

# Project Spotlight

Cold Lake Waste Transfer Unit



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## Waste management team turns to Extensia® for quality and cost savings

### Project Details

**Owner:**

Beaver River Regional Waste Management Commission

**Location:**

Cold Lake, Alberta

**Contractor:**

Flint Energy Services Ltd.

**Architect/Engineer:**

UMA Engineering

**Placers and Finishers:**

Superior Concrete Pumping

**Innovative Product:** Extensia®

**Volume of Project:** 198m<sup>3</sup>

**Volume of Innovative Product:** 198m<sup>3</sup>

**Date of Pour:**

June 20th, 2008

#### **The Opportunity**

As cities and towns grow in Western Canada, infrastructure requirements grow as well. This includes roads, water, and waste management.

As part of the solid waste management process, waste materials are transported to various waste transfer stations where the waste is sorted and sent out on outgoing haulers.

Waste transfer stations are traditionally built on top of a concrete pad that takes a tremendous amount of abuse. The concrete needs to be able to withstand the impacts and abrasion that occur with the operation of heavy loaders as well as extreme heat and cold from weather conditions.

Typically, this concrete slab is constructed with a 30MPa, rebar reinforced concrete. The slab is placed 10" thick and finished with an expensive abrasion resistant topping.



The Waste Transfer Unit at Cold Lake, Alberta needs to be able to withstand extreme heat and cold from weather conditions.

#### **The Problem**

UMA Engineering along with the Cold Lake Waste Management Team wanted to find a concrete that would provide the same performance that was needed without the need for an abrasion resistant topping.



The use of loaders and other heavy machinery creates significant wear and tear on a concrete slab. Engineers at UMA Engineering discovered that Extensia® was more than capable of withstanding this challenging environment.



A close-up of the 3 year-old Extensia® concrete pad at the Cold Lake Waste

**“IT’S DOING THE JOB. THE SURFACE IS REALLY SMOOTH AND WORKS WELL. WE HAVEN’T HAD ANY ISSUES AT ALL.”**

**- MARK LOWE,  
COLD LAKE WASTE MANAGEMENT FOREMAN**

**The Lafarge Solution**

To successfully dispense with the need for an abrasion resistant topping, engineers at UMA Engineering turned to Extensia®. Extensia® was readily incorporated into the original rebar design and engineers were able to keep the slab at 10” thick. The difference lies in the surface treatment.

An Extensia® floor achieves the surface hardness required without the additional time and expense of applying an abrasion resistant topping. Its quicker setting time and strength gain, along with the elimination of the abrasion resistant topping, allowed the client to save a considerable amount of time and money and ensured that the slab could be put into operation sooner.

**Savings**

By switching from conventional concrete to Extensia® the client was able to eliminate the need for an abrasion resistant topping. This allowed the client to cut their costs considerably by reducing the material and labour costs of the project.

**Benefits of Using Extensia®**

- Integrated into original design
- Replaced expensive abrasion resistant topping
- Sped up the construction process
- Resulted in considerable material and time savings.



After 3 years of being in operation the Extensia® Slab at the Cold Lake Waste Transfer Unit exhibits minimal cracking.



The successful installation and superior performance of Extensia® in the Waste Transfer Station at Cold Lake resulted in using this product one more time for the Waste Transfer Station in Bonnyville, Alberta.

**Lafarge Canada Inc.**

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