

Low Impact Development

Delivering maintainable, cost-effective,
high performing solutions

Low Impact Development – or LID – is a landuse planning and engineering approach that manages stormwater runoff close to the source, using it instead of quickly draining it away. The use of LID can help reduce amounts of runoff, improve stormwater quality and maintain the natural water cycle in areas experiencing urbanization.

Our Low Impact Development (LID) philosophy is simple: provide the experienced professionals to plan and design LID projects that are cost-effective, high performing, and maintainable while being aware of and informed by the needs and wants of stakeholders. We embrace a collaborative design process where water resources engineers, civil engineers, landscape architects, architects, soil scientists and ecologists collaborate to develop comprehensive solutions for our clients.

We have extensive experience introducing innovative, but tested, approaches to the planning, design, construction, maintenance and monitoring of LID

systems. We understand the importance of maximizing stormwater capture while ensuring cost-effectiveness and meeting community expectations. We understand the how to address the occasionally conflicting design requirements of different agencies and excel at optimizing designs to meet performance standards. We have completed designs for new development, re-development, and retrofit applications and understand the unique constraints faced by, and opportunities available to, different types of properties. In addition, we recognize the quantifiable value of “depaving” with many of our designs resulting in an increase in green space.

Global Expertise

Combined with our unparalleled access to a global network of industry professionals, AECOM brings the most up-to-date knowledge and relevant experience to meet your project needs. Using event-based and continuous-simulation approaches, our design professionals provide our clients with comprehensive solutions which are optimized before shovels break ground. Coupled with our real-time, continuous stormwater quantity and quality monitoring expertise, we have an unparalleled capacity to ensure the maximum possible utility of any LID features while also supporting our clients with any performance verification requirements they might have.

AECOM's design engineers are proud to announce their partnership with Ontario's Conservation Authority community. Together we will deliver the latest training related to the proper inspection, maintenance and repair of LID installations.

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AECOM creates successful LID systems by ensuring that the projects are:

- **Constructible** – LID systems must utilize cost-conscious construction techniques; make use of readily available materials that can be successfully installed with techniques that can be easily mastered by contractors.
- **Durable** – Create systems with overflow drain and outlet redundancies to ensure longevity. Select materials with reasonable lifecycle expectations.
- **Design** – systems to withstand common urban stresses including vandalism, heavy traffic, snow and erosion.
- **Maintainable** – LID elements need to be easily understood by maintenance staff. Anticipated maintenance costs and need to be quantified and protocols developed for inspection, cleaning, repair and/or replacement. Use of native or non-invasive species reduces maintenance burden.
- **Compatible** – LID systems must be located, sized and detailed to support community needs in addition to stormwater management. These needs may include ADA accessibility, vehicular or pedestrian circulation, accessibility for recreation, beautification, and/or community events.
- **Visible** – Instead of hiding LID systems out of sight, we feel they should be celebrated, interactive and places for people to experience. The systems should be accompanied by signage to inform the public about their critical role in urban stormwater management.
- **Artful** – LID projects can use ecologically engineered features as place-making elements. We consider these features works of landscape art that will enhance their neighborhoods.
- **Replicable** – LID work should be replicable. This can be done by creating a toolbox of specifications, details, materials, and maintenance protocols; developing testing protocols and catalog performance results to set standards and baseline expectations for future iterations.

Images from top to bottom:

1. Morris Wetland & Regional Stormwater Management Facility Design, Edmonton, Alberta
2. Southeast Reservoir & Pumping Station Green Roof, London, Ontario
3. Leland Avenue Tiered Rain Garden, California, USA
4. Downsview Park Station Permeable Pavement, Toronto, Ontario
5. Glenriding Community Master Plan, Edmonton, Alberta
6. Region of York Harry Walker Parkway Snow Management Facility, Newmarket, Ontario

