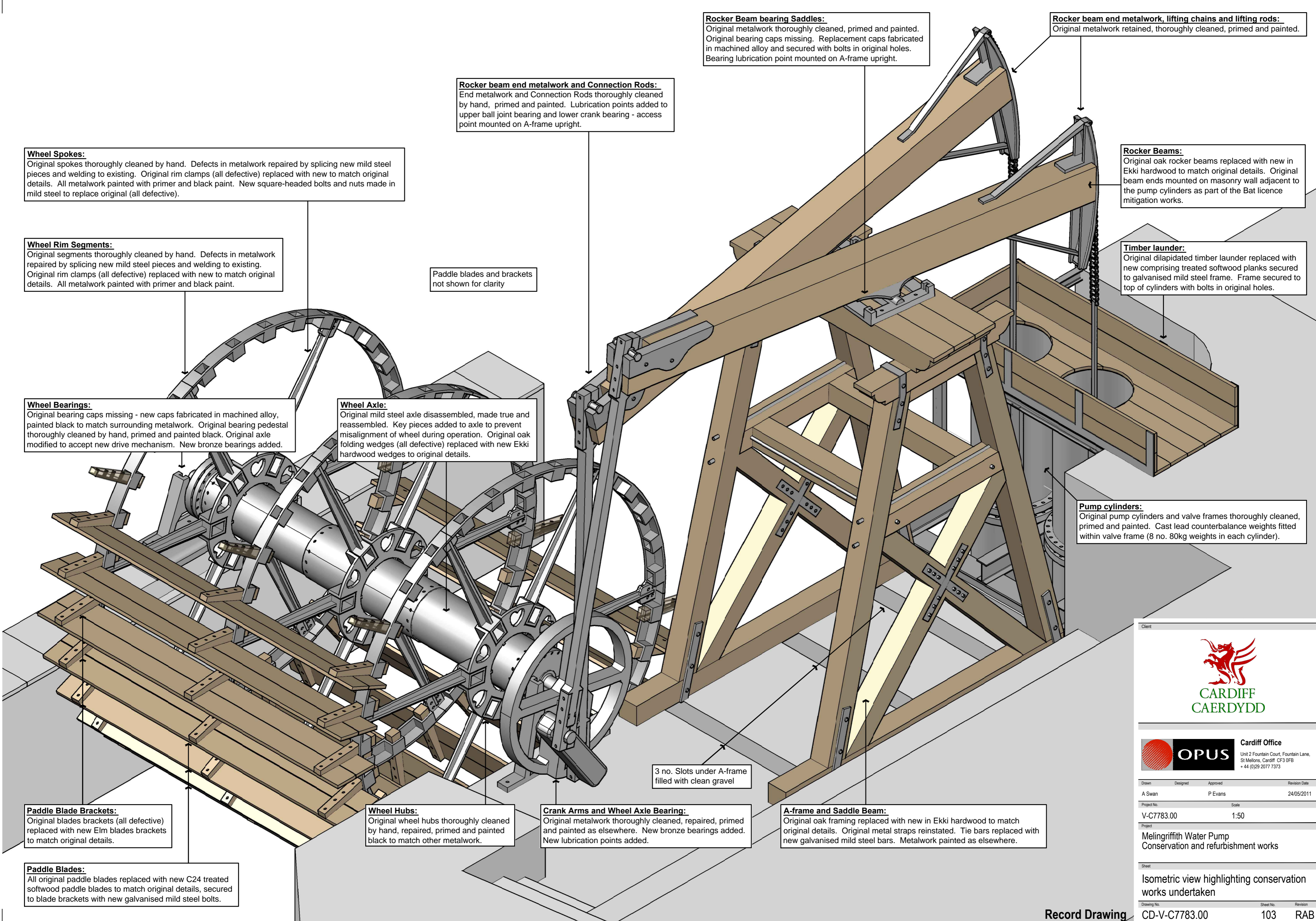


300 mm  
250  
200  
150  
100  
50  
0  
10 mm



**Wheel Spokes:**  
Original spokes thoroughly cleaned by hand. Defects in metalwork repaired by splicing new mild steel pieces and welding to existing. Original rim clamps (all defective) replaced with new to match original details. All metalwork painted with primer and black paint. New square-headed bolts and nuts made in mild steel to replace original (all defective).

**Wheel Rim Segments:**  
Original segments thoroughly cleaned by hand. Defects in metalwork repaired by splicing new mild steel pieces and welding to existing. Original rim clamps (all defective) replaced with new to match original details. All metalwork painted with primer and black paint.

**Wheel Bearings:**  
Original bearing caps missing - new caps fabricated in machined alloy, painted black to match surrounding metalwork. Original bearing pedestal thoroughly cleaned by hand, primed and painted black. Original axle modified to accept new drive mechanism. New bronze bearings added.

**Wheel Axle:**  
Original mild steel axle disassembled, made true and reassembled. Key pieces added to axle to prevent misalignment of wheel during operation. Original oak folding wedges (all defective) replaced with new Ekki hardwood wedges to original details.

Paddle blades and brackets not shown for clarity

**Paddle Blade Brackets:**  
Original blades brackets (all defective) replaced with new Elm blades brackets to match original details.

**Paddle Blades:**  
All original paddle blades replaced with new C24 treated softwood paddle blades to match original details, secured to blade brackets with new galvanised mild steel bolts.

**Wheel Hubs:**  
Original wheel hubs thoroughly cleaned by hand, repaired, primed and painted black to match other metalwork.

**Crank Arms and Wheel Axle Bearing:**  
Original metalwork thoroughly cleaned, repaired, primed and painted as elsewhere. New bronze bearings added. New lubrication points added.

3 no. Slots under A-frame filled with clean gravel

**A-frame and Saddle Beam:**  
Original oak framing replaced with new in Ekki hardwood to match original details. Original metal straps reinstated. Tie bars replaced with new galvanised mild steel bars. Metalwork painted as elsewhere.

**Rocker Beam bearing Saddles:**  
Original metalwork thoroughly cleaned, primed and painted. Original bearing caps missing. Replacement caps fabricated in machined alloy and secured with bolts in original holes. Bearing lubrication point mounted on A-frame upright.

**Rocker beam end metalwork and Connection Rods:**  
End metalwork and Connection Rods thoroughly cleaned by hand, primed and painted. Lubrication points added to upper ball joint bearing and lower crank bearing - access point mounted on A-frame upright.


**Rocker beam end metalwork, lifting chains and lifting rods:**  
Original metalwork retained, thoroughly cleaned, primed and painted.

**Rocker Beams:**  
Original oak rocker beams replaced with new in Ekki hardwood to match original details. Original beam ends mounted on masonry wall adjacent to the pump cylinders as part of the Bat licence mitigation works.

**Timber launder:**  
Original dilapidated timber launder replaced with new comprising treated softwood planks secured to galvanised mild steel frame. Frame secured to top of cylinders with bolts in original holes.

**Pump cylinders:**  
Original pump cylinders and valve frames thoroughly cleaned, primed and painted. Cast lead counterbalance weights fitted within valve frame (8 no. 80kg weights in each cylinder).

Client



**CARDIFF CAERDYDD**

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Drawn	Designed	Approved	Revision Date
A Swan		P Evans	24/05/2011

Project No. V-C7783.00 Scale 1:50

Project Melingriffith Water Pump Conservation and refurbishment works

Sheet

Isometric view highlighting conservation works undertaken

Drawing No.	Sheet No.	Revision
CD-V-C7783.00	103	RAB