

Westhampton CNG Filling Station

COST ANALYSIS

Total Cost

\$2,196,547.84

ARRA Funding

50%

Project Construction Timeline

6 mo.

Fast-Fill Capacity

408 scf per minute

(135 scf = 1 diesel gallon equivalent)

Storage Capacity

69,000 scf. @ 4500 psi



Workers Casting a Concrete Curb



Aerial View of Site at South Perimeter Rd.

Compressed natural gas (CNG) has become an affordable alternative to fossil fuel. Suffolk County Department of Public Works (DPW) installed CNG filling stations at its Westhampton and Commack Highways facilities. The County fleet has expanded its fleet to include more CNG vehicles which reduce operation costs emissions. An American Recovery and Reinvestment Act (ARRA) Federal Grant provided 50% reimbursement of the construction cost to Suffolk County.

The CNG filling station was constructed just outside the Westhampton facility. The equipment is installed on these grounds which are locked at night, however the site is available for public fuelling during all hours. The site was chosen to serve commercial and public drivers on the East end of Long Island.

The manpower to carry out the project, its design and construction, was contracted to outside agencies through a request for proposal (RFP). The consultant was selected in May of 2010 and planning began.

Two options were presented: a time-fill, and a fast-fill station. The fast-fill station was selected based on expected volume. This type of station requires larger equipment to compress and store the natural gas. Two 125 hp compressors and two, three-tank storage arrays were provided to meet specified 408 scfm flow and 69,000 scf storage requirements.



Compressors, Dryers, and Storage Equipment

Two dispensers were provided with room for trucks to maneuver in and out of the station. Separate billing systems for the County fleet and the public were required. The billing system is capable of reading any major credit card. Proper safety is a paramount issue and proper signage, emergency shut-down switches, extinguishers, and an auto-dial emergency line were provided.

SUFFOLK COUNTY DEPARTMENT OF PUBLIC WORKS

335 Yaphank Ave.

Yaphank NY, 11980

The Westhampton project took less than 1 year to plan and build. Planning ran from February to September 2011 and construction ran from August to December 2011. Construction of the Commack filling station was underway during this time.

Construction activities such as surveying, cutting, trenching, paving, concrete casting, and equipment mounting were handled by our general contractor. The electrical contractor provided electrical service and power and control wiring to the equipment and site lighting. Gas piping and instrumentation were provided by the plumbing contractor.

The CNG dispensing islands' location outside of the Westhampton facility prevents any interruption of County operations and allows the station to remain open to the public 24-7.



CNG Dispensing Island Close-up



Workers Installing Dispensing Islands



Two Fast-Fill CNG Dispensing Islands

A 2-year contract for the operation, maintenance, and data management (OM&DM) of the CNG station was awarded in March 2012. The duties include billing, payment of utilities, replacement of parts, repair of equipment, and 24-hour emergency response. The contract for operation of the station sets a price for 2 years on the natural gas provided to County vehicles and commercial and public vehicles.

	County-owned/ operated vehicles	Non County-owned/ operated vehicles
Cost per diesel gallon equivalent (\$ per DGE)	\$ 1.792	\$ 2.80
Cost per gasoline gallon equivalent (\$ per GGE)	\$ 1.60	\$ 2.50

The CNG stations increase the number of alternative fuel infrastructure locations in Western and Eastern Suffolk County. CNG fuel saves money for County, commercial fleets, and energy conscious consumers.