

Honda Car Assembly Plant, Swindon - New Weld SR Pit

Project Profile

Client: Honda of the UK
Manufacturing Ltd

Date: 2009/10

Value: £605k



The construction of a new Weld S.R. pit (64m long x 9.5m wide x 2m deep) in the car assembly plant to facilitate the installation of a new robot weld line.

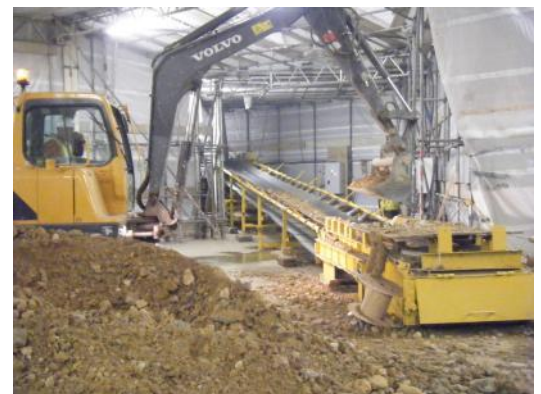
Preliminary containment, screening and dust extraction arrangements within the assembly plant were carried out by Honda in advance of the pit works commencing. Protection of existing floors was also provided along access and pipeline routes.

The location of the work in the centre of the operational assembly plant caused significant access restrictions for the duration of the work, in particular movement of plant and materials. Any plant and vehicle access was restricted to night shift and weekend working with tight controls on number of vehicle movements, dust and floor cleanliness. We were able to accommodate this by establishing a reversible conveyor system to deal with excavated soils and also imported stone. Due to the 'dog-leg' access route alignment 2 separate conveyors were required. The electric powered conveyors, which are from our own plant fleet, removed the need for a large number of dumper movements and were set up to utilise loading dock No 7 which had been allocated as our access point and thus allow discharge and loading of materials outside the factory.

Additionally, all concrete used was pumped into the works area via 150mm dia steel pipeline from the loading dock position. The pipeline route was protected with plywood and polythene in case of spillage together with provision of thrust blocks at bends.

The main work involved;

- Break out and removal of existing floor slab at the pit location—the floor slab was cut into 1.5m square sections using an electric powered floor saw. Water was used to control dust generation which was in turn controlled by the use of wet/dry vacuums. Once the slab was cut into sections and a single lifting eye was drilled and anchored in.
- The floor sections were lifted by tracked excavator and single leg lifting chain and loaded onto a flat bed trailer which was unloaded using an all terrain forklift through loading bay 7.
- Break out existing pits, piles, structures, dock levellers and mass concrete infills below floor slab level.
- The 50m centre section of pit was excavated to 2m deep with the sides safely battered.
- The end 'sump' sections of the pit at were 3.5m deep and required sheeting and frames trench support installation.
- Broken out concrete and excavated soils were removed from the plant by the conveyor system which loaded on to 9 tonne dumpers to cart material to stockpile.



Honda Car Assembly Plant, Swindon - New Weld SR Pit (Cont'd)

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- Diversion of existing 450mm dia surface water sewer below new pit.
- Staged construction of base slabs, service trenches and walls to new pit
- Filling behind new pit walls to underside of floor slabs with type 1 stone delivered into the building using the conveyors
- Constructing new floor slabs around the complete pit area to high tolerances and finish including provision of a 'cast-in' steel angle to slab/pit edges
- Concrete finished using a combination of easy float followed by power float and spraying with 'Permaseal' to protect it and for curing purposes.
- Joints were sawn to the required width depth once the concrete had reached a target strength and then sealant filled.



Following completion of the new Weld line the old SR Line pit was filled with 270m³ of pumped mass fill concrete followed by construction of a new floor slab.

