

FOR IMMEDIATE RELEASE

JULY 18, 2019

“SIDEWALK TORONTO WILL FEATURE A ZERO-EMISSIONS THERMAL GRID”

Sidewalk Toronto's Quayside neighbourhood will get zero-emissions heating and cooling from a “thermal grid” using urban waste heat and geothermal energy with no direct fossil fuel input.

Kerr Wood Leidal Associates Ltd. (KWL) is excited to contribute the design concept for Sidewalk Toronto's zero-emissions thermal grid in its Master Innovation and Development Plan (MIDP). This will help Sidewalk Labs achieve a neighbourhood vision for Quayside that produces 85% fewer greenhouse gas emissions than a typical downtown Toronto neighbourhood.

The Quayside thermal grid will be a proof-of-concept that could be expanded to a larger scale across the proposed IDEA (Innovative Design and Economic Acceleration) District, allowing the area to tap into a wider range of low-cost waste heat sources. The thermal grid will also be highly-integrated with building systems and an advanced power grid to provide a platform with unprecedented abilities to optimize thermal energy delivery based on the needs of consumers and real-time energy costs.

KWL's challenge on this project was to develop a thermal grid that emphasized modularity, flexibility and scalability with the ability to utilize multiple low-carbon energy sources. Our solution was a design based on high-efficiency heat pumps distributed across the thermal grid, which allows the grid to respond to each building's unique thermal requirements. This design approach differs from traditional thermal energy systems, which can experience problems with reduced equipment efficiency and stand-by energy losses.

The thermal grid concept was developed through a collaborative process led by KWL, involving Sidewalk Labs and its partners. This collaborative design process involved advanced modeling and a robust evaluation of a wide range of energy sources and system configurations. As Sidewalk Labs progresses with its plans the thermal grid design will continue to evolve to improve energy efficiency and affordability for consumers.

“Sidewalk Labs is raising the bar for sustainable urban infrastructure, and this project should become a template for other communities seeking to reduce their carbon footprint,” said KWL's Utility Management Sector Leader Mike Homenuke, P.Eng. “It's rare to have a developer push for a 100% fossil-fuel free thermal energy system, and it's been exciting to help Sidewalk Labs develop its pathway to a low-carbon future”, stated Homenuke.

Charlotte Matthews, Director of Sustainability for Sidewalk Labs said of the thermal grid design, “Sidewalk Labs is excited to work with KWL due to their deep experience in designing low temperature thermal grid solutions, since developing an affordable fossil fuel-free thermal energy solution for a climate positive community is a significant challenge. The KWL team brings ingenuity, is responsive to partner input, and is doggedly pursuing lower cost options that deliver equal or better environmental outcomes for Toronto.”

KWL has been recognized with awards for its other innovative thermal energy projects, including the Alexandra District Energy Utility in Richmond, BC and the University of BC's steam-to-hot-water conversion project. This is in keeping with KWL's vision: “At KWL we challenge ourselves to create water, community, and energy infrastructure solutions in balance with nature that make the world a safer, better place for our children.” The Sidewalk Toronto thermal grid also embodies our vision.

ENDS

For media enquiries please contact:

Mike Homenuke, P.Eng.
Sector Leader, Utility Management
mhomenuke@kwl.ca
604.293.3242