

**North Tees Remediation Limited  
Reclamation Pond  
Phase 4 Development - Waste Recovery Plan  
Non-Technical Summary**

## **1 INTRODUCTION**

This document comprises the non-technical summary for a Waste Recovery Plan for the infilling of Phase 4 of Reclamation Pond, Huntsman Drive, Port Clarence, Stockton-On-Tees, TS2 1TT.

The waste recovery plan details work to facilitate the construction of a development platform. The construction will utilise both site won material and imported waste for recovery to provide a stable engineered platform for future industrial development which will be suitable for industrial uses

## **2 SITE DEVELOPMENT**

The formation of the development platform requires upfill of a low lying drained area which was a former industrial reservoir to create a development platform. Upfilling is required to mitigate flooding risk and provide a suitable foundation for the development platform.

The platform requires materials as detailed in Table 1.

**Table 1 Proposed Upfill Materials**

Layer	Approximate depths	Purpose /Design Issues
Surfacing	0.5m thick	Surface protection / running layer with control on maximum particle size for future service installation
Bulk fill	Up to 3.8m thick	Selection of material needs to consider fill availability, economics and future earthworks platform properties
Starter Layer	Up to 0.7m above former pond base.	Provide a stable layer for subsequent fill utilising existing site won material. Note this layer is expected to punch in to soft ground to a depth of upto 2m

The Environment Agency have assessed the site as suitable for Recovery of waste with appropriate specification.

## **3 ASSESSMENTS**

### **3.1 Environmental Risk Assessment**

An Environmental Risk Assessment covered matters such as Amenity and Accidents; Emissions to Surface Water and Air, Site Waste Management and Global Warming Potential.

The assessment found Amenity issues such as dust and noise will require standard control measures. Potential accidents from fuel storage and plant fuelling will require standard control measures to mitigate risk to soil groundwater and surface waters. Surface waters will be protected

throughout the works with control measures in place to minimise the risk of contamination. The risk to air quality from the proposed waste recovery activity is negligible. The site will import suitable waste materials for recovery. Accordingly, other than limited quantities of waste from site offices the site will not produce waste for offsite disposal. The risk to global climate change from the proposed waste recovery activity is considered negligible given the limited plant and equipment required. Overall the assessment finds the risk to the environment to be negligible to low.

### **3.2 Risk to Controlled Waters**

Assessment has been carried out to assess the impact on groundwater and using this data, existing contaminants of concern for the wider area have been identified, and background concentrations established in the controlled waters and used to derive background chemistry defined Environmental Assessment Limits (EAL) for use in the infilling activity.

The approach to generating Controlled Waters Criteria for Phase 4 follows that which was previously employed as outlined in the development of Phase 1-3

### **3.3 Risk to Human Health**

The risk to human health utilised published soil guideline values and CLEA derived Generic Assessment Criteria updated to reflect Defra's recent C4SL guidance for the assessment of material suitability in respect of Human Health (in a commercial/industrial setting). The Material Acceptance Criteria defined suitability of materials for recovery.

### **3.4 Habitats Risk Assessment**

A habitats risk assessment was undertaken, the assessment included a Stage One Screening, and a Stage Two: appropriate assessment

A proportion of interests were screened-out at Stage One, following a conclusion of No Likely Significant Effects before mitigation. Those remaining interests were taken forward for Appropriate Assessment. where mitigation measures to be put in place were detailed. These measures are designed to ensure there are no significant effects affecting the integrity of the European sites.

### **3.5 Site Condition Report**

A compendium of existing site data, along with the review of results of the 2018 ground investigation has been undertaken, allowing base line information at the time of permit to be established.

### **3.6 Environmental Setting and Site Design**

A review of the Environmental setting and site design has been undertaken. These are discussed more in section 4 of the non technical summary.

### **3.7 Technically Competent Person**

The site will be managed by a technically competent person with appropriate qualifications to meet the minimum standards of inert landfill management.

### **3.8 Environmental Management System**

North Tees Limited are currently preparing the environmental management system for the site to meet recognised environmental BSEN ISO 9001, BSEN ISO 14001 *and* BS OHSAS 18001 and intend to utilise this system and apply for registration for the company. All procedures will be in place prior to operation.

## **4 ENGINEERING DESIGN**

### **4.1 Design Criteria**

#### Ground Conditions

The area in which the site is located was formerly part of the Seal Sands estuarine mudflat, close to the tidal upper reach.

The site lies within a wider area of Reclaimed (Made) Ground, which has been reclaimed primarily with slag material from past Iron and Steel Foundries in the area.

Geological maps of the area indicate the area is underlain by estuarine and marine alluvial sediments. Beneath this geological mapping for the area indicates the drift deposits are underlain by mudstones and sandstones of the Triassic Mercia Mudstone Group.

#### Hydrology and Hydrogeology

The nearest surface water bodies to the site are Dorman's Pool and Salthome marshes to the west. Surface waters from Dorman's Pool flow into the Reclamation Pond through a sluice situated to the west and travel along a culvert and man made channel. Waters from the Reclamation Pond subsequently flow out to the River Tees through an outfall channel to the south east of the site.

Grounwater flows in the area are to the south east towards the river tees.

### **4.2 Earthworks Design**

A stable platform for development is required. Materials will be assessed using Specification for Highway Works. A summary of potential materials and their details is provided below in Table 2.

Table 2 Summary of Materials

Layer	Level	Purpose /Design Issues	Material Specification	Volume m <sup>3</sup>	Tonnage	Comments
Surface Layer	6.01-5.51m AOD	Surface protection / running layer with control on maximum particle size for future service installation	SHW Class 1A1,1B,6F1,2,3,4,5	132,240	264,480	Recovered waste and aggregates from on site aggregate recovery facility.
Bulk fill	5.51-1.7m AOD	Selection of material needs to consider fill availability, economics and future earthworks platform properties	SHW General Fill Class 1A,B, C, 2A,B,C and D	754,137	1,508,274	Recovered Waste
Starter Layer	Up to 1.70m AOD	Provide a Stable layer for subsequent fill May be inundated by Groundwater	SHW Class 6A	186,371	372,742	Site won material includes material punched into silts to stabilise surface.

The total volume of materials required is 1,072,948m<sup>3</sup> of which 186,371m<sup>3</sup> is available on site. Therefore, the materials to be imported is 886,377m<sup>3</sup>. The fill material will be placed in layers to ensure stability

### 4.3 Drainage

Proposed drainage comprises an extension to the existing culvert and Formation of a detention basin prior to discharge to the River Tees. The installation of the culvert extension replaces the open ditch through the development platform area. It is also proposed to develop a detention basin to store water prior to discharge to the river tees to settle out and sediment that is collected.

## 5 WASTE ACCEPTANCE PROCEDURES AND ENVIRONMENTAL MONITORING

### 5.1 Waste Types and Quantities

Waste types to be accepted for reclamation at the site are limited to those acceptable in a standard recovery permit (i.e. predominantly soils stones rock).

### 5.2 Waste Acceptance for Recovery

Prior to the acceptance of waste for recovery, where required wastes will undergo Basic Characterisation Testing, Compliance Testing and On-Site Verification of Wastes. Wares accepted will be weighed at a site weighbridge with records kept of wastes accepted.

Wastes that are identified as being potentially non-conforming at the weighbridge will be directed to the waste quarantine area for inspection. If the inspection confirms that the waste is non-conforming, the load will be rejected and the waste carrier, and/or producer, notified.

### **5.3 Environmental Monitoring**

A programme of monitoring of groundwater, surface water and ground gas is proposed through the infilling and post completion period. The monitoring in the operational and post completion period will continue until there is sufficient data to confirm the waste is physically and chemically stable and allow surrender the permit.