



HIGHFIELD ENVIRONMENTAL LTD

Teesport Landfill CPO Mapping

CPO Mapping Report

September 2019

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CPO Mapping Report

September 2019

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| DRAWINGS | TITLE | SCALE |
|-----------------|----------------------|--------------|
| NT14488-001 | Existing Site Survey | 1:1250 |
| NT14488-002 | Site Boundary | 1:1250 |
| NT14488-003 | Western Boundary | As Shown |

1 INTRODUCTION

- 1.1.1 Wardell Armstrong was commissioned by Highfield Environmental Ltd. to undertake a mapping exercise to support the CPO process of land surrounding the Highfield Environmental Ltd. Teesport Landfill Disposal site (*the site*).
- 1.1.2 The purpose of the mapping exercise and this report is to provide a clear understanding of the current position of the physical boundaries on site in relation to the title boundary.
- 1.1.3 All references to site conditions and presence of boundary features are as observed during the site inspection undertaken on 12th August 2019.

2 SITE INSPECTION

2.1 General Overview

- 2.1.1 The Site inspection was carried out on 12th August 2019 by Wardell Armstrong LLP (David Meddings MRICS & Murray Nairn) and QuestUAV (Phil Mills MRICS & Callum Hewitson), a sub-contractor of Wardell Armstrong.
- 2.1.2 Wardell Armstrong walked the perimeter of the site managed by Highfield Environmental Ltd., surveying the physical boundary surround the site. The physical boundary was defined as a fence line, road edge, back edge of cell liner or any other feature which indicated a bounding feature.
- 2.1.3 QuestUAV undertook an aerial survey using an Unmanned Aerial Vehicle (UAV or 'Drone') to provide a topographic landform model of the site over the land controlled by Highfield Environmental Ltd., and the adjacent land to the west. This included the strip of Tata land between the two sites, and part of the "High Tip".

3 MAPPING EXERCISE

3.1 Data Sources

| Data | Source | Date Acquired | Comments |
|--------------------------|-----------------------|---------------|-----------------------------------|
| 1m Contours | QuestUAV | 12/08/2019 | Commissioned by Wardell Armstrong |
| 0.1m Contours | QuestUAV | 12/08/2019 | Commissioned by Wardell Armstrong |
| Physical Boundary Survey | Wardell Armstrong LLP | 12/08/2019 | Undertaken by Wardell Armstrong |
| Aerial Imagery | Quest UAV | 12/08/2019 | Commissioned by Wardell Armstrong |

| Data | Source | Date Acquired | Comments |
|---|------------------|---------------|--|
| Title Plan and Register CE222458 (Highfield Environmental Ltd.) | Muckle LLP | 12/07/2019 | Full title deed report and plan from the Land Registry |
| Title Plan and Register CE175030 (Tata Steel) | Muckle LLP | 12/07/2019 | Full title deed report and plan from the Land Registry |
| Title Plan and Register CE210446 (SSI) | Muckle LLP | 12/07/2019 | Full title deed report and plan from the Land Registry |
| Inspire Polygons | Land Registry | 19/08/2019 | Digital versions of land ownership polygons |
| Ordnance Survey MasterMap | www.emapsite.com | 02/09/2019 | Ordnance Survey derived product |
| Installation Boundary for both No. 2 & No. 3 sites | Sweco UK Limited | 08/08/2019 | AutoCAD .dwg file containing previous site survey and boundary information |

- 3.1.1 Three plans have been compiled using the combination of data listed above and included as part of this report.
- 3.1.2 All the data has been compiled using the same coordinate system (Ordnance Survey OSTN15 National Grid and Datum).
- 3.1.3 All survey work on site has been carried out to Ordnance Survey OSTN15 National Grid and Datum.
- 3.1.4 Where the original land ownership parcels have been provided as paper plans the digital versions (Inspire Polygons) from the Land Registry have been used in their place. These have been checked against the definitive paper plans and confirmed as being correct.

3.2 Plan Production

- 3.2.1 The three drawings have been produced to show the current position of works on site; the position of the existing boundary features where present; and the landform immediately adjacent to the western boundary. This combination of data has allowed a review and comparison of the physical position of the existing boundary features and the title boundary (CE222458) of the site.
- 3.2.2 We have compared the installation boundary (provided by Sweco) and the title boundary; these do not match. The installation boundary does, however, match the majority of the boundary features surveyed by Wardell Armstrong which are described below and make up the physical boundary found on the ground.

4 BOUNDARY REVIEW

4.1 Introduction

- 4.1.1 This section is to be read in conjunction with drawing NT14488-002 Site Boundary. It comprises a review of the four sides of the boundary for title CE222458 as leased by Highfield Environmental Ltd.

4.2 Northern Boundary

- 4.2.1 The boundary feature present on the ground for the full length of the northern boundary is a 2 metre high profile mesh metal fence. The position of this matches that of the title boundary CE222458, except in the north eastern corner where the fence cuts the corner by approximately 8.6 metres and is inside the title boundary. In the north western corner, the fence projects beyond the title boundary by approximately 2.7 metres to the west.

4.3 Eastern Boundary

- 4.3.1 Described north to south. The physical boundary is not contiguous and is made up of a combination of a 2 metre high profile mesh metal fence in the north, and the road edge as far as the weighbridge and security fencing to the south eastern corner. The title boundary sits to the west of the physical boundary for almost all the eastern boundary, at up to approximately 16.7 metres.

4.4 Southern Boundary

- 4.4.1 The physical boundary feature is a security fence which runs the full length of the southern boundary. The title boundary sits to the north of the physical boundary at up to approximately 10.7 metres in all but the south western corner where the fence cuts inside the boundary by approximately 8.9 metres.

4.5 Western Boundary

- 4.5.1 This section is to be read in conjunction with drawing NT14488-003 Western Boundary.
- 4.5.2 Described north to south with reference to the chainage sections shown on the drawing.

Chainage 0 to 153.3

- 4.5.3 There is no physical boundary feature. The back edge of the liner is visible and has

- 4.5.4 been surveyed for reference. There are also a series of wooden posts installed, we also surveyed the position of these.
- 4.5.5 From speaking to the site manager, we understand that the posts were installed during an earlier survey (by a third party) to locate the “boundary”. We have compared these to the installation boundaries provided by Sweco UK Limited and the position of the posts (in some cases with marked standoffs) is consistent with the installation boundary. Some of the posts have distances marked on to illustrate the distance to the installation boundary where we assume the engineer was not able to put the post on the boundary. Where there were no distance markings, we assume that the engineer understood that to be the position of the installation boundary.
- 4.5.6 The visible back edge of the liner (before it is within the anchor trench) is within the title boundary for this section.
- 4.5.7 Marked on drawing 003 are the wooden posts and the standoff distances quoted on them. We have annotated the measurements shown on the posts to the installation boundary and added measurements from the Wardell Armstrong surveyed position of the posts to the title boundary.

Chainage 153.3 to 373.3

- 4.5.8 There is no physical boundary feature. The back edge of the liner is visible in part and has been surveyed where possible for reference. There are also further wooden posts installed; we also surveyed the position of these.
- 4.5.9 The visible back edge of the liner (before it is within the anchor trench) is within the title boundary for this section.
- 4.5.10 Marked on drawing 003 are the wooden posts and the standoff distances quoted on them. We have annotated the measurements shown on the posts to the installation boundary and added measurements from the Wardell Armstrong surveyed position of the posts to the title boundary.

Chainage 373.3 to 689.3

- 4.5.11 The physical boundary is a wire security fence constructed from concrete posts, topped with three strands of barbed wire. This fence runs on or within the title boundary for the whole of this section at a distance up to approximately 11.3 metres within the title boundary. In this area, the adjacent High Tip directly abuts the security fence, and accordingly is within the Highfield Environmental title boundary.

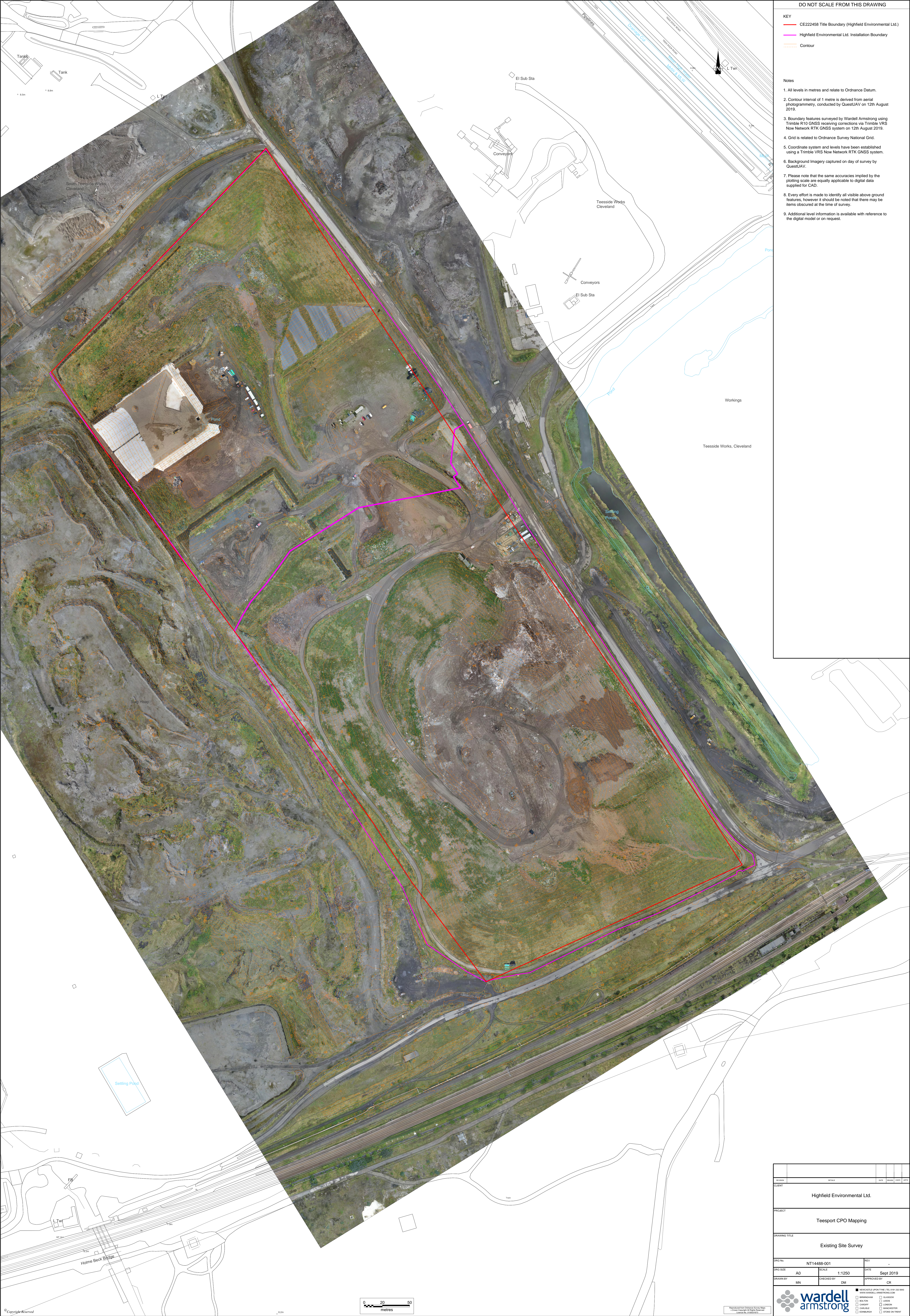
Chainage 689.3 to 824.52

- 4.5.12 The security fence continues to the south west corner of the site. At Ch 689.3 it steps west outside of the title boundary approximately 12.3 metres before turning south. The fence then runs into the adjacent title boundary of CE210446 owned by SSI between Ch 708.9 and Ch 778.2, then runs back to cross the title boundary at Ch 812.3.
- 4.5.13 Within the perimeter fence there is an access track and then the area of landfilling. Where the perimeter fence crosses outside of the title boundary, the route of the access track and extent of landfill also extend beyond the title boundary; the track also crosses in part into title CE210446 (SSI). If the extent of landfilling is within the route of the track it does not cross into title CE210446 (SSI), it does, however, cross into the strip of land between titles CE222458 (Highfield Environmental Ltd.) and CE210446 (SSI), which is part of title CE175030 owned by Tata Steel.

5 CONCLUSIONS

- 5.1.1 There is a discrepancy between the title boundary and the physical boundary features on site, which appears to have led to the current tip positions on the ground.
- 5.1.2 The majority of the landfilling activities are within the title boundary however, there are some areas outside of the title boundary which may need addressing. These are in the south west corner as described in 4.5.11 – 4.5.12. and along the eastern boundary.
- 5.1.3 There is some minor encroachment into the title boundary from the west by the High Tip which may need addressing.

DRAWINGS



DO NOT SCALE FROM THIS DRAWING

KEY

CE222458 Title Boundary (Highfield Environmental Ltd.)

Highfield Environmental Ltd. Installation Boundary

Contour

Notes

1. All levels in metres and relate to Ordnance Datum.

2. Contour interval of 1 metre is derived from aerial photogrammetry, conducted by QuestJAV on 12th August 2019.

3. Boundary features surveyed by Wardell Armstrong using Trimble R10 GNSS receiving corrections via Trimble VRS Now Network RTK GNSS system on 12th August 2019.

4. Grid is related to Ordnance Survey National Grid.

5. Coordinate system and levels have been established using a Trimble VRS Now Network RTK GNSS system.

6. Background Imagery captured on day of survey by QuestJAV.

7. Please note that the same accuracies implied by the plotting scale are equally applicable to digital data supplied for CAD.

8. Every effort is made to identify all visible above ground features, however it should be noted that there may be items obscured at the time of survey.

9. Additional level information is available with reference to the digital model or on request.

| | | | | |
|--|------------------------------|------------|--------|-------------|
| REVISION | SCALE | DATE | BY | CHECKED BY |
| CLIENT | Highfield Environmental Ltd. | | | |
| PROJECT | Teesport CPO Mapping | | | |
| DRAWING TITLE | Existing Site Survey | | | |
| DRG NO. | NT14488-001 | REV | - | |
| DRG SIZE | A0 | SCALE | 1:1250 | DATE |
| DRAWN BY | MV | CHECKED BY | DM | APPROVED BY |
| | | | | CR |
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