

## Walmart Store Expansion Orangeville, Ontario

### | Challenge

Construction of a Walmart 3,000 m<sup>2</sup> addition to the existing Orangeville location encountered problematic peat and fill soils that had the potential to undercut the existing structure. It was highly probable that this would create unpredictable additional costs and significant project delays using excavation-replacement.

### | Solution

GeoSolv provided a sound settlement control solution utilizing Geopier® for standard spread footings at 240 kPa SLS and support for the slab as well. Since a displacement technique was used, the collapsing soil and high ground water levels were not an issue. Impact® elements were installed through the fill and organics quickly, efficiently, and without any spoils. Continuously cased drilled micropiles were used as underpinnings along the adjacent store to increase the overall capacity for existing footings to take on the new addition's loading along the existing store edge.

### | Outcome

The use of impact elements prevented excavation of existing fill as deep as 6.6m, preventing the undercutting that would have occurred with excavation and replacement. This solution also averted the need for large-grade beams and the structural slab that would have been required with deep foundations. This system allowed for simplicity of construction through the use of standard slab on grade and spread footings elements.



*Geopier Impact® work underway for this Walmart addition as part of Walmart's expansion into groceries in Ontario*

#### **Contractor**

Cambria Design/Build

#### **Structural Engineer**

Exp Services inc.

#### **Geotechnical Engineer**

Stantec Consulting Ltd.

### **Project Team**

#### **Architect**

Petroff Partnership

**Ground Improvement - Rigid Inclusions - Piling Systems - Slope Stability - Ground Reinforcement**

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