

# Mustang Sampling Helps TC Energy Minimize Environmental Impact

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Recycled shipping containers converted to pipeline shelters along Keystone Pipeline System

Found along TC Energy's Keystone Pipeline System, shipping containers are a necessity during the construction and operation of a pipeline. In 2018, TC Energy approached Mustang Sampling with a plan to recycle these used shipping containers and have them converted into buildings along the pipelines. This creative way to repurpose the containers falls right in line with TC Energy's commitment to sustainability. TC Energy is dedicated to protecting the environment where it operates and minimizing its environmental footprint.

This innovative repurposing of these storage containers allows the bypass the use of traditional shelters, which are constructed from new building materials erected on metal skids and transported from their manufacturing location to final destination.

Locating a company in the U.S. to convert the shipping containers while meeting regulations, obtaining permits and satisfying building codes is a complicated, multidiscipline endeavor. Throughout the project, 20 recycled shipping containers have been converted to pipeline shelters. Mustang Sampling knew going into the project that each area has a unique set of rules and zoning requirements that fall under local jurisdiction. The core of many codes is based on the International Code Counsel's International Residential Code (IRC) and International Building Code (IBC).

The IRC and IBC incorporate related codes by reference, such as the International Plumbing Code, International Mechanical Code, National Electric Code and the National Fire Protection Association standards. In turn, most cities incorporate the IRC and IBC into their own codes with occasional amendments. Given the absence of any national standards in the U.S., many states have implemented their own codes as well. However, shipping containers are now required to comply with provisions of the Uniform Building and Accessibility Standards Act, the Fire Prevention Act of 1992 and their associated regulations; the National Building Code; the National Fire Code; and municipal bylaws. Other items that might be required are development permits, building permits and/or construction plans.

Minimizing environmental impact

Mustang Sampling procured the used shipping containers from a company that is an innovative leader of kinetic architecture, utilizing modified shipping containers and converting them to purpose-built container structures. Mustang Sampling constructed each pipeline shelter from the prefabricated, fire-resistant, recycled-steel shipping containers, along with some traditional building materials to create adaptable workspaces. The modularity afforded by adapting each individual shipping container to a variety of locations was essential to the project. Despite the shelters being located in four different states with different regulations and codes, key features of each building included the following:

- 8-foot-by-20-foot footprint

- Walk-in cooler standard
- Mixed material finish (flat panels with corrugate accents)
- Fiberglass-reinforced plastic walls
- Employee access
- Open-air work area
- Restroom area
- AC unit and electric heat
- Smoke detectors and emergency lighting
- Three service windows
- Three awnings
- Upper-level counters and technology packages

Mustang Sampling created a showcase of sustainable ingenuity with units that are well insulated, quiet and comfortable. Each building is environmentally friendly, designed to minimize its environmental impact and uses recycled materials. The design offers quality, durability, flexibility and rapid deployment. Each container structure can be moved from site to site if needed, and the compact design saves space and keeps things simple and tidy.

For more information, visit [www.mustangsampling.com](http://www.mustangsampling.com) or call (713) 482-6930.