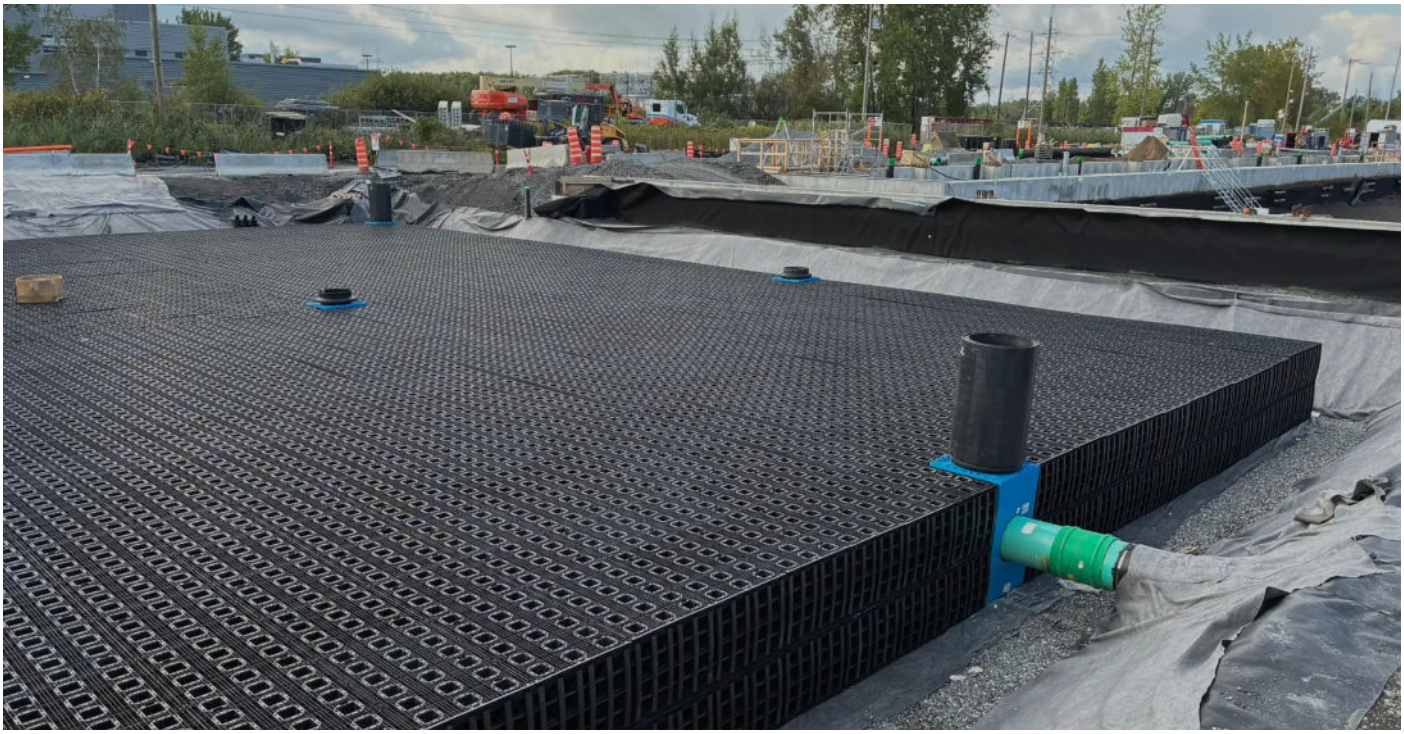
SOLENO
MASTERING WATER SUSTAINABLY

Store 50,888 ft³ of stormwater within a limited footprint

Hitachi Energy's Net Zero project

Varennes, Quebec

LIMITED SPACE | LOADING DOCK TO WORK AROUND | HIGH GROUNDWATER TABLE



The RAUSIKKO® geocellular system at Hitachi Energy's Net Zero project.

KEY FIGURES

50,888 ft³
storage capacity (1,441 m³)

≈ 13%
less excavation

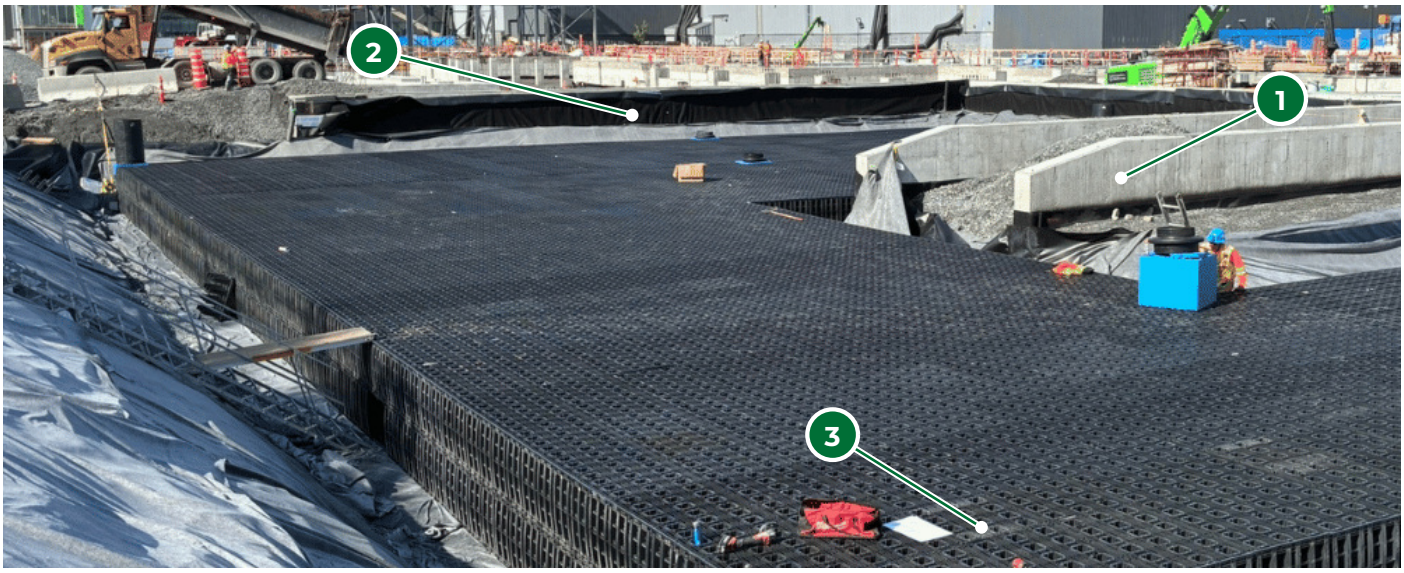
≈ 43%
less stone

Reductions in estimated design-stage volumes compared with the original design.

A two-layer, U-shaped configuration adapts the system to the loading dock. Close collaboration between project stakeholders and Soleno helped optimize the design and reduce material requirements.

A solution for every site constraint

High storage capacity was needed within an irregular footprint. Soleno recommended the modular RAUSIKKO® system to adapt the design to site conditions.



Site features: loading dock, system liner and geocellular modules.

1 Work around the site layout

A U-shaped configuration fits around the loading dock and makes the most of the available footprint.

2 Address high groundwater

A watertight geomembrane was specified to seal the system for the site's high groundwater conditions.

3 Adapt storage capacity

Modules are stacked in two layers. Their lightweight design and easy assembly help simplify installation within this complex layout.

CAPTURE SEDIMENT AT THE SOURCE

StormSack devices are integrated into catch basins to capture sediment at the source.



SX and SC models shown

THE SELECTED SOLUTION

RAUSIKKO®

Modular geocellular system

Storage for space-constrained sites,
with lightweight modules that are easy to assemble.

PRODUCT PAGE

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Gains from the design stage

Compared with the original HydroStor HS180 chamber design, RAUSIKKO® reduces the estimated excavation and stone volumes.

ESTIMATED VOLUMES	ORIGINAL DESIGN	RAUSIKKO® SOLUTION	APPROXIMATE REDUCTION
Excavation	133,878 ft³ 3,791 m³	**115,973 ft³** 3,284 m³	13%
Stone	47,392 ft³ 1,342 m³	**26,839 ft³** 760 m³	43%

Comparison of estimated design-stage volumes. Percentage reductions are rounded.

What this means for the project

Less material to handle

Smaller quantities to handle and transport support a more efficient use of resources.

Easier installation

Lightweight, easy-to-assemble modules suit the project's complex geometric configuration.

CLIENT
Hitachi Energy

CONTRACTOR
Pomerleau

ENGINEERING
Équipe Laurence

Technical support: Soleno

Project date: April 2, 2026

Read the case study online

Scan the QR code

Let's review your project's site constraints.

CONTACT AN EXPERT

soleno.com/en/find-us