

Crucial Community Link Restored After 2 Year Closure



Caroline Street Bridge

Pennsylvania, USA

In West Wheatfield Township, PA, along Caroline Street in the Village of Robinson, a vital bridge connects the community center to the rest of the town. A crucial link for local residents, this bridge was closed for 2 years. The Township consulting engineer originally proposed a wood structure, as that's all the township could afford with the \$500k grant they received, but the savvy TS Supervisors found InQuik, who could supply a reinforced-concrete structure for less. The consultant designed a deck that could be retrofitted to the existing stone abutments, and construction was bid-out to local contractors.

CHALLENGE

The project posed complex challenges, including narrow working areas, site constraints, and a limited budget. However, the township and consulting engineer overcame these obstacles by designing a reinforced concrete structure, so the bid-winning contractor could purchase and install an InQuik Bridge or similar alternate. The innovative InQuik solution doesn't require temporary support or false work, negating work beneath the bridge and simplifying construction. Additionally, with a limited budget, utilizing a method that was quick and affordable was essential.

INQUIK® SOLUTION

The InQuik Bridge Solution helped enable their success. By leveraging a prefabricated and cast-in-place bridge system, the project benefited from efficient design and installation while still maintaining high quality. This pioneering approach, a first in Pennsylvania, also enabled significant cost savings. A \$500,000 grant from the Multimodal Transportation Fund covered the project, with only \$237,000 spent. The remaining funds (\$263,000) will support a similar bridge project on Mary Street, using the same process.

InQuik®
accelerated construction

OVERVIEW

Dimensions

21'L (18' clear-span) x 17 1/2' W

Client

Gibson Thomas Engineering

Type

2-Lane Street

Original Structure

**Steel-beam with concrete slab,
on stone abutment**

KEY POINTS

Simply-supported deck replacement
Retrofit to existing abutment
Design-Bid-Build
18' Clear-span
Right-of-way construction constraints
\$500,000 grant



Community bridge opening ceremony.

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- ◇ Deck panels lowered into place by the local contractor with a small excavator
- ◇ This resulted in significant savings for construction of the bridge



- ◇ Deck superstructure panels incorporate reinforcing steel and formwork only
- ◇ Arrives on-site with no concrete, so they are lightweight
- ◇ Only 2 picks for the excavator, resulting in significant timeline reductions



- ◇ Self-supporting system eliminates work below the bridge
- ◇ Temporary support or false work is not required during construction
- ◇ This simplifies the process and improves worker safety



- ◇ CMC prefabrication includes color-coding the splice bars to ensure easy installation for the construction crew, and reduces the need for specialist bridge building skills

