

## 2.0 EXISTING SITE DESCRIPTION

### 2.1 INTRODUCTION

The site is located approximately 1km south west of Widnes town centre, Cheshire at an approximate National Grid Reference (NGR) of SJ 503 844 and is located on the north bank of the River Mersey approximately 1km downstream of the Widnes-Runcorn road bridge (see *Figure 1.1, Section 1*). The site is set in a predominantly industrial area bounded by Desoto Road to the east and Hale Road to the west. To the north the development area is bounded by the A562 arterial route and mainline railway.

The proposed development area is a little over 42 hectares (approximately 101 acres) and comprises three principal areas; the Foundry Lane Estate to the west, the Reclamation Site (or "The Mound") in the centre and the West Bank Dock Estate (also known as the Mathieson Road Site) on the eastern part of the development area. The Foundry Lane and West Bank Dock sites are currently occupied by a range of industrial units whilst the Reclamation Site is vegetated and planted with trees. An aerial photograph of the site and surrounding areas (*Figure 2.1a*) shows the adjacent land uses with the River Mersey to the south and two notable watercourses running across the area (Ditton Brook along the western boundary and Steward's Brook through the centre of the site). The existing site layout is presented in *Figure 2.1b*.

A topographical survey indicates that on the Foundry Lane Estate ground elevations vary across from 7.5m above Ordnance Datum (AOD) in the north east corner to 6.35m in the middle of the site, rising again to 7.5m along the south east boundary adjacent to the reclamation site. Most of the area is between 6.3m and 6.5m AOD.

The reclamation site extends to an area of approximately 19 hectares and comprises an engineered mound of *galigu* covered by a substantial landscaped capping layer. Galigu is an historic by-product of the local chemicals (and particularly alkali) industry, primarily associated with the *Le Blanc* Process. It is principally calcium sulphate but contains numerous contaminants which can include arsenic, mercury and other heavy metals (see Chapter 14 for a fuller description). The Reclamation mound was formed from the reclamation of other sites in the area where galigu was removed and collected in one area to form the current landform. The reclamation site rises above the surrounding land from 7.0m AOD to a maximum height of 28.5m

AOD. It is noted that the Foundry and West Bank Dock parts of the site have also been built up in parts by galigu deposits.

The West Bank Dock Estate slopes from west to east with a maximum elevation of 15.7m AOD in the south west corner falling to 8.68m at the east at the junction with Mathieson Road.

The site's setting can best be characterised as a mixture of heavy and light industrial land uses, but it is recognised that there are potentially sensitive residential areas and habitat sites in the locality that need to be taken into account in the assessment and implementation of the development. The existing site layout plan is presented in at the rear of this section.

The findings of the planning and land use history review (from historical maps) for the various sections of land comprising the site are summarised below and discussed in greater detail in *Sections 5, 6 and 14*. The historical maps are presented in *Appendix 14.1*.

#### West Bank Dock (Mathieson Road) Estate

The historic 1849 Lancashire and Furness map shows the Mathieson Road Estate land as part the undeveloped Widnes Marsh which is "covered at Spring Tides". By 1896, however, the map records indicate the existence of a satinite works, a saw mill and the "Widnes Pottery" on the northern section of the site. The "O'Connor site" to the north of AHC's Mathieson Road Estate is noted as being occupied by the Mathieson (Chemical) Works which produced sodium carbonate for the soap industry using the Leblanc process. It is known that waste products from the Leblanc process, colloquially known as galigu, were deposited over the wider site and survey maps of 1927 & 1928 appear to indicate that ground levels in Ditton Marsh had been raised in this period.

The Satinite Works, Saw Mill and Pottery are still in existence on the southern section of the site in the late 1920's. However, the Mathieson Works are referred to as the Marsh Works on the 1928 Lancashire and Furness map, possibly coinciding with the transfer of the site's ownership to ICI. The site was then used for chemical industry related activities for the next fifty years. The Ordnance Survey Plan of 1968 still records the existence of the Satinite Works buildings and Craigs Saw Mills on the Mathieson Estate site although the Widnes Pottery building appears to have disappeared. By 1982, OS coverage first notes the former Saw Mills site in use as a depot and it is known that the site transferred to Hutchinsons around this time. It should be noted that the Hutchinson Estate and Dock Company had been operating from Widnes since the mid-

nineteenth century. Hutchinson's erected a number of new warehouses on the site during the 1980s, after which the site was purchased by Albert Constable who set up AHC Services.

The Mathieson Road Estate now consists of three parcels of land and/or buildings divided by the Mathieson and Ronan Roads that run approximately east-west through the Estate. The northern-most section, *i.e.* north of Mathieson Road, is mainly in warehouse use (B8 Storage & Distribution use) with AHC's ancillary office (B1 use) and truck servicing facilities.

The central section between Mathieson Road and Ronan Road is also largely in B8 warehousing use although there are several blending and/or mixing units, which could fall into the B2 (General Industry) Use Class, as well as a B1 office building.

The third parcel, to the south of Ronan Road, has been partially bunded at its southern edge and is currently used for parking ancillary to AHC (Warehousing)'s operation. AHC (Warehousing) did obtain planning consent for a large 10,776 sqm warehouse on this piece of land in May 1992 (HBC Plan. App. Ref. 91/00563/FUL) but HBC consider that the permission is no longer extant. Nevertheless, it is clear that, for the Mathieson Road Estate as a whole, the primary existing use is B8 Storage and Distribution with a quantity of B1 offices and, possibly, a small element of B2 General Industry. These uses accord with the allocation for the site as a strategic rail freight park in the Halton Unitary Development Plan (UDP).

#### **The Reclamation Mound**

During the latter half of the nineteenth century, it is known that the area of Ditton Marsh now occupied by the Mound, in common with other areas to the east and within the wider Widnes area, was used for the deposition of galigu. As mentioned above, survey maps of 1927 and 1928 record raised ground levels in Ditton Marsh. By the 1960s, Ordnance Survey coverage indicates the site was used as a hard standing (served by rail) for the storage of timber associated with a saw mill located on the Foundry Lane Estate immediately to the north west.

In 1990, when in use as a timber yard, the site was subject to an exceptional flood event which deposited stacked timber over the surrounding area and this is supported by photographic records. From 1995-98, Halton Borough Council and the freehold owners, Cheshire County Council, undertook a large scale reclamation of the site. Following the insertion of sheet piling to protect the Ditton and Steward's Brooks and increase flood defence levels, galigu waste from surrounding areas was heaped on the existing hard standing and shaped to create a

steep sided mound with an extensive plateau at its summit. This mound was then capped with clay, top-soil and planted to provide the green hill visible today.

#### **The Foundry Lane Estate**

Unlike the adjacent Mound reclamation site to the south east and other surrounding areas, it is not thought that the Foundry Lane Estate site was used for the depositing of galigu waste during the nineteenth century and none was found during investigation undertaken for this EIA. In 1849, the Lancashire and Furness map appears to show the area as largely undeveloped land lying to the north east of Ditton Marsh. There are records of the northern half of the Estate having been used as a "Cement Works" by 1893 but this use appears to have ceased by 1907 when it is described as "disused". By 1928 map coverage shows the area of the former "Cement Works" in use as a "Tar Works" and a "Manure Works", with the southern section laid down as "Allotment Gardens".

By the 1958, the Ordnance Survey Plan indicates the whole of the Estate was in use as a Timber Yard, including timber treatment works, with railway lines running into the northern section and either side of the saw mill buildings. This use gradually intensified over subsequent years. In 1993 the Environment Agency installed a sheet-piled flood defence wall along the northern bank of Ditton Brook on the western boundary of the site. The present day warehouses echo the position of several of the former saw mill buildings which were in the ownership of Meyer Forest Products Ltd when the reclamation works began on the adjacent timber storage area in 1996. By 1997 several of the larger saw mill buildings were refurbished and used for the storage of tinned foodstuffs, packet soup and soap powder. When AHC (Warehousing) Ltd took ownership of the Foundry Lane Estate in the late 1990s, they instructed WS Atkins Consultants to prepare an Environmental Liability Assessment for both the Foundry Lane and Mathieson Road Estates. Subsequently, the northern-most buildings were partly demolished and a 15,300 sqm building with an eaves height of approximately 13m was erected (HBC Planning App. Ref. 02/00498). This building is currently let under a long-term lease to Rehau (DHL) and is also known as the Exel Building. A recently constructed railhead occupies the northern part of the Foundry Lane Estate and a further line runs parallel to Ditton Brook.

It is generally accepted that the existing use of the Foundry Lane Estate falls within Use Class B8 (Storage and Distribution) and conforms to current planning policies within the Halton Local Plan and UDP.

## 2.2 BASELINE ENVIRONMENTAL CONDITIONS

The key baseline environmental conditions for the study area are described briefly in the following subsections. Note that this is a brief overview to allow familiarisation with the current site and associated issues. More detailed descriptions and substantive discussions are provided in the main ES sections that follow.

### Archaeology and Cultural Heritage

Most of the identifiable sites within the proposed development area relate to its industrial development since the late 19th century. However, the majority of these have been demolished and replaced by development of the area since 1950 and the area retains little evidence of its industrial heritage. From the mid-19th century much of the area was used for the disposal of chemical waste which still covers much of the area. The Cheshire Sites and Monuments Record identifies a number of sites located within the proposed development area, namely Ditton Marsh Cement Works, Widnes Pottery, Satinite Works, a cement works and 'Craig's Saw Mill.

Prior to its industrialisation the area was occupied by salt marsh crossed by the Ditton and Steward's Brooks and subject to periodic flooding by the Mersey. Map evidence suggests that the area was not occupied during the later medieval and post-medieval periods. However, the site does have potential for the presence of peat and/or alluvial deposits dating to the Roman and earlier periods. There is also the possibility that the silts of Ditton Brook, adjacent to the site, contain remains relating to Roman transport networks and finds made in the 19th century suggest that the peat may retain evidence for early medieval settlement. In addition, these deposits are likely to retain significant material such as pollen relating to the contemporary environment.

It is considered the site may contain remains of at least local importance, although it is possible that the deposits of peat contain evidence of potential regional significance. Note however that these deposits are deeply buried by largely contaminated made ground and are at depths of at least 3m below the present ground surface.

### Air Quality and Climate

Within the Borough of Halton there are numerous industrial processes which result in emissions to air. Additionally there are a number of roads where traffic flows exceed 10,000 per day which could give rise to elevated pollution levels.

Given the location of the proposed development, baseline air pollution levels are considered to be typical of urban/industrial background. There are a large number of industrial operations in the study area that are subject to Integrated Pollution Control (IPC), Integrated Pollution Prevention and Control (IPPC) or Local Authority Air Pollution Control (LAAPC).

During the initial round of assessment carried out by Halton Borough Council (HBC) as part of its duties as the Competent Authority for air quality in the Borough, it was concluded that there would be no breaches of the air quality objectives for Carbon Monoxide, Benzene, 1,3-Butadiene and Lead. With regards to the objectives for Nitrogen Dioxide, Sulphur Dioxide and PM<sub>10</sub> (respirable particulate matter) these were likely to be achieved throughout the whole borough except in two 'hotspot' areas where the risk of breaching the objectives was identified to both vehicle and industrial emissions. The first location was a 50m corridor along the Runcorn-Widnes Bridge approach roads and the second included two industrial boiler plants on the West Bank Dock Industrial Estate. Both are located to the east of the proposed development site.

Two potentially sensitive receptors, West Bank School and All Saints School, are considered in this assessment. Both are exposed to prevailing westerly winds, which blow along the Mersey Estuary, helping to disperse and dilute emissions from local sources. Data from local monitoring sites indicates that there will be no breaches of the UK objective levels within Halton.

Specifically in relation to the site and its immediate surroundings, there are occasional strong odours from the PDM rendering plant and from Steward's Brook along the stretch that borders the HEDCO site. This is believed to be due to chemical reactions between leachate derived from the HEDCO landfill and pollutants already within the brook water. This stretch of brook has an odour masking spray system in operation to try and limit this odour nuisance.

### COMAH Sites

Widnes has a long industrial history particularly associated with the chemicals industry. Several of these chemical plants that remain in operation maintain large inventories of chemicals that

bring them in to the Control of Major Accidents and Hazards (COMAH) Regulations. According to the Halton Borough Council Major Incidents Plan there are six top tier COMAH sites in Widnes, one of which, Tessengerlo, was formerly located adjacent to the site. This has now been demolished and no longer remains, although the listing of the site as a COMAH site has not yet been rescinded and thus the development is still technically within the consultation zone. The site does not lie in the consultation zone of any other COMAH sites.

### **Ecology and Nature Conservation**

The site is located about 150 metres to the north of the Mersey Estuary, which is designated as a Site of Special Scientific Interest (SSSI), a Special Protection Area (SPA) and as a Wetland of International Importance under the Ramsar Convention. The Estuary comprises large areas of intertidal sand and mudflats together with areas of reclaimed marshland, saltmarsh, brackish marshes and boulder clay cliffs with freshwater seepages. It is one of the key estuaries in the UK for wintering waterfowl. It supports internationally important numbers of five regularly occurring migratory waterfowl in winter. The proximity to the Mersey Estuary is therefore a key issue with respect to ecology and nature conservation. The development site itself is less important from a nature conservation perspective, but nonetheless requires consideration in this regard. It supports several locally uncommon plant species, including at least two species of orchid, due in large part to the high pH and contaminated soils on the site.

The Reclamation Site (Mound), although created comparatively recently, is beginning to develop some habitat structure and supports a range of bird species including skylark, a UK and Local Biodiversity Action Plan priority species. The meadow area on the Mound has a moderately diverse flora and may be an important invertebrate habitat.

Ditton Brook, which flows along the western boundary of the site, although classified as polluted and Class E, supports a good cover of saltmarsh, reedbed, emergent, tall herb and scrub vegetation along its banks. Saltmarsh and reedbed are priority habitats in the Cheshire and Halton Local Biodiversity Action Plans. Areas of inter-tidal mud are exposed along the channel bottom at low tide. Mudflats are listed as a priority habitat in the Cheshire Biodiversity Action Plan. The Brook is the largest freshwater feed into the north side of the Mersey basin and as such is considered to be an important factor influencing the ecology of the Estuary. It supports a typical brackish water creek fauna and is used, to a limited extent, by waterfowl from the Mersey Estuary.

Steward's Brook flows through the site, but is highly contaminated from discharges received from upstream sources (notably St Michael's Golf Course which is built on chemical waste deposits). Work is ongoing by HBC and the Environment Agency to remediate this source area and there are also plans to collect and treat leachate flowing out of the HEDCO landfill into the brook, but the stream itself is unlikely to provide a substantive habitat in the short to medium term.

### **Landscape and Visual Character**

The existing site and the surrounding area have an overall large scale, often degraded, industrial landscape character with low visual quality, low value and low sensitivity to change. The Mound and the two watercourses are of moderate quality and sensitivity, although none of the sites have any public access.

There are few views into the area. The main views are from the mainline railway to the north and east. Restricted views from Hale Bank, particularly from the upper levels of housing, are also possible although this has not been confirmed.

The Reclamation Mound and the adjacent Hutchinson Hill form a distinctive local character area due to their height and green and wooded nature and have moderate visual quality. The courses of Steward's Brook and Ditton Brook are important green features with interesting ecology providing wildlife corridors and have moderate visual quality.

The Railway Corridor on the north and east boundaries is a busy elevated main line with some lineside vegetation forming a strong visual barrier. The site entrance area consists mainly of the entrance road from the DeSoto Road roundabout with some narrow grass verges and roadside trees. This area has a moderate visual quality. The industrial area including the hardstandings, roads and railways on the remainder of the site are gritty, degraded, utilitarian areas with very few green areas or trees and has low visual quality.

### **Night Light**

Nightlight is provided by the large warehouses and office buildings that currently exist on the site and the nearby PDM Rendering facility.

The light intensity given off from the site and immediate surroundings is relatively subdued compared to the general dominance of light scatter from the main conurbations of Liverpool,

Runcorn and Widnes, and from the Widnes – Runcorn Bridge, which is a dominant light feature at night.

### **Noise and Vibration**

The main noise and vibration impacts from the site involve substantial traffic movements (road and rail) and loading and unloading of vehicles associated with current site and adjacent site operations. The noise characteristics of the site setting are a reflection of its industrial nature and proximity to major arterial transport routes such as the main access approach to the Widnes – Runcorn Bridge and the Liverpool Main Line Railway.

This is not considered to be a particularly noise sensitive environment although it is recognised that there are local residential areas that could be impacted by noise.

### **Socio-economic Activities**

The current use of the site provides limited employment opportunities in work activities across the site. Unemployment is a feature of the local community and there has been a period of economic decline in the area in past decades, although there have also been notable improvements and attempts at investment in job creating activities in recent times also.

The site and immediate surroundings are industrial in nature but there are residential communities on the periphery of these and within the main urban area of Widnes. The economic health of local industry and commerce has a direct influence on local employment opportunities and unemployment levels.

### **Soils, Geology and Land Contamination**

There is considerable historical contamination within the made ground beneath the site. The presence of galigu is already a known feature of many areas of the site and the presence of a timber yard led to compounds such as creosote, preservatives and pesticides being used on site. Activities relating to the use of the site for chemical industrial activities, tar works, animal processing (fleshing) and waste disposal may have produced hot spots of coal tars, oils,

lubricants, acids, metal bearing salts, solvents, asbestos and animal wastes. Other industrial waste products such as clinker and ash are also likely to have been produced or disposed of on site.

A comprehensive site investigation undertaken for the previous planning application has shown that there is a substantial presence of galigu in the central and eastern areas of the site (underlain in places by gas works/phenolic hydrocarbon wastes). There are also isolated incidences of elevated metals and metalloid species and petroleum hydrocarbons. The groundwater beneath the site also appears to have been impacted to varying degrees.

Below the made ground the site is underlain by alluvial deposits and below those is Glacial Till overlying weathered Triassic Sandstone (the base of the Till is represented by a thin band of sands and gravels). The depth of the sandstone bedrock varies from around 12m below ground level at the western end of the site to in excess of 45m at the eastern end of the site. The site is believed to sit over a palaeo-glacial channel of the Mersey and effectively straddles one side of an ancient steep sided valley in the sandstone.

The current ground coverage is a mixture of hard-standing (built development) and unsurfaced exposed made ground, with galigu being evident at the surface in places.

### **Traffic and Transport**

The site is accessed via a number of private roads including:

- MacDermott Road;
- Mathieson Road;
- Ronan Road;
- Vickers Road;
- Dock Road; and
- Desoto Road (south).

All of these private roads are currently accessed via the roundabout junction at Desoto Road/MacDermott Road and are generally in a poor condition. MacDermott Road and Desoto Road link the private industrial roads to the local and strategic road network.

Access to the motorway network is via the A562 Queensway and A5300 to junction 6 of the M62 (to the northwest) or the A557 and Junction 7 of the M62 (to the northeast).

Currently there is one railway line onto the site, which is used for periodic freight movements with the majority of freight accessing and leaving the site via HGVs. Site personnel generally access the site in private vehicles.

### **Sustainability**

The current use of the site does not accord with sustainability principles as it comprises ad-hoc development implemented over a number of years and associated ad-hoc construction materials, transport arrangements and wastes management. Also many areas of the site are unused or poorly utilised.

### **Water Quality, Hydrology and Flooding**

Part of the site lies within the natural tidal flood plain and notionally there is a potential flood risk, but the Environment Agency (and/or its predecessors) has installed flood defences over the years and the current flood risk is very low. Ditton Brook runs along the western boundary of the Foundry Lane site and is tidal along this reach where it runs in a 20m wide channel. Steward's Brook runs along the southern boundary of the Reclamation Site and is controlled by a tidal flap upstream. This brook also runs adjacent to the western boundary of West Bank Dock site (i.e. bisects the development area). A small channel, Marsh Brook, runs along the eastern margin of the West Bank Dock site to the east of Desoto Road. This previously received numerous discharges from the Tessenderlo chemical facility (no longer present).

Several groundwater bodies have been identified including perched water within the made ground, water in sand and gravel bands within drift deposits and water within the Triassic sandstone (Major Aquifer). It appears from studies performed for the previous EIA that some of the groundwater beneath the site is tidally influenced and all the groundwater show evidence of contamination, to varying degrees.

Large parts of the site are unsurfaced and therefore allow the infiltration of rainwater through contaminated soils and consequent leaching of contaminants to the groundwater horizons within the site, some of which are in continuity with the Brooks.

### **Waste Management**

The current site activities generate a range of waste materials, both hazardous and non-hazardous, although not in substantial quantities. Currently the storage and management of these materials is ad-hoc. The waste streams have not been quantified but are typical of warehousing type development in that there are a number of skips for general wastes, scrap metal, cardboard, *etc.* Generally the individual tenants manage their own wastes to varying standards. There are no large volume hazardous waste producers on the site.

Under current site usage the contaminated soils on the site will remain in-situ and undisturbed by site activities, although these are disturbed periodically by ad-hoc development and minor civils works.

### **Summary**

The current site is characterised by ad-hoc warehousing development and infrastructure that utilises some of the site but leaves large parts un-utilised. The environmental conditions on the site are generally poor, although comparable to other sites in the area, in that the soils, groundwater and surface waters are contaminated to varying degrees and the potential for habitats to exist is limited.

The remaining sections of the ES discuss each of the above issues in detail and use them as the baseline against which potential impacts associated with the development have been assessed.