

Brindley Urban Village Remediation and Highway Improvements Phase 2

Client: PXP Developments

Designers: Wardell Armstrong (Remediation) & Infrastructure Planning & Design (Highway Improvements)

Date: September 2013—October 2014

Value: £1.95m

The 5ha former A1 Trading Estate site in Smethwick, Sandwell, West Midlands had a range of previous industrial uses including foundries, scrap yards and engineering works which has left the soil and ground water contaminated with oil, diesel and other hydrocarbons. Demolition of buildings had already taken place however a multiplicity of slabs, foundations, pits, chambers and pipes remained to be cleared. The site has been fully remediated for a new housing development based on the principle of treatment and re-use of all materials on site, zero waste for disposal and included the use of a Materials Management Plan and following WRAP protocols.

As well as the remediation work we also constructed 2 new highway junctions for the site which included utility diversions, street lighting and traffic signals under Section 38 and Section 278 agreements with Sandwell MBC.

We engaged QDS Remediation to provide technology services for bioremediation of the hydrocarbon contaminated soils under a Mobile Treatment License as well as carrying out on site validation chemical testing. Hydrocarbon contaminated perched ground water was also processed and cleaned in an on-site water treatment plant prior to consented discharge to an adjacent foul sewer.

- Sorting fly tipped waste and removing unsuitable materials from site.
- Treating stands of Japanese Knotweed and removing rhizomes for disposal at a licensed landfill
- Break out 9,000m³ of existing concrete slabs, tarmac surfacing, foundations, pits, retaining walls and other below ground structures followed by crushing of all concrete to 6F2 grading and stockpile on site for re-use
- Creation of a sealed treatment area for the hydrocarbon contaminated soil
- Excavation of 8,000m³ of contaminated hot spots and treatment by bioremediation in windrow bio-piles to allow reuse as suitable engineered fill material
- Installation of an activated carbon water treatment plant to treat contaminated groundwater
- Screening of the excavated oversite fill materials to remove extensive brick & concrete which was subsequently crushed for re-use
- 90,000m³ of site re-grading and re-engineering to form the housing development platforms
- The East side of the site bounds the Birmingham Canal and thus required agreement of working methods with The Canal & River Trust
- Removal of an in-filled canal arm and wharf and sealing this where it crosses the site boundary
- Extensive chemical validation testing of hot spot soils, stockpiled and treated materials and of excavations
- Installation of 15 gas and groundwater monitoring boreholes
- Post remediation validation testing—gas & groundwater, chemical and geotechnical testing



Brindley Urban Village Remediation and Highway Improvements Phase 2 (Cont'd)

2 new highway junctions for the development were constructed under Section 278 & Section 38 highway improvement works. this included;

- Site Clearance
- Earthworks – excavate and fill to design levels – circa 1400 m³ .
- Traffic Management – 2 and 3 way traffic lights and a road closure of Lewisham Road
- Utility diversions to allow construction of new road alignments
- Highway drainage including; 200m x 150mm VC pipe, 4 nr 1200mm manholes & 8nr gullies
- Installation of ducting for new lighting, signing and traffic control
- 210m of kerbing and 230m of edgings
- Pavements – 1000 m² of 250mm depth machine laid base course, 720m² of 40mm machine laid surface course & 600m² of 80mm depth hand laid tarmac to footways.
- 9 Pole Traffic Light signalled junction with associated loops and ducting
- Street lighting – 8nr new aluminium columns and removal of existing lighting columns
- New road signs and road markings
- Anti skid tarmac at junction approaches and coloured tarmac cycleway areas
- Guard Rails and barriers – 27m of vis rail.
- Extensive liaison with Sandwell Council, Utilities and other stakeholders for all traffic management works due to the proximity of the site to West Bromwich Albion Football Club. This required detailed programming and phasing of the works as all traffic management had to be removed for all home games.

