

# Pad Construction Over Deep Peat

## Reinforced With Tough Cell®

**CORE CONCERNS:** Poor Constructability, Reliability, Tight Timeframe

**APPLICATION:** Parking Lot Pad    **CONDITIONS:** Deep Saturated Peat

**LOCATION:** Alberta

**DATE:** May, 2024

### PROJECT OVERVIEW

A county in Alberta commissioned Paradox to construct a parking lot to accommodate visitors and campers at their campsite.

Working alongside the client's crew and machinery, Paradox successfully completed the project ahead of the May long weekend, within the allocated budget, and with the soil's challenging properties (deep, saturated peat).

### THE MISSION

The goal was to construct a **stable, reinforced parking lot over saturated peat soil (10 feet deep)** with minimal natural soil disturbance.

### CHALLENGE ACCEPTED

With frost in the ground, the parking lot pad had to be constructed during winter conditions to meet the client's tight timelines.

Although the county allocated three weeks to finish the project, **Paradox completed it in 3 days.**

Paradox worked hand in hand with the county and leveraged its existing resources to execute the project within its budget requirements.

### THE PROBLEM

As the soil in this area mainly consisted of deep, saturated peat, traditional methods of building a parking lot would be costly and environmentally damaging. Because of the frost in the soil, the county would have had to wait for it to thaw before executing a traditional build. As a result the client required an alternative solution to meet the set timeline.

An adjacent county that previously experienced success hiring Paradox gave them a referral. Subsequently, they contacted Paradox. Our team assessed the job and deemed the parking lot pad feasible with **Tough Cell® technology**. This confinement technology could be used to build over the peat, with frost in the ground during the winter construction period.



Frozen peat soil.



10ft deep, saturated peat.



# PROJECT AT A GLANCE



Site logging, clearing and preparation.



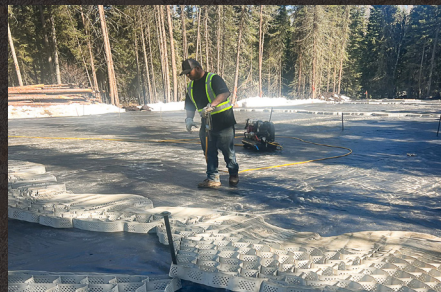
Laying geotextile.



Prestapling Tough Cell®.



Filling first layer with gravel.



Stretching and anchoring the top layer.



Compacting the top layer of Tough Cell®.

## PROJECT SPECS



TOTAL AREA  
**1,800sqm**  
Parking Lot



PRODUCT  
**330-100-P-D**  
**330-120-P-C**  
**Tough Cell®**  
2 Layers of Tough Cell®



INFILL  
**450mm**  
Gravel



PEAT SAVED  
**5,580m³**



GRAVEL SAVED  
**11,484m³**



CO<sub>2</sub>e SAVED  
**24,125 tonnes**  
By building over peat and using less gravel

## THE SOLUTION

Paradox provided technical Tough Cell® expertise, demonstrating and installing the first layer. The county's crew then stretched, pulled, filled, and compacted the top layer with local gravel.

Paradox collaborated closely with the client throughout the three-day project to construct the pad. This included removing unwanted trees and organic materials such as topsoil and roots and precise leveling and installation of Tough Cell®.

## THE BENEFITS

### SAVINGS:

The client gained significant cost savings by utilizing their own resources. This eliminated equipment rental costs and reduced hauling costs significantly.

### TIMELINESS:

By investing in Tough Cell®, the client saved a significant amount of time on land preparation (such as excavation), ensuring that the parking lot would be open for the May long weekend.

### SUSTAINABILITY:

The client reduced the environmental impact by minimally disturbing the peat, and reducing the amount of aggregate fill needed. This reduced CO<sub>2</sub>e emissions.

Do you have a pad that needs to be constructed or remediated?

Get in touch with us!

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