

FALKIRK, SCOTLAND'S  
**THE KELPIES**



**KELPIES...**

*“ECHO THE GREAT BEASTS  
THAT WORK AMONG US  
UNBRIDLED IN THIS KINGDOM  
BETWEEN CANAL AND FIRTH,  
HERE TO HARNESS THE RIVER  
CARRY EACH WEARY  
TRAVELLER.  
BOW DOWN  
YOUR STRONG HEADS  
TO TASTE THE WATER  
STRETCH UP  
YOUR LONG NECKS  
TO FACE THE SUN  
MIGHTY TWINS OF CARNERA,  
UNBRIDLED IN THIS KINGDOM  
BETWEEN CANAL AND FIRTH,  
SURFACE TO TAKE THE  
STRAIN.  
CLYDESDALES OF THE  
CARRON,  
RARE WILD-MANED KELPIES  
COME TO HARNESS THE  
RIVER  
CARRY EACH WEARY  
TRAVELLER.  
CELEBRATE THEIR STRENGTH  
NEVER FORGET A DEBT OWED  
ECHO THE GREAT BEASTS  
THAT WORK AMONG US*

*BOW DOWN  
YOUR STRONG HEADS  
TO TASTE THE WATER  
STRETCH UP  
YOUR LONG NECKS  
TO FACE THE SUN”*

*~ JIM CARRUTH*

In April this year the Kelpies will finally be open to the public and will undoubtedly become an instantly recognisable landmark that will be visited by many thousands of visitors in the years to come. The journey from the original idea to the completion of the two magnificent heads standing majestically against the Scottish skyline has been a long and fascinating process. The Kelpies stand within a 360 hectare community park known as the Helix, near the town of Falkirk to the west of Edinburgh.

The Kelpies sit either side of a new canal lock on the Forth and Clyde canal creating a gateway into the Scottish lowlands. In 2006 during the early development of The Helix the client partners of Falkirk Council and Scottish Canals felt there was an opportunity to introduce a major piece of public art into the park. The initial proposal was for something

relating to the fabled seahorses of Scottish mythology known as the Kelpies and it was decided to call on Glasgow based sculptor Andy Scott to develop the idea. Scott already had an established reputation for his equine sculptures and he soon produced an initial sketch of his interpretation of the clients brief.

Whilst the Kelpie name has remained, Scott developed the project based upon a monument to the working horses which made a significant contribution to Scotland’s industrial heritage, including the building of the Forth and Clyde canal. Using two Clydesdale horses, Duke and Baron, as models - Scott created two pairs of tenth scale models or maquettes and these were instrumental in securing the Big Lottery funding needed to allow the project to move forward.

To faithfully replicate the original aesthetic of Scott’s work, the maquettes were carefully scanned to create a detailed virtual three dimensional computer surface model of the two heads. Structural engineers Atkins were tasked with turning this computer model into a working structural design and a period of intense calculation and analysis started.

One of the most challenging aspects of the design process was to develop a solution to reproducing Scott’s own unique method of creating his pieces on which he welds hundreds of individual pieces of steel plate to produce that is beautiful and breathes life. The solution was to laser cut much larger stainless steel plates whose profiles with their slots and cut out sections would when installed would create an almost identical aesthetic appearance to the originals.

With a concept design completed, the search for a suitable contractor to build the two 30m high structures began. Award winning UK based specialist contractor SH Structures were initially approached to assist by providing budget and technical guidance and after a rigorous prequalification and tender process secured the contract in January 2011. SH Structures significant contribution to the project started immediately as they were able to undertake the contract on a Design and Build basis and ultimately generate savings of over £750,000 by redesigning the internal structure.

SH Structures’ Tim Burton said, “We have over twenty years of experience of designing, manufacturing and installing complex structures and

love a challenge however the Kelpies soon became something special for our staff. We have developed a fantastic relationship with Scott, who became a regular visitor to our factory during the fabrication process and we feel privileged to have been able to contribute to the successful delivery of this unique artwork.”

Working with international structural engineers SKM the revised design was soon being modelled and the thousands of drawings for all the individual components were being produced and fabrication work started in the SH Structures factory in North Yorkshire. Burton also added, “We build all our projects in large assemblies to minimise the work on site. These assemblies are all accurately measured and trial fitted to each other to ensure they go together first time on the construction site. The job of putting the many assemblies together started in June 2013 and all the careful work in the factory paid dividends with construction taking only 75 days to complete.”

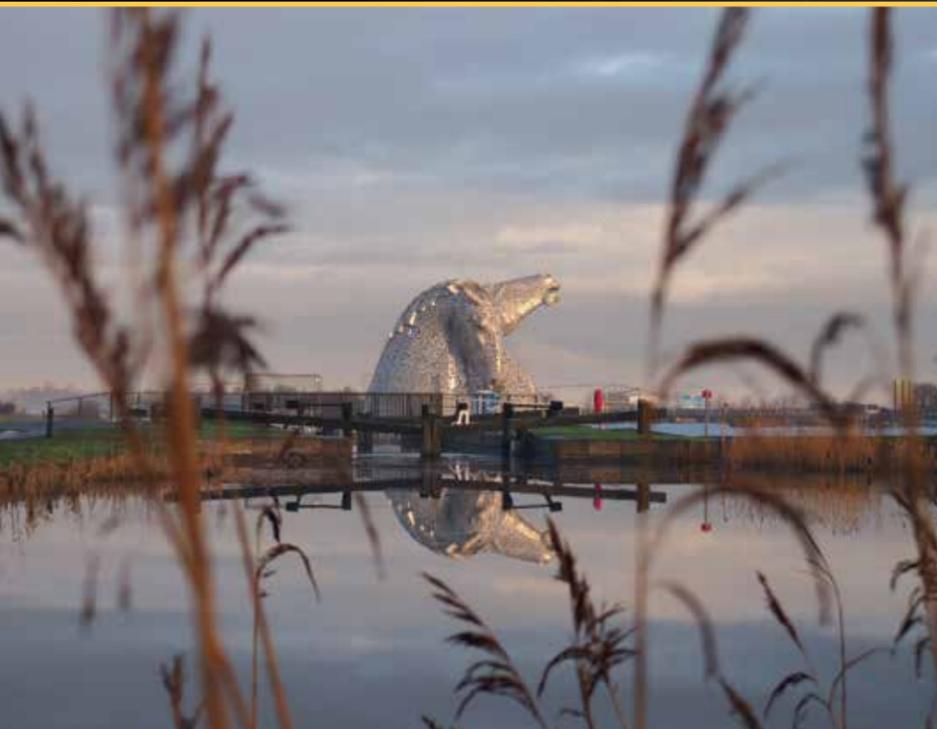
The two massive heads soon began to take shape as each piece was added however it was when the features were added that they suddenly turned from something

inanimate to something whose breath could almost be seen in the cold Scottish air.

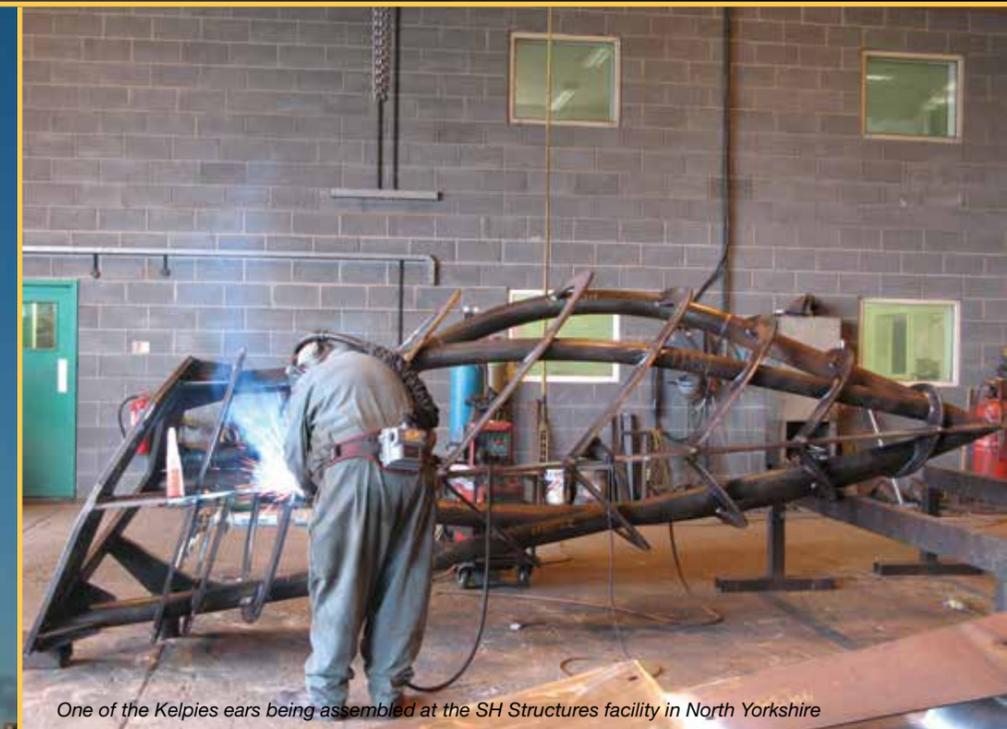
The journey is almost over for the creation of the Kelpies and a new phase begins in April when they are opened to the public. Their presence is already being felt locally as 35,000 motorists pass them daily on the adjacent M9 motorway and worldwide interest has been overwhelming says Tim Burton. This has been very much a collaborative process with a fascinating mixture of the latest computer modelling and analysis techniques alongside the more traditional skills of the steel fabricators and erectors involved in the construction. However it is Andy Scott’s understanding of the horses upon which the Kelpies are based that has created something stunning that will stand magnificently in the Scottish countryside for many years to come. 🇬🇧

[www.shstructures.com](http://www.shstructures.com)  
[www.thekelpies.co.uk](http://www.thekelpies.co.uk)  
[www.thehelix.co.uk](http://www.thehelix.co.uk)

*Images courtesy of SH Structures Limited and The Helix*



*Construction of the Kelpies*



*One of the Kelpies ears being assembled at the SH Structures facility in North Yorkshire*