

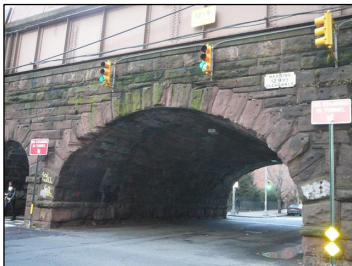


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Repair/Replacement of Undergrade Bridges – East of Hudson

Bronxville, Patterson, New York City, and Port Chester, New York

PROJECT NAME

GEC Design and Engineering – Repair/Replacement of Undergrade Bridges – East of Hudson

PROJECT OWNER

MTA Metro-North Commuter Railroad

PROJECT CLIENT

HNTB Corporation

START/END DATES

2013 – 2014

PROJECT DESCRIPTION

MTA Metro-North Commuter Railroad (Metro-North) sought to perform rehabilitation of five undergrade railroad bridges located on Metro-North's Harlem, Hudson, and New Haven Lines in New York State. These bridges included HA 14.57 over the Bronx River in Bronxville, HA 61.06 over the Croton River in Patterson, HA 61.36 over the Croton River in Patterson, HU 3.41 over 110th Street in New York City, and NH 25.74 over Willet Avenue in Port Chester. The project was a continuation of Metro-North's Capital Program to maintain all of its bridges in a state of good repair.



KS Engineers, P.C. (KSE) provided surveying and structural design services in support of this rehabilitation project. For each of the five bridges, KSE performed a field survey/civil survey to establish an accurate survey control network through the project limits. KSE survey crews established horizontal and vertical control points using Global Positioning System (GPS) satellite receivers. Control traverses and benchmarks were established through the project limits. KSE also established the Metro-North ROW at each bridge site utilizing the railroad's valuation maps. KSE assisted in the submission of a Site Specific Work Plan (SSWP) for the civil surveys that contained work descriptions, key personnel and contact information, work plans, schedules, and safety and security.

For the structural task, KSE conducted data collection for Bridge HU 3.41, including reviews of existing plans, inspection reports, previous rehabilitations that have been performed, as-built and record drawings; and any other relevant information. We then performed a field inspection and submitted a bridge repair report/bridge replacement recommendations that provided summaries of the inspection findings, rehabilitation/replacement alternatives with supporting sketches, and a preliminary construction cost estimate. The recommendations contained justification regarding a preferred alternative. KSE then prepared contract documents for the proposed repairs to be performed by the Metro-North Force Account and a third-party contractor.