The Meccano Bridge

This proposal is for a footbridge to replace the old horse bridge at Nob End, Little Lever. The construction of a new bridge at this site will allow The Canal Society to re-route the footpath and make it possible to restore this section of the Manchester Bolton & Bury Canal.

The original brief for artist Liam Curtin was to make an artwork for Little Lever. Discussions with local people, The Council, and the Canal Society led to the artwork being based at the canal and that artwork becoming a functional bridge.

There were many ideas, some of which can be seen towards the end of this document. The final proposal is for a bridge made from giant meccano. Meccano scaled up by 10 times.

Meccano is scaled down engineering; this proposal involves scaling meccano back up.

A giant meccano set will be made by a local fabricator. Each part including the nuts and bolts will be scaled up by 10 times, ten times longer, ten times thicker and a thousand times heavier.

Each part will be faithfully rendered at the new scale.

The site will be fenced off and scaffolded giving a flat plain for the bridge to be assembled. Local volunteers will be invited to be trained to help in the assembly.

The material will be galvanised mild steel.

The new bridge will simply rest on the refurbished abutments.

Creating a design that can be assembled by local people is a major part of this project; it is felt that the engagement of local people will help to endear the bridge to the local population

Timescales

- Restoration of the old abutments using original brick and stone, creation of the foundations./ Work to be carried out by the Canal Society May/June 2012
- Planning permission July 2012
- Fabrication of parts July August 2012
- Construction on site September 2012

People

Overall project management: Gaynor Cox, Bolton at Home

Artist: Liam Curtin

Engineer: Jon Tuson, Bolton Council

Main Contractor: The Canal Society


The site is located at the top of the locks at Nob End
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the old horse bridge

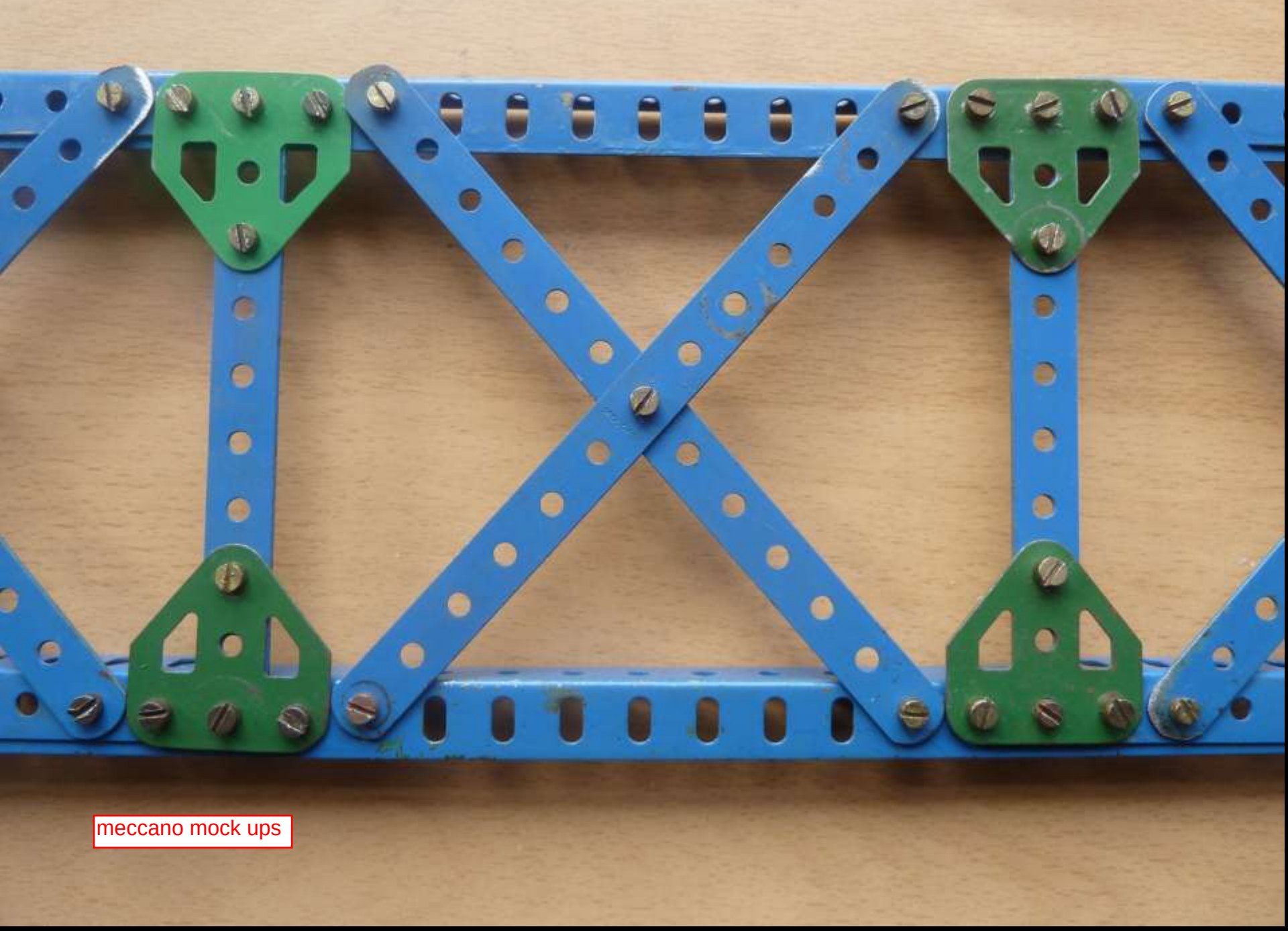
An earlier design for the bridge at Nob End

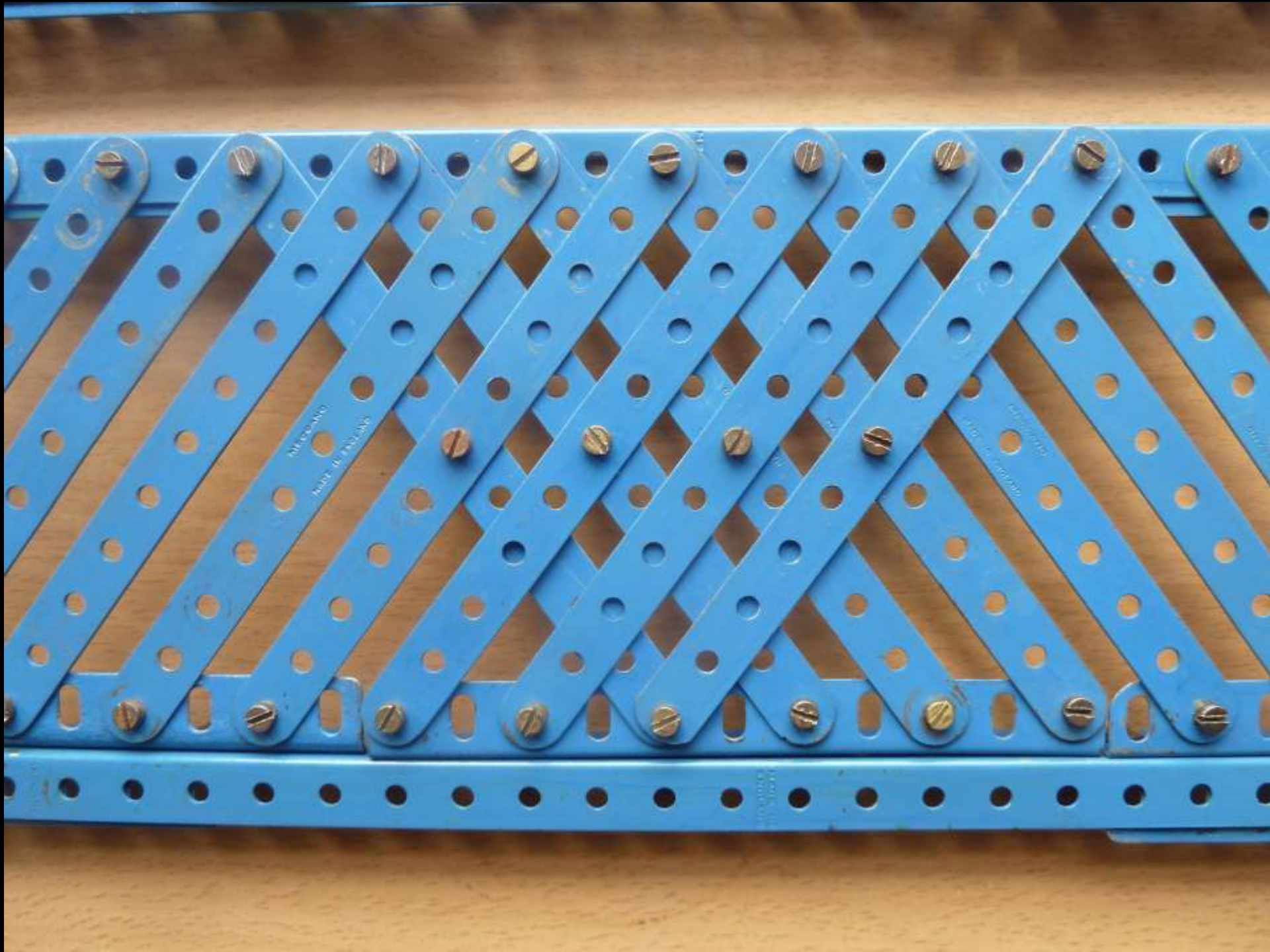
Inspiration for the meccano bridge

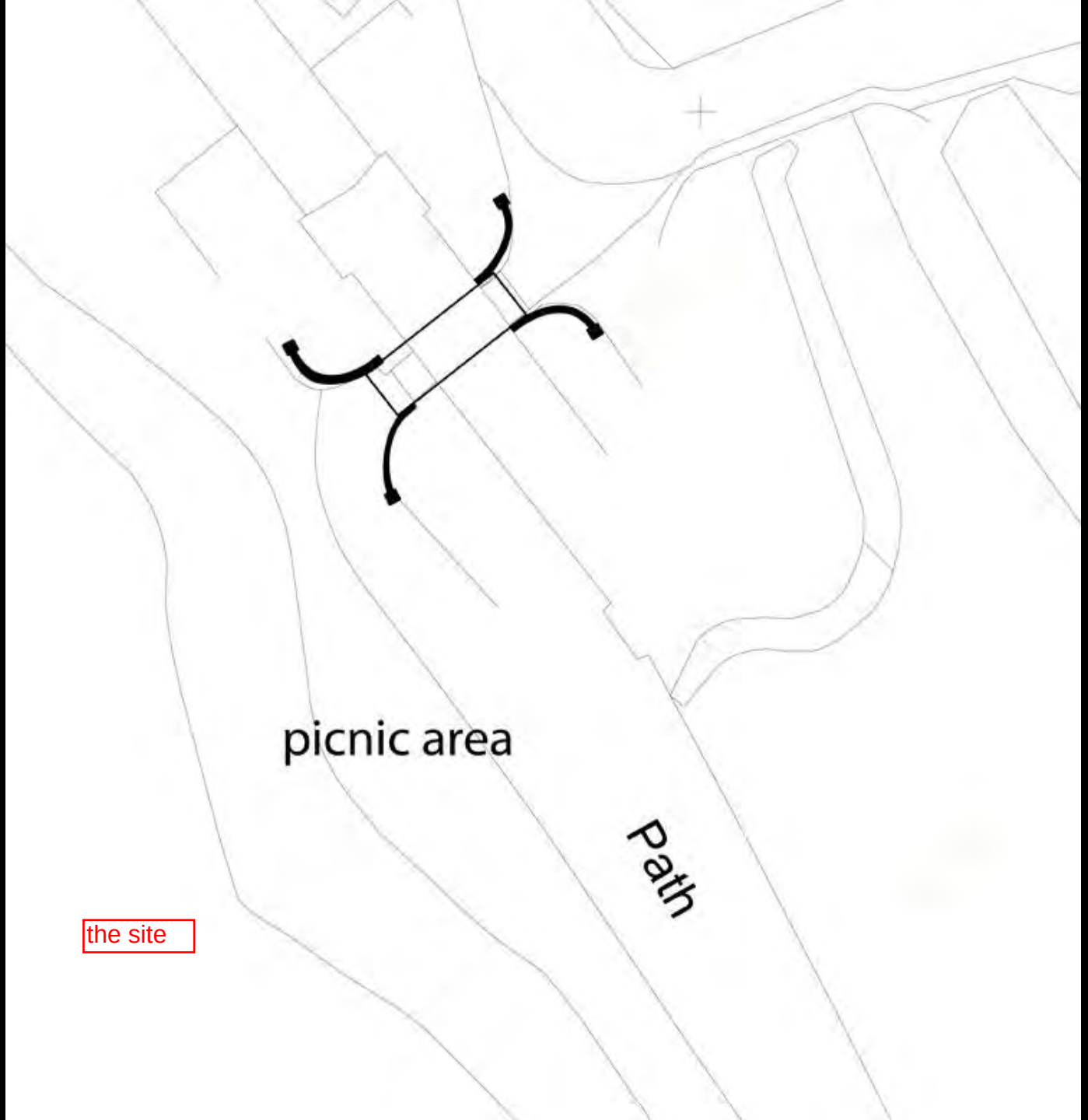
There have been meccano bridges before, including the televised meccano bridge built by James May and engineering students but this was in regular meccano. This proposal uses scaled up meccano, which is a new idea.

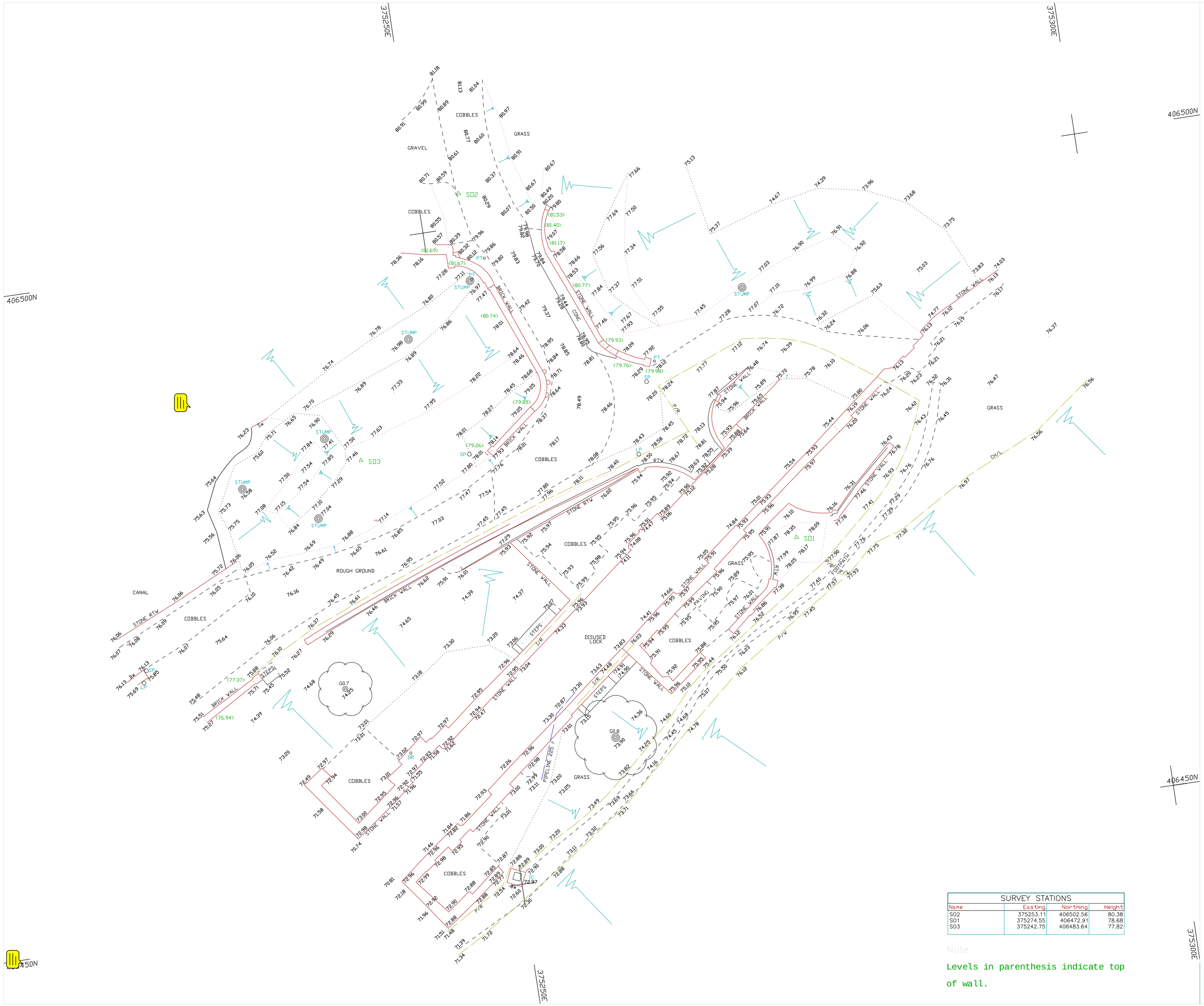
The bridge has been partly inspired by the work of Caus Oldenberg, who scales up everyday objects

See below mock ups of scaled upmeccano


meccano mock ups




picnic area
Path
the site



Note:

The survey is plotted on a plane local Grid. Orientation to National Grid.
All levels relate to Ordnance Datum, achieved using the
OS National GPS Network.
Survey Control Markers established for Mapping purposes only and should not be used for Construction without the written approval of Survey Operations Ltd.

SURVEY STATIONS			
Name	Easting	Northing	Height
SO2	375253.11	406502.56	80.38
SO1	375274.55	406472.91	78.68
SO3	375242.75	406483.64	77.82

Note:

Levels in parenthesis indicate top of wall.

SurveY OPERATIONS

Smith Street, Skelmersdale, Lancs. WN8 8LN
Tel: 01695 725662 Fax: 01695 51816
Email: mail@survops.co.uk — www.survops.co.uk

UKAS QUALITY MANAGEMENT ISO 9001
UKAS ENVIRONMENTAL MANAGEMENT ISO 14001
UKAS MANAGEMENT SYSTEMS OHSAS 18001

Client
Bolton Council

Drawing Title
Topographical Survey of Land at:
Ripples Footbridge
Little Lever
Bolton

Scale(s)	1:200	Surveyor	MP
Date	APR 12	Drawn	JR
Job Number	12C024	Checked	MG

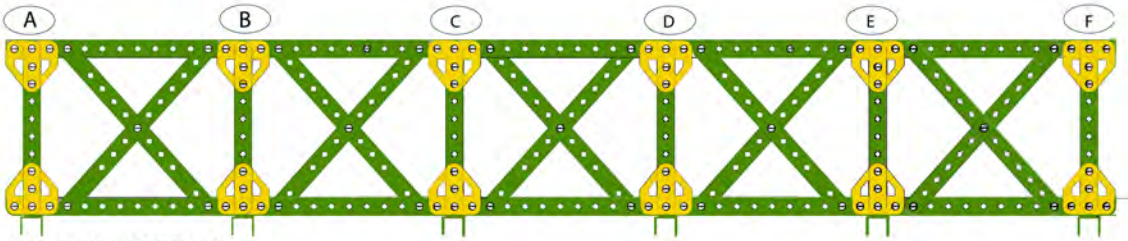
Sheet Size & Drg Number & Revision
A2 12C024/001

the site showing the existing abutments before refurbishing

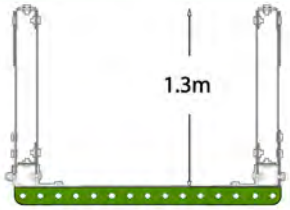
The old horse bridge

Meccano Bridge 23/03/2012
scale 1:10 at full size 1160mm X 1640mm

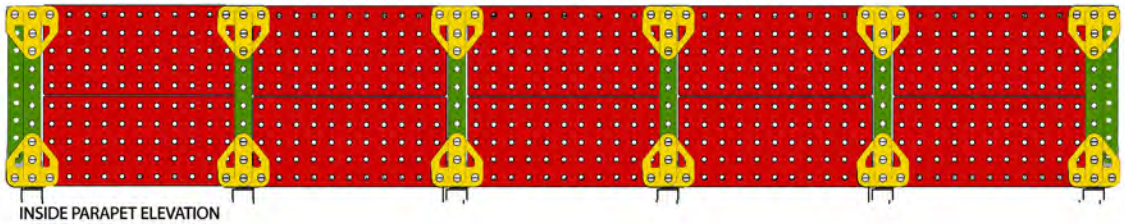
SECTION AT A,B,C,D,E



OUTSIDE PARAPET ELEVATION

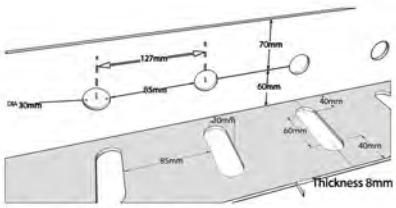


END ELEVATION

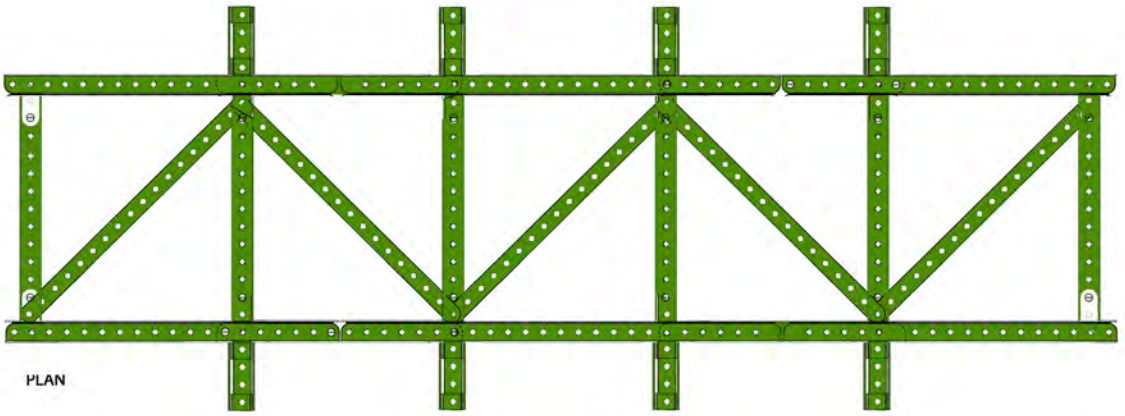


INSIDE PARAPET ELEVATION

8 meteres

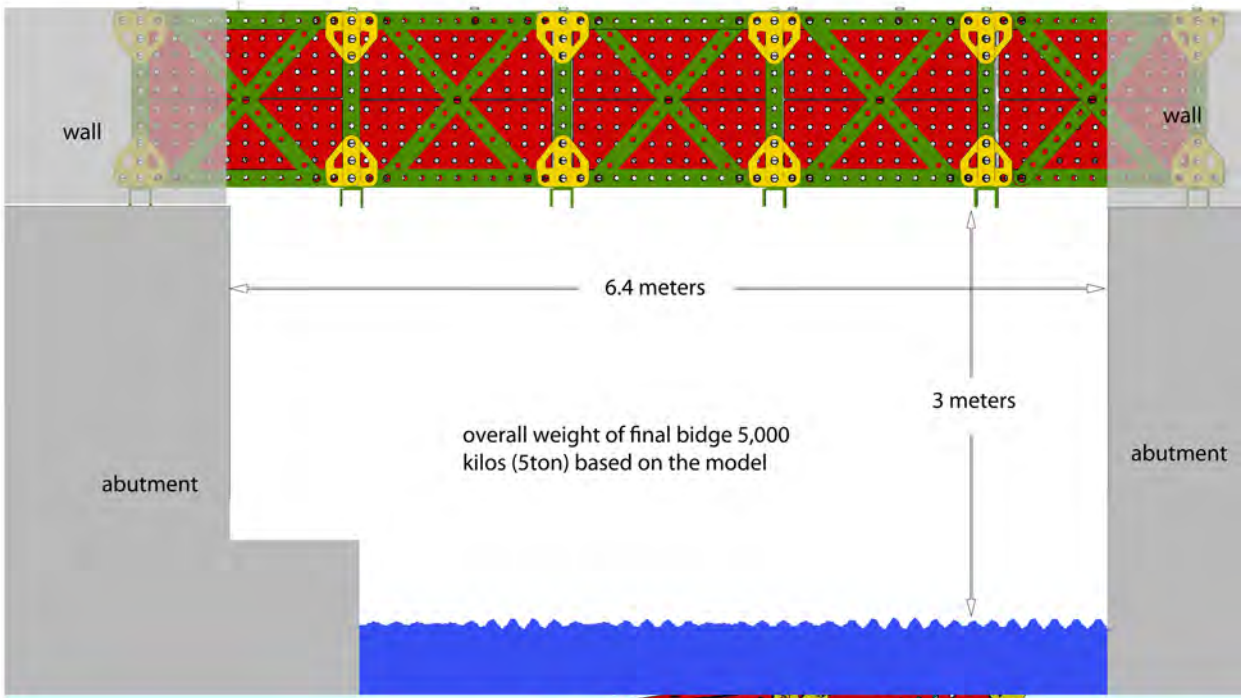


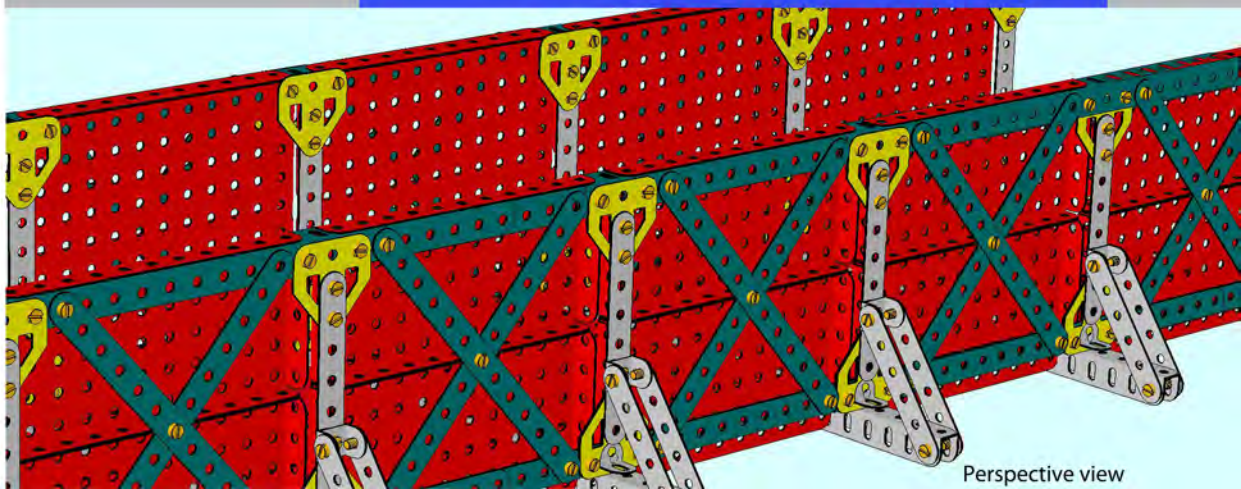
Meccano dimensions
Meccano holes are a half inch apart, the width of meccano strips are also a half inch apart. The above diagram converts this to metric. Its thickness is 0.8mm and so will translate to being 8mm thick at 1:10 scale.



PLAN

The Design





Perspective view

artists impression on site

the form and proportions of the new bridge reflects that of the old horse bridge

model of site as seen in Bolton Museum

material for walkway

picnic bench for picnic area

There have been a number of community engagement projects such as this one in which a floating sculpture made with thousands of cd's was assembled by local people. This project gave the artist an opportunity to get to know local residents.

model bridges were made with local young people - see below.