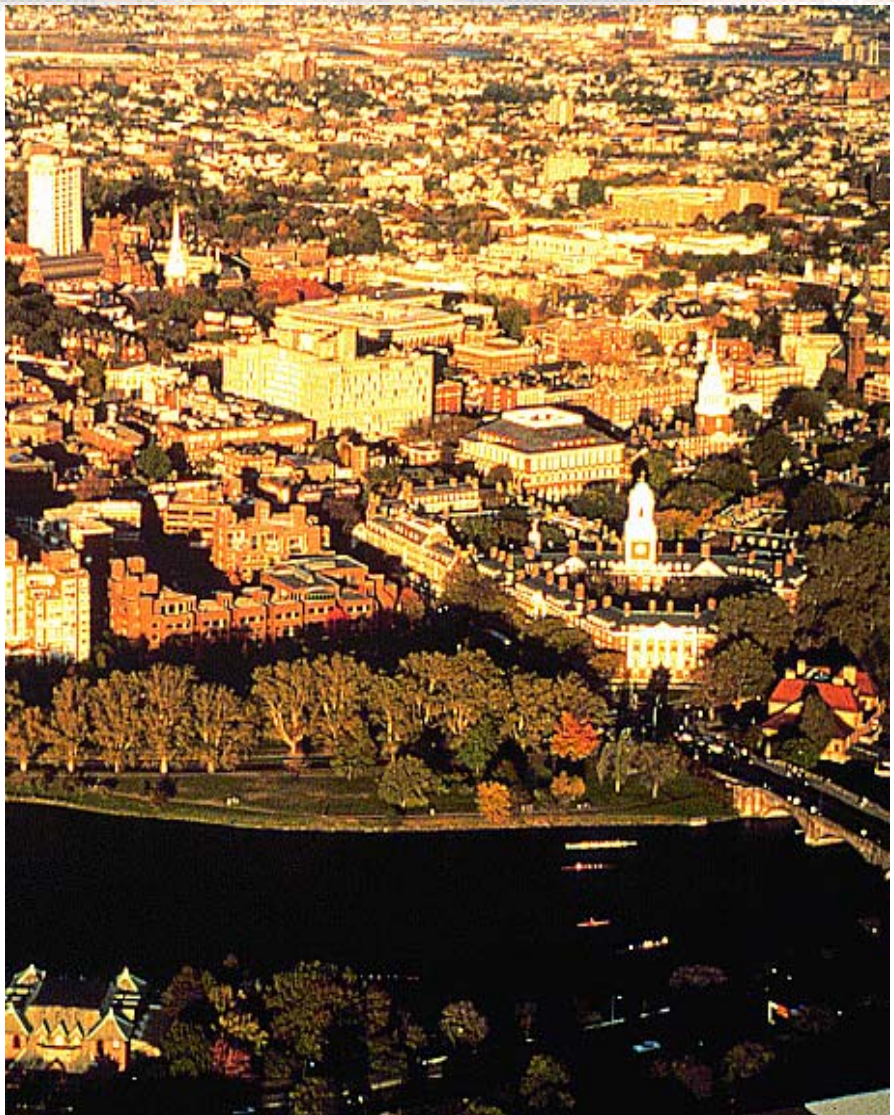
Harvard University



Installation of an On-Site Biodiesel Fueling Station

Presented by

David E. Harris Jr.

General Manager

Transportation Services

Presentation Outline

- Project Overview
- Photos of Installation
- Cost Review
- Benefits Analysis
- Closing/Questions

Project Overview

- Vendor selection for tank, installation, hardware/software- (student interns)
- Site selection & plan review by surveyor
- Zoning variance & permitting with City of Boston
- Environmental Health & Safety compliance
- Construction
- Training- see appendix
- Go Live


NORTH
Site Location
Soldiers Field
Athletic Area
Harvard
Business School
North
Allston

Tank Delivery

“Jersey” Barrier Delivery

Conduit Trench

Final Product

Safety Features

Emergency Shut-off

High Level Alarm

Explosion Proof Wiring

Fire Suppression

Spill Control

Basic Safety Procedures

Storm Drain Covers

Fuel Access, Delivery, & Recording

First Delivery Dec 20th 2003

Cost Analysis

Site Plans	**$2,500**
2000 Gallon ConVault Tank	**$9,450**
Fuel Management	**$5,850**
Installation: tank delivery, wiring, concrete, conduit, fencing	**$15,700**
Leak Detection system*	**$1,258**
Fire Suppression*	**$10,600**
Total	**$45,358**

***depends on local and state regulations**

Summary of Benefits for On-Site Fueling

- Convenient-saves time
- Available to all Harvard Departments 24/7
- Detailed usage reports:vehicle,employee,etc
- “Portable”if built above ground
- Cost effective: 4 year payback period (.15 cents gal @85K gal usage= $12,750/yr.

Thank You for Attending!

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END

Vendor information

ConVault

Aboveground Storage Tanks

THE ABOVEGROUND SOLUTION TO THE UNDERGROUND PROBLEM

1. Aboveground
The ConVault fuel storage system is not subject to underground storage tank regulations for petroleum based products, chemicals or hazardous wastes. Sizes range from 125 to 12,000 gallons, including dual compartment tanks.

2. Complete Turn-Key System
Over 25,000 customized, turn-key systems have been installed nationally. Tanks are delivered from one of the 17 convenient regional manufacturing plants ready to use - no waiting. ConVault fuel storage systems are manufactured under strict quality control standards. There is no need for excavation, dikes, painting or on-site assembly.

3. Long Life Guarantee
ConVault tanks come with a 20 or 30 year warranty. The steel tank is isolated from the concrete encasement to assure corrosion protection.

4. Fire Protection
ConVault's seamless, six inch, reinforced concrete enclosure provides two-hour fire protection. This has been confirmed by independent, third party testing labs such as Warnock Hersey International, Underwriters Laboratories (UL) and Underwriters Laboratories of Canada (ULC).

5. Secondary Containment Design
A high performance, 30 MIL high density, polyethylene membrane encloses the primary tank to provide UL Listed (non-metallic) secondary containment, protected by a six inch, reinforced concrete monolithic encasement.

6. Leak Detection
Through-the-tank leak detection design assures that the interstice may be manually or electronically monitored. The ConVault system rests a minimum of four inches above the ground on unitized concrete support legs to allow for complete visual inspection.

7. Thermal Protection
ConVault's monolithic concrete enclosure and insulation layers provide thermal protection that minimizes temperature change for flammable liquids stored in excessively hot or cold environments. The system contains no heat transfer points or cold joints on the bottom or sides. Insulation minimizes vapor loss and viscosity problems due to temperature variations. ConVault systems are California Air Resources Board (CARB) certified for Phase I and Phase II Vapor Recovery for gasoline, ethanol and methanol.

8. Spill & Overfill Protection
A seven gallon UL Listed containment basin provides added protection against accidental spills. In addition, the tank can be easily equipped with auto shut-off devices and alarms.

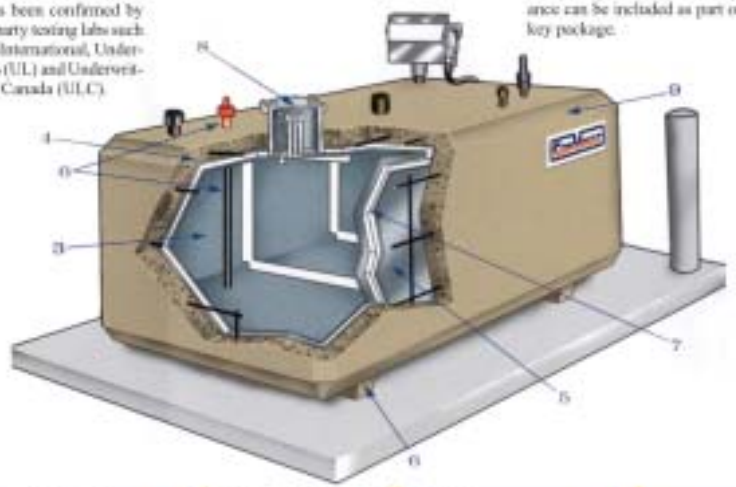
9. Weather Resistant Exterior
Low maintenance finish options protect the tank from damage due to outdoor elements. Powder coating of external steel fixtures inhibits rusting.

Options include:
- Natural Finish*
- Epoxy Finish
- STI[P3]* Finish*

* Natural and STI[P3] finishes are available regionally. Please call to see if these finishes are available in your state prior to ordering

Vandal & Natural Disaster Resistant
ConVault fuel storage systems are projectile and vehicle impact resistant as well as engineered to withstand earthquakes, floods and other natural disasters.

Accessories
Everything necessary for complete code compliance can be included as part of a standard turn-key package.



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