

## Henrietta Street Bridge Replacement Scheme

Manchester

Keller actively got involved at an early stage with the contractor and designers to produce a cost-effective, valued and buildable scheme.



### The project

A Pali Radice minipiling solution was developed to strengthen the existing bridge abutments to part of the Manchester to Salford Line Upgrade, involving a number of over bridge deck replacements. The existing bridge abutments were retained and strengthened by raking micropiles.

### The challenge

The need to retain and strengthen the existing bridge abutments

## The solution

This works involved the installation of 54 No x raking 220/190mm diameter Pali Radice micropiles (27no per abutment). They were installed parallel to the skew of the bridge and at alternating rakes of +20deg and -15deg to the vertical.

The micropiles were installed at 0.85/1.7m centres. The proposed pile layout has been arranged to accommodate the existing steel bridge beams.

All piles were reinforced with a single full depth 40mm diameter centrally spaced Type 2 deformed continuously threaded Gewi bar complete with full strength couplings. Additionally the pile heads were reinforced with a 4m long 139.7mm OD x 8mm thick API grade circular hollow section extending 1.0m into the abutment and 3.0m below it.

## Project facts

### Owner(s)

Network Rail

### Keller business unit(s)

Keller UK

### Main contractor(s)

J Murphy and Sons

### Engineer(s)

Opus

### Solutions

Underpinning

### Markets

Infrastructure

### Techniques

Minipiles

### Email address

[rob.madill@keller.com](mailto:rob.madill@keller.com)

### Phone number

02476 511266