TEESWORKS

Case Study Details – Long Acres East

Site Summary

The land occupied by the Long Acres East site is a strategically important development site on Teesworks, forming a key part of the 270-acre Long Acres development zone that is central to the delivery of manufacturing, logistics and distribution hubs including incubator space for both well-established businesses and new start-ups.

The Long Acres East site measures approximately 30 acres in area (12 hectares). The site comprises a former landfill that was subject, for decades, to extensive tipping of waste by-products from the steelmaking process. Prior to this, the site was formerly part of the low-lying deposits associated with the River Tees estuary.

The Warrenby Iron Works were developed on a portion of the site in the late 1800's with development made possible by reclaiming the low-lying land with products of the iron and steelmaking process. The Warrenby Iron Works were demolished in the 1970s and the site became a licenced landfill (CLE31) for the Redcar Steelworks. Deposition of waste materials from the former steelmaking process includes an estimated 1,000,000m^3 of slag waste (2.1M tonnes). The material has been placed in a land ris**e** approximately 15-20m above the surrounding ground level.

Ground investigations undertaken by STDC have identified that ground conditions are characterised by the presence of contamination including tars, hydrocarbons, and other hazardous, carcinogenic compounds.

Development Proposals

The wider Long Acres site, of which Long Acres East forms part, is a development for manufacturing, logistics and distribution. The zone will offer office and incubator space for both well-established businesses and new start-ups.

While there is significant market interest in the adjoining Long Acres sites, future development is constrained by the landfill within Long Acres East which critically restricts development layouts and does not allow developers access to expansion land. Similarly, many of the logistics and distribution uses require buildings of a long-linear configuration, extending to many hundreds of metres in length, that would require a joining of the East and West Long Acres sites. As such, Teesworks aims to develop the Long Acres East site to form a marketable plot contiguous with the Long Acres West site, affording maximum flexibility on site development opportunities and the economic and socio-economic benefits this would bring, at the same time securing long term environmental protection.

The required remediation measures for the site will need to address significant development constraints and challenges (discussed below) which severely impact the site and its marketability, and which result in it currently having a negative land value. The current condition of the Long Acres East site also has the potential to adversely impact the attractiveness and marketability, and hence land value, of the neighbouring sites, being as it presently is, a bad neighbour use.

Remediation Requirements

To make the Long Acres East site development-ready requires significant ground remediation interventions and related earthworks to address essential environmental hazards and risks, and to deliver a land platform contiguous with the adjacent Long Acres West site that does not overly constrain or restrict the development uses it can accommodate. These works are required to address various key constraints and challenges, which are:

1. The status of the extensive Long Acres East hazardous waste materials deposits across the site, which preclude any form of development whatsoever.
2. The major environmental hazard the current site conditions present, in being close to existing watercourses in direct connectivity with the river (notably, the Fleet).
3. Land reprofiling to address the major level differentials across the site, including removal of the CLE31 waste mass mounds of heavily contaminated materials that extend to heights of 15m to 20m above the surrounding ground levels
4. Once the CLE31 waste mass is removed the underlying soils will require remediation.
5. Large subsurface obstructions (basements, pits, foundations, etc) related to former structures (Warrenby Iron Works) are expected to be present below the CLE31 waste mass. The presence of these structures is considered a significant development constraint precluding the construction of any significant new foundations / piled structures.
6. Soils at the site requiring significant intervention both from an environmental and geotechnical perspective in order to deliver a remediation solution that is suitable for a commercial / industrial end use. Soils have been comprehensively assessed and are contaminated with hazardous and carcinogenic materials, including tars and chemical wastes.

Landfill Tax Trap

Criteria 1 - Demonstrating the use of Landfill is Reasonably Necessary to Realise Opportunities

The CLE 31 waste mass must be removed to create a level development platform.

The extensive non-natural soils on the site are classified as a waste and therefore are not suitable for reuse using the CL:AIRE Definition of Waste Code of Practice (DoWCoP). Extensively, from a categorisation perspective in connection with disposal to landfill, they are classed as hazardous waste. Any potential for alternative treatment strategies, wherever such exist, have been estimated to take many years to implement (likely 5 years plus), which would impact the ability to bring the site forward for development contiguous with the Long Acres West site or even in its own right, resulting in a significant number of development opportunities being lost. The potential treatment technologies that may be possible for certain of the materials, but not all, would also likely deliver a development platform with embedded constraints, impacting land values and the range of development uses that are viable for the site (e.g., load bearing capacity restrictions, more onerous foundation solutions for developments, etc).

It may be possible to recover the waste via a Deposit for Recovery (DfR) Environmental Permit, however, it is unlikely that the Environment Agency (EA) would issue such a permit for SLEMS. If a DfR is not issued by the EA for the site, then a disposal permit would be required which would adversely affect the land value due to potential ongoing liabilities and investor perception if, wherever possible and practicable, the material was reprocessed and retained in situ. Disposal to landfill will therefore be required, with the material being categorised as a hazardous waste for landfill purposes.

Remediation involving significant landfill is therefore the only feasible option to realise opportunities for redevelopment. As such, in respect of the first criteria of the LfT Trap, use of landfill is reasonably

necessary to dispose of some or all of the contamination or material present at the site to realise opportunities for remediation and economic development, and to secure long term environmental protection of surrounding land.

Criteria 2 - Landfill Tax Obligations Exceed Land Value Uplift

It has been demonstrated that to conduct the remediation of the Long Acres East requires major interventions.

Significant ground investigations have been undertaken on the site and these have revealed extensive contaminated soils of a hazardous nature in the region of 1.0M to 1.25M tonnes. The Landfill Tax burden associated with this level of essential material disposal would be of the order of £100M to £125M. This equates to £3.3M to £4.2M per acre, which massively exceeds the range of potential land value uplifts that could be realised from the remediation of the Long Acres East site.

Thus, the site meets the second criteria of the LfT Trap, in that LfT obligations arising from the necessary disposal of material from remediation to landfill would result in the total costs of site remediation exceeding the land value uplift from bringing the land affected by contamination back into beneficial use.

Criteria 3 – Other Remediation Costs do not Exceed Land Value Uplift

Remediation costs on the Long Acres East site, absent of the LfT obligation, have been estimated at £10M to £15M. This estimate allows for excavation and haulage of waste materials to STDC's own licenced landfill on Teesworks (High Tip), which apply regardless of LfT status. This estimate includes for all other aspects of the required remediation works, including remediation of the soils underlying the CKLE31 waste mass, and infilling of the site with suitable engineering fill materials to replace much of the material volume disposed to landfil**l**, and create a development platform suitable for a wide range of commercial / industrial uses.

STDC has sufficient fill material available across Teesworks to address the fill volume deficit, without the need to rely on costly imported fill materials. The processing costs associated with this material (i.e., screening and crushing to produces material of suitable sizes and gradings) is included in the cost estimate, and this has been the method successfully deployed to date on other remediation projects.

It is anticipated that it will be possible to realise a land value uplift above the cost estimate. Therefore, the site is expected to satisfy the third criteria of the Landfill Tax Trap, in that all other costs of remediation, absent the LfT obligation, will be less than the land value uplift.

Summary

Based on current assessments, informed by signifciant ground investigation works and related analysis, there are significant volumes of waste and other materials contained within the Long Acres East site that are not suitable for in situ treatment, particularly when consdering related delivery timescales, which accordingly require removal to landfill.

The site is strategically important to STDC's development objectives for Teesworks and it forms a key part of the emerging Long Acres / North East Industrial land zone that is central to the delivery of manufacturing, logistics and distribution hubs.

Failure to implement an expedient remediation solution will lead to lost development opportunities on the wider Long Acres site, and certainly if the end user requires both sites.

The LfT obligations arising from the necessary disposal of material to landfill amount to a cost burden in the region of £100M to £150M, which alone far exceeds the achievable land value uplift, even before other remediation costs are taken into consideration. On the matter of other remediation costs, absent the LfT obligation, these are at a level that should be exceeded by the resulting land value uplift.

Accordingly, all three criteria of the Landfill Tax Trap are expected to be met by this site and the related remediation project.