

# SITE 85855 – CLUGSTON CONSTRUCTION – WILTON ENERGY FROM WASTE PLANT

As agreed please see below two examples of how the Wilton EfW team's persistent commitment to care for our work force, by using creative working procedures have been successfully carried out.

Due to the turn key nature of the project it was necessary for the civil work to be substantially complete before the design for superstructure and associated fixing details had commenced. Therefore the design called for over 900 rebates at almost, 1m deep, as image 1. These would later need to be roughened to create a mechanical bond with the sequential fill.

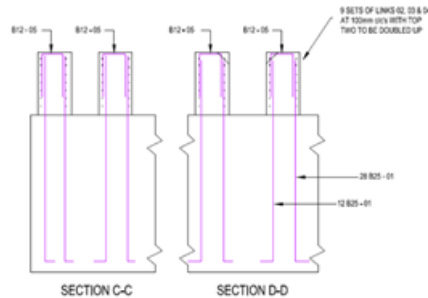


Image 1, sections through standard rebate details (size; 450x550 x850 deep)

In order to entirely eliminate the exposure of our operatives to the hand arm vibration caused by using traditional methods of roughening concrete, the site team explored various techniques leading to us designing and producing prefabricated pocket forms, constructed from expanded metal sheeting with temporary formwork inside, that could be inserted into the plinth prior to concrete placement; with the only the internal sheeting to be removed post pour. As attached image 2.



Image 2, bolt pocket after pouring concrete and removing temporary form.

The bespoke rebate forms resulted in 250 man-days of 'hand arm vibration' totally eliminated.



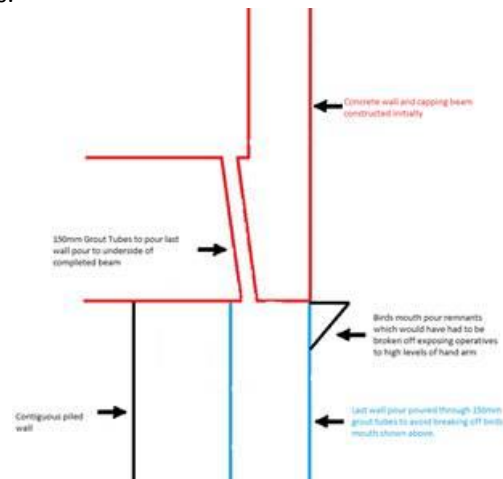
Images 3 and 4, showing some areas of plinths after construction

Secondly; due to growing industry demands driving optimisation of programming, it was necessary to construct the upper walls and cofferdam restraint beam of the 44x20x32m deep bunker before constructing the lower walls, as shown in image 5 below.



Image 5, showing walls above ground progressing prior to lower wall commencement

The common practice for placing concrete to the underside of an existing structure is to construct a bird's mouth with formwork, allowing the concrete to be placed, but leaving a relatively large concrete wedge to remove after striking the formwork, as shown in the sketch below. The resulting wedge removal and making good required demands the use of an array of power tools exposing operatives to high level of hand arm vibration, noise and dust risks.



To eliminate the exposure to the aforementioned risks the site team engineered the solution of pouring through the 2.5m deep concrete beam. To facilitate this 150mm grout tubes were inserted at 900mm centres around the 130m circumference of the capping beam to make it possible to pour the wall without the need for the offending birds mouth to the formwork.

The design team were reluctant to put such development into practice due to the high loads exerted on the beam by the walls above which are up to 1m thick and over 20m high. But through the continual commitment of the site team to the wellbeing of their employees, the aforementioned detail was achieved. In practice it was a complete success, eliminating around 20 man days of exposure to HAV's equipment.