of Questions Used for Auditing

1) Does the code define and establish LID or best management practices by name?
2) Does the code provide protections for wetland buffers that limit removal of vegetation?
3) Does the code include a wetlands buffer or wetlands setback that prohibits buildings or structures within a certain distance from the wetland?
4) Does the code require preservation of existing native soils to the greatest extent possible?
5) Does the code require preservation of existing, high value vegetation such as trees of a certain size?
6) Does the code provide protections for surface water or groundwater or aquifers concerning **use**?
7) Does the code provide protections for surface water or groundwater or aquifer protections concerning **impervious area**?
8) Does the code establish design requirements for stormwater controls?
9) Does the code encourage rain gardens, tree box filters, green roofs, or rainwater harvesting to encourage infiltration of rainwater and disconnection from overland flow?
10) Does the code require specific landscape plans for the designed stormwater infrastructure?

Supporting LID Language

Gilford- Stormwater management plans are required for any lot that has more that 15% impervious surface.

Laconia- Strong language establishing requirements for landscaping of parking lot islands to include natural elements which compliment stormwater infiltration capabilities.

Meredith- Strong language defining Low Impact Development (LID) and how to apply LID practices to stormwater management.

Moultonborough- Very strong language for the protection of surface and groundwater aquifers concerning permitted uses.

Wolfeboro- Strong language for reducing stormwater runoff when existing developed sites are modified by reducing building foot-prints, reducing non-conformity and enhancing stormwater management.

Areas that could be Improved

None of the communities have required design standards for sidewalks that allow runoff to disconnect and flow into green strips.

There are no incentive-based programs that encourage the use of LID practices. Examples include **rebate programs** or allowing for **increased density** if a developer provides more LID infrastructure.

None of our audited communities have higher standards for stormwater controls within proximity of aquifer/groundwater/ surface water protection areas.

There are no code requirements that specifically require the preservation of high value trees.

Planner Input from our Audit Communities

1) Prioritizing drinking water/aquifer locations to have high protections, well defined uses, and high standards for stormwater controls would be beneficial for our communities.
2) Developing incentives that work for NH communities and encourage the implementation of LID practices would be a better approach than strict enforcement.
3) Shoreland Protection Overlay Districts (SPOD's) would be a good starting point for incorporating the protection of native vegetation and prioritizing the protection of large trees.
4) Requiring native plants as a first choice for replanting makes sense, but it would be helpful to know recommended plant choices.

Planner Input Continued……

5) Some areas with pre-existing infrastructure and dense development (like a City) will be difficult locations for implementing LID priorities.

6) Ongoing maintenance of stormwater controls and reporting can be difficult to enforce when working with developers and the contractors they hire.

7) Requiring markers or snow fencing on development sites for limiting the excavation area could be a possibility, however this could be difficult to enforce throughout construction.

Our Current Grant Deliverables

1. Completed LID ordinance audits
2. Executive summaries for each audit
3. Municipal planner input based on audit findings
4. Model LID ordinance language template
5. Presenting the LID ordinance language template to each community’s planning board

Next Grant Application

LRPC is currently pursuing a second grant application through NH Charitable Foundation.

The next grant project scope will focus on implementing 1-2 new LID projects with interpretive signage within Lake Winnipesaukee communities .

Model LID stormwater practices installed will provide planning boards with the opportunity of viewing a real project within our region.

Resources for LID Information

New Hampshire Stormwater Manual February 2025 Edition

LID Guidance Manual for Maine Communities, September 2007

Low Impact Development, Code Update and Integration Toolkit, Department of Ecology State of Washington, July 2014

Southeast Watershed Alliance, Post Construction Stormwater Management Standards, 2017

Sources Used for the Presentation

1) https://www.dot.nh.gov/sites/g/files/ehbemt811/files/inline-documents/nh-stormwater-manual-2025.pdf (NH Stormwater Manual 2025)

2) https://www.ashlandmass.com/DocumentCenter/View/2079/NPDES-Information---FAQ?bidId= Town of Ashland, MA FAQ Stormwater Infrastructure

3) https://www.laconianh.gov/253/Zoning City of Laconia, NH Zoning Ordinance

Is your Community Interested?

LRPC is interested in working with any of our member communities for both ordinance audit work and shovel in the ground projects.

Questions

Thank you for listening!!

Economic Development & Natural Resources in the Lakes Region

The Lakes Region Planning Commission is updating the 2015 Regional Master Plan.

Take the Economic Development/Natural Resources survey at

www.surveymonkey.com/r/LakesRegionEconDevNatRes

or scan the QR code

LAKES REGION MASTER PLAN

L · R · P · C

Visit our website for more information lakesrpc.nh.gov/regional-planning-survey-page