

“Water Wheel” Gate and Railing- 1 The Old Corn Mill, Gweek, Helston, Cornwall TR12 6UD

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Method Statement

Brief

After visiting 1 The Old Corn Mill (TOCM) on several occasions, I was struck by the scale and beauty of the giant water wheel at the rear of the property.

After some research, I discovered more about its history, its use and the fact that this was the largest mill of its kind in Cornwall.

For me it was clear that the design I'd been commissioned to build on the front of this historic, Grade II listed building should reflect the Wheel, its function, and the effect it had on the water itself.

Being a Blacksmith, I'm familiar with the metalwork styles and techniques that go into some of these historical buildings and wanted to design a piece that reflected the age of TOCM.

My design follows the course of the water flowing from a mill pond, along the mill chase and finally, over the wheel itself, capturing the drama and movement inherent in its design.

The piece will be predominantly made from mild steel with copper elements reflecting the heavy mining in and around this area.

Techniques employed

Hot punching and drifting for all the holes instead of drilling which is exactly how this was done before the invention of the drill bit.

Hot forging and bending to create all the elements in the design, again, using a traditional coal forge.

Hot riveting will be used to join the waves together. This is an incredibly strong traditional joining technique used in all Victorian and Georgian metalwork

Coating

On the advice of Mark Kernick from Kernick Metal finishers based in Penryn, the whole piece will be grit blasted, then sprayed with powder primer and finally sprayed with a black powder top coat. This approach will be both sympathetic to the surface texture of the metal and extremely durable as

the position of the work next to a road and the Helford river requires maximum protection from water and salt.

Installation

Railing

This will be attached and stabilised via three flat posts that will be resined through the coping stones using 12mm holes to avoid disturbing the existing perimeter wall, whilst anchoring the railing down firmly and safely to avoid any movement over time.

Gate

The gate will be attached on one side to the end flat post of the perimeter wall adjoining the railing and on the other side, three 12mm holes will be drilled 100mm deep into the mortar gaps between the quoins of the adjoining storeroom building of TOCM so as not to affect the stonework. Resin will be used to anchor the stainless steel bolts as it does not require friction with the parent material and reduces any pressure on the stonework to almost zero.

At the bottom of each gate post, a 400mm x 150mm circular hole will be dug to secure the gate in place. Each hole will be filled with concrete which is by far the most durable solution.

Once all the anchors have set, the gate and railings can be hung.

The entire process should be between two and four days during which time I'll need access to the client's courtyard garden. The area being worked on is at ground level so there is no need for access scaffolding.

