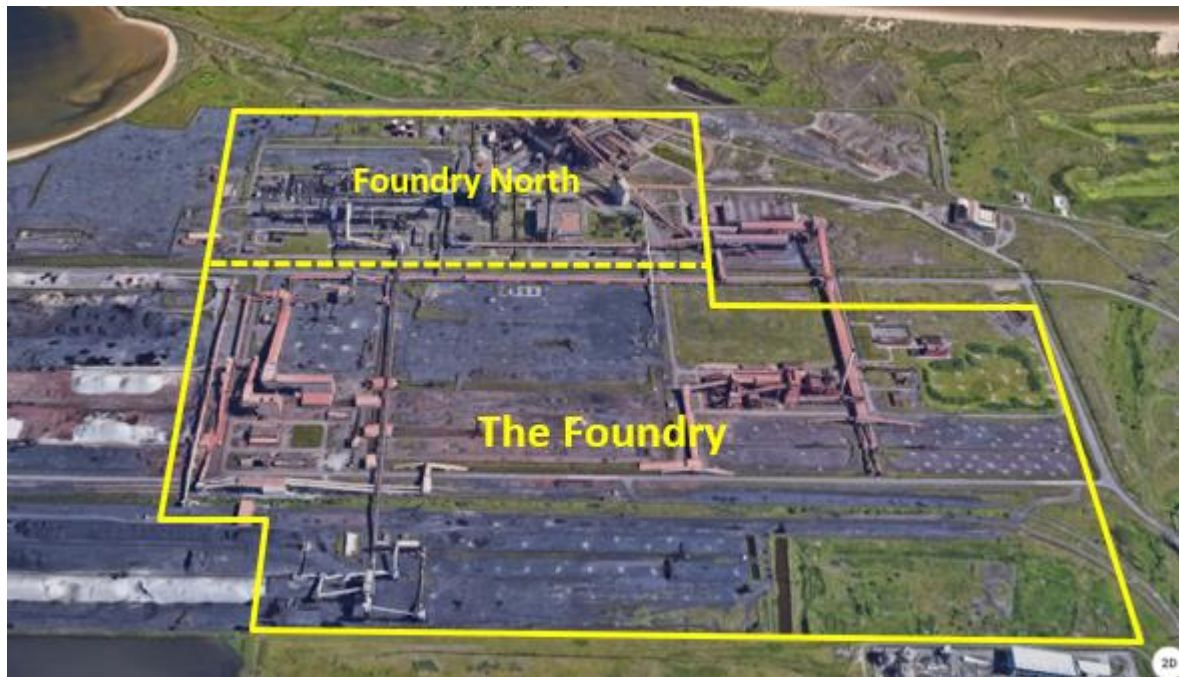


Case Study Details – Foundry North

Site Summary

Foundry North is a c. 150-acre (60-hectare) site situated within the wider Foundry development zone on Teesworks. It constitutes close to 30% of the 530-acre (215-hectare) Foundry area. It is a prime development site due to its size and its location close to the river and related deep-water port facilities at the neighbouring Redcar Bulk Terminal. It has already been subject to a number of major enquiries from significant international inward investors.



The site was formerly very low-lying land, comprising marshland and tidally inundated estuarine deposits, forming part of the Tees Estuary. In the early 1900's ironworks were first constructed within areas of the wider Foundry site, which part-covered Foundry North. The site was extensively reclaimed from the river estuary after WW2, utilising, largely, by-products from the various iron and steel making industries in the near vicinity. The Foundry site was developed as a new iron works by the British Steel Corporation in the mid to late 1970s, which was operated up until SSI UK's winding up in October 2015.

The Foundry North site is currently occupied by the Redcar Coke Ovens (RCO), Redcar Blast Furnace, and Redcar Power Station. These facilities are presently undergoing demolition as part of the wider Teesworks demolition programme, with works to be completed in their entirety by the end of Q1 2023.

Ground investigations undertaken by STDC have identified that ground conditions are characterised by widespread large foundations, and the presence of significant contamination including tars, hydrocarbons, and other hazardous, carcinogenic compounds, such as asbestos (particularly in the areas occupied by the RCO).



Development Proposals

The Foundry site, including Foundry North, has been the subject of numerous major development enquiries, with individual land area requirements ranging from 100 acres to 300 acres. Due to its size, it lends itself to occupation by very large operations. Already, on the neighbouring site to the immediate northeast, STDC and Teesworks Ltd are in advance negotiations with BP on its proposal to build a major carbon capture utilisation and storage facility, and power generation plant, that is presently the subject of a DCO approvals process. This particular development (Net Zero Teesside) alone is sized at close to 100 acres and, subject to concluding commercial negotiations, remediation of the site is scheduled to commence imminently. Other land interests in the locale, on the Foundry, are also squarely aligned with clean energy and zero carbon objectives, including several gigafactory enquiries and blue hydrogen production, both requiring very large land areas.

Given the level of interest in establishing major new industries on the Foundry, it is essential that, post-demolition, remediation is progressed at a pace, so that such opportunities are not lost. It will be important that the phases of remediation are large in size, to meet the needs of potential investors and the related uses that we have already seen major interest in to date. In all cases, the turnaround times on the delivery of remediation and the creation of the required development platform have been critical determinants in our ability to deliver on the particular end-user's requirements. It is therefore imperative that delays in remediation works, and the pace of remediation, do not result in crucial site development opportunities and the economic and socio-economic benefits these would bring being lost. Equally, the need to secure long term environmental protection of these areas is crucial.

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. The RCO and its associated by-products plant pose a significant risk of ground contamination and ground investigation has identified site soils that are impacted by asbestos, tars, hydrocarbons, and other carcinogenic compounds in potentially significant quantities. The adjacent uses, such as the Blast Furnace, gas holder and extensive networks of pipeline and vessels, also pose significant environmental risks from ground contamination.

Remediation Requirements

To make the Foundry North 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 plots on the wider Foundry 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. Large subsurface obstructions (basements, pits, foundations, tanks, etc) related to former structures, which extend across c. 50% of the site. The presence of these obstructions is considered a significant development constraint, impacting certainty on ground engineering performance, and precluding the construction of any significant new foundations and/or structures relying on piled foundations.
2. 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 assessed and are heavily contaminated with hazardous and carcinogenic materials, including tars, asbestos, and chemical wastes. Putting aside contamination, the geotechnical properties of significant volumes of materials deposits across the site make them unsuitable for use in their current condition.
3. Significant quantities of refractory bricks from the former RCO facility that are not suitable for recycling into secondary aggregates due to them containing contaminative, carcinogenic compounds, which are not treatable.
4. The prevalence of areas that have been subject to spillages and leaks from pipes and vessels carrying highly contaminative substances.
5. Buried pipelines and tanks containing sludges and similar compounds of a contaminative nature.

Landfill Tax Trap

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

Extensive environmentally unsuitable material classified as hazardous waste is expected to be encountered as part of the remediation of Foundry North, particularly in the vicinity of the RCO and its associated by-products plant. This will require disposal to landfill.

Removal of subsurface obstructions to depths of 5m to 8m below ground level is expected across large areas of the site, which will generate significant quantities of geotechnically unsuitable materials. Removal of contaminated buried pipelines and vessels will also generate significant quantities of hazardous waste materials.

Any potential for alternative treatment strategies, wherever such exist, have been estimated for many of the problematic materials to significantly extend development timescales, which would impact the ability to bring the site forward for development contiguous with the adjacent plots or even in its own right, resulting in a significant number of development opportunities potentially 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).

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 Foundry North 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 500,000 to 600,000 tonnes. The Landfill Tax burden associated with this level of essential material disposal would be of the order of £50M to £60M. This equates to £0.33M to £0.40M per acre which is likely to exceed the range of potential land value uplifts that could be realised from the remediation of the Dorman Point South.

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 Foundry North, absent of the LfT obligation, have been estimated at 18M to £30M. 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

Backfilling of the Foundry North site with suitable engineering fill materials is required to replace much of the material volume disposed to landfill, raise the site to the desired site level post-remediation, and create a development platform suitable for a wide range of commercial / industrial uses.

While excavated materials from the remediation works will be suitable for processing and reuse, there will be a deficit to be made up by virtue of the disposal of large quantities of material to landfill. STDC has sufficient fill material available across Teesworks to address this 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 produce 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 attaining a land value uplift above the 'Other Remediation Costs' estimate should be readily achievable. 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 significant ground investigation works and related analysis, there are significant volumes of waste and other materials contained within the Foundry North site that are not suitable for in situ treatment, particularly when considering related delivery timescales, which accordingly require removal to landfill.

The Foundry North site is strategically important to STDC's development objectives for Teesworks, particularly in connection with accommodating uses requiring a large development footprint and given the site's location very close to deep-water port facilities. It forms a key part of the wider 530-acre Foundry Development Zone.

End user development interest in the Foundry has already been strong and is growing, with several early-stage enquiries being advanced. In all cases, the speed with which we are able to remediate land and deliver the required development platform are key determinants in the potential tenant's decision-making process on where to site its facility.

Failure to implement an expedient remediation solution will lead to lost development opportunities on Foundry North, which may likely be to the detriment of securing end users for the neighbouring wider Foundry site, and certainly if the end user requires land across both areas.

The LfT obligations arising from the necessary disposal of material to landfill amount to a cost burden in the region of £50M to £60M, 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 is anticipated to 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.