

# Project Owner: Greenfield Ethanol

## Description of Needs

With operations in Southern Ontario and Quebec, Greenfield Ethanol produces ethanol for transportation and industrial applications. Steam from a neighbouring nuclear plant initially served process heating needs at the company's Tiverton (ON) operation. When this steam supply became unavailable, they converted to boilers fueled by heavy oil. Dissatisfied with this choice on account of operational and maintenance issues and high fuel costs, Greenfield looked to natural gas however, without NG pipeline access, this necessitated a bulk transport solution.

**Date of completion:** 2012 in service

## Scope of Work:

In fulfilling its contract to deliver a turn-key project Change Energy Services provided:

- Comprehensive feasibility study to determine operational viability and cost savings achievable with a system that delivers NG via high pressure tube trailer from a pipeline access point situated in Mount Forest
- Process design engineering of turn-key installation as described below
- Equipment selection and procurement assistance
- Project management assistance including necessary approvals, oversight of equipment installation and commissioning
- Development of operation and maintenance manuals
- Operator training

## Result

An integrated turn-key CNG supply system comprised of the following:

### (1) Mother Station:

#### Compression:

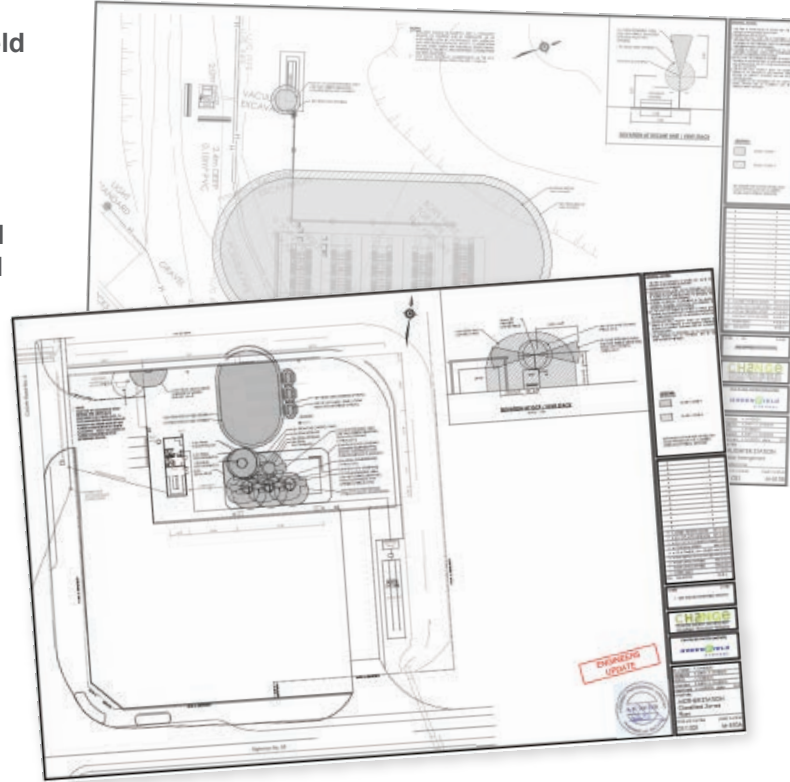
- 400 HP (installed)
- 2 x 1000 scfm with a suction of 275 psig and discharge of 3600 psig (settled pressure)

#### Storage:

Not applicable – facility includes 2 filling bays expandable to 3 bays.

#### Dispensing:

Bays are equipped with Measurement Canada certified dispensers for vending to third parties



### (2) Daughter Stations to date:

#### Owner-operated

#### Decanting (Joule-Thomson module):

- 1200 scfm normal, 1500 scfm maximum
- Decanting from 2750 psig down to 75 psig

#### Storage:

Not applicable – facility includes 5 decanting bays

#### Third-party owned and operated:

Paisley Brick and Tile

#### Decanting (Joule-Thomson module):

- 200 scfm normal, 300 scfm maximum
- Decanting from 2750 psig down to 200 psig

#### Storage:

Not applicable – facility owns 2 decanting bays

Other third party stations pending.