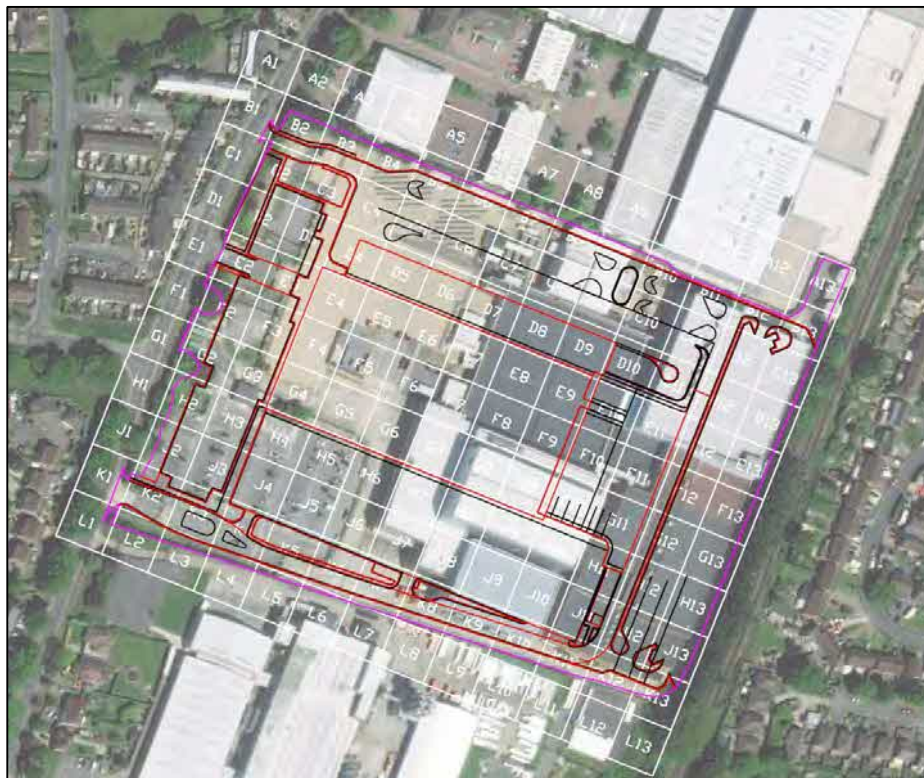


Verification Report – Materials Management & Remedial Earthworks

Pfizer
32 New Lane
Havant
PO9 2NG



Prepared for:

Havant Property Investment LLP
38 Seymour Street
London
W1H 7BP

EPS Project Reference: UK21.5634

Date Issued: 9th May 2022

Report Status: Issue 1



PFIZER, NEW LANE, HAVANT

NON-TECHNICAL CLIENT SUMMARY

This report constitutes the main verification record of the earthworks phase undertaken as part of the Remedial Strategy for the commercial redevelopment of the former Pfizer site in Havant.

- The site was previously a pharmaceutical manufacturing facility, currently undergoing commercial redevelopment into a single warehouse unit. As of February 2022 the site comprises a development platform with stockpiled crushed fill materials.
- Previous site investigations did not encounter significant gross contamination. Therefore a Remedial Strategy was prepared to focus on certain areas of concern and a pre-identified plasticiser hot spot through the earthworks. The legal re-use of suitable site-won soils was implemented under a Materials Management Plan (MMP) declared under CL:AIRE's Code of Practice prior to works commencing. This report verifies the MMP as well as the remedial earthworks, as they are essentially the same.
- EPS had a full-time site presence throughout the works, carried out over Winter 2021-22. This involved remedial oversight of the earthworks and the implementation of a discovery strategy to deal with any contamination encountered. Only sporadic hotspots of contaminated soils were encountered which failed re-use criteria as anticipated in the Remedial Strategy and this led to localised off-site disposal. The majority of the soils and fill materials were tested and found to be suitable for re-use in accordance with the strategy. Groundwater monitoring undertaken throughout the works has proven the water quality to be clean and unaffected by the works.
- The earthworks are now broadly completed to formation level with 8,988m³ of site-won soils now filled. The remaining earth movements will be carried out in the construction phase. This will include re-using c.35,000m³ of currently present stockpiled crushed fill materials, to be supplemented with drain age arisings in due course. These materials have already been tested and inspected as part of these works so no further environmental testing is considered necessary. No significant import of material is envisaged.
- Aspects of the Remedial Strategy remain outstanding and will be reported in a separate Construction Phase Verification Report, towards the end of 2022. This will cover the remaining installation of site-won materials, imported material quality (if any) plus the discretionary aspects of the Remedial Strategy in the building such as the installation of sub-floor soil gas protection.

By their very nature, the above bullet points represent a simplified summary of our work and should not be relied upon to form the basis for key decisions. A full picture is provided in the following report, or alternatively give us a call and we'll talk you through it.

Project Reference:	UK21.5634	
Title:	Verification Report - Materials Management & Remedial Earthworks - Pfizer Havant	
Client:	Havant Property LLP	
Date:	9 th May 2022	
EPS Contact Details:	7B Caxton House Broad Street Cambourne CB23 6JN	T: 01954 710666 F: 01954 710677 E: info@epstrategies.co.uk W: www.epstrategies.co.uk
Status:	Issue 1	
Previous Issue	Draft for Comment (18 th March 2022)	
Key Updates Since Previous Issue	1.3 Clarified position on planning approval for Remedial Strategy. 1.6 Additional detail on the measures within the Remedial Strategy which remain outstanding. 2.10 & Appendix D Additional details on how drainage was decommissioned. 2.10 Amended typographical error on tank location. - Removed 'draft' watermark	

Author:	Reviewed:	Authorised:
		
Marcus Bell	Paul O'Connor	Will Evans
Associate Director	Consultant	Director

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Where ground investigations have been conducted, these have been limited to the level of detail required for the site in order to achieve the objectives of the investigation.

Where visual checks for asbestos containing materials have been carried out by EPS, these have constituted a thorough search to a reasonable and practical degree, substantiated where possible by photographs and additional opinions by suitably qualified personnel.

The report has been written, reviewed and authorised by the persons listed above. It has also undergone EPS' in house quality management inspection. Should you require any further assistance regarding the information provided within the report, please do not hesitate to contact us.

TABLE OF CONTENTS

1	INTRODUCTION	5
1.1	Project Team	5
1.2	MMP Background	6
1.3	Remedial Strategy & Implementation Plan	6
1.4	Verification Objectives	8
1.5	Scope of Work	9
1.6	Remaining Verification of Remedial Strategy & MMP	9
1.7	Limitations and Constraints	10
2	REMEDIAL EARTHWORKS	11
2.1	Materials Management Plan Status	11
2.2	Material Tracking & Remedial Oversight	11
2.2.1	<i>Site Grid & Survey123™</i>	11
2.2.2	<i>Approach to Sampling & Nomenclature</i>	12
2.2.3	<i>Analytical Suites</i>	13
2.3	Remedial Targets & Re-Use Criteria	14
2.4	Soil Quarantine & Waste Management	14
2.5	Borehole BH3 (Phthalate Hotspot) November 2021	15
2.6	Stockpile Failures (Phthalates) January 2022	16
2.7	Areas of Potential Concern & Depth of Excavations	17
2.8	General Material Re-Use	18
2.9	Asbestos	18
2.10	Underground Tanks & Drainage Features	18
2.11	Groundwater Monitoring	19
2.12	Re-use of Tarmac (Coal Tar Analysis)	21
2.13	Geotechnical Testing	21
3	MATERIALS MANAGEMENT	22
3.1	Details and Quantities of Excavated, Screened, Treated and Reused Soils	22
4	VERIFICATION STATEMENT	23
5	GLOSSARY	24

Tables

Table 1	Laboratory Analysis Schedule – Soils
Table 2	Laboratory Analysis Schedule – Groundwater
Table 3	Consolidated Soil Results Compared to Re-use Criteria

Figures

Figure 1	Site Location Plan
Figure 2	Site Grid
Figure 3	Verification Testing Plan
Figure 4	Stockpile Plan (as of 18-2-2022)

Appendices

Appendix A	MMP & CL:AIRE Declaration
Appendix B	Environmental Re-Use Criteria
Appendix C	Regulatory Correspondence
Appendix D	Survey123 Records & Drainage Plan
Appendix E	Waste Transfer Documentation
Appendix F	Environmental Laboratory Reports - Soils (EPS)
Appendix G	Environmental Laboratory Reports - Water (EPS)
Appendix H	Geotechnical Records

1 INTRODUCTION

Environmental Protection Strategies Ltd (EPS) were commissioned by Havant Property Investment LLP ('the client') to produce a Verification Report for the Materials Management Plan (MMP) & Remedial Earthworks recently undertaken at the former Pfizer site, 32 New Lane, Havant (the 'site'); see Figure 1. This former pharmaceutical facility is undergoing commercial redevelopment and this report represents verification of the earthworks phase.

The site is a former pharmaceutical distribution centre, which had been used for primary and secondary pharmaceutical manufacturing in the past. Pfizer were using the facility until mid-2021. The remedial earthworks were undertaken in Winter 2021/22 and as of the 18th February 2022 the site comprises a development platform complete to formation level with stockpiled crush material (and some materials pending crushing).

The work was commissioned in order to fulfil requirements relating to contaminated land for the demolition of the existing buildings and construction of a new commercial distribution facility with associated facilities and works (Havant Borough Council ref APP/21/00200 as amended by S73 application APP/21/01244).

The materials management planning and remedial earthworks are broadly the same process and indistinguishable in this instance, therefore this report is intended to verify both aspects and will be submitted to both Havant Borough Council (HBC) as well as CL:AIRE in due course. This report is also intended to present a clear record of the current condition of the property for commercial purposes.

Certain remedial measures will form part of the construction phase and be subject to a separate Construction Phase Verification Report at a later date, those measures (such as the installation of gas-resistant membranes in the new building) are not covered in this report.

Selected Site Photographs are included within sample-specific Survey123 reports which are described further in Section 2.3.1 and throughout relevant sections of this report.

This Verification Report is not intended to provide any further risk assessment of the contaminated land status at the site, which has already been outlined in previous reports. It is simply intended to evidence how the Remedial Strategy was implemented and complied with so that all stakeholders can have confidence in the current condition of the land and its legal compliance with both the planning process as well as waste management.

1.1 Project Team

The roles of the team involved in the earthworks were as follows:

- EPS - Oversight of materials management and remedial strategy
- TSL – Principal Contractor
- Collins Earthworks Ltd– Main earthworks contractor (sub-contracted by TSL)
- GSI – Geotechnical testing contractor (sub-contracted by TSL)

1.2 MMP Background

Reference should be made to the MMP (Appendix A) and in summary; the scenario outlined within the Definition of Waste: Development Industry Code of Practice (DoW CoP) relevant to the works was a 'reuse at the site of origin' approach. The status of the MMP is further described in Section 2.2.

1.3 Remedial Strategy & Implementation Plan

EPS have previously issued a Remedial Strategy & Implementation Plan which underpinned the MMP carried out at the site. The Remedial Strategy also references previous reports which informed it, including the refined Conceptual Site Model (CSM). This report should be read as relevant background:

- *Remedial Strategy & Implementation Plan – Pfizer, Havant* (UK20.5020D, Issue 6 dated October 2021).

HBC have informally accepted the Remedial Strategy, initially in terms of the re-use criteria (included in Appendix B) as presented in the MMP in October 2021 then these details have been submitted as a formal planning submission to discharge condition 11 on the planning permission, with Environmental Health, Environment Agency and Local Lead Flood Authority raising no objections to discharge this condition. The comments made by the EHO in a memo dated 9th March 2022 are included in Appendix C.

Based on the existing information, gross contamination of soils was not anticipated. However, localised soil contamination was a possibility particularly in certain areas of concern (based on combined lines of evidence including soil vapour analysis, the former building layout and principal drainage runs) as well as a specific hotspot of phthalate contamination identified in one borehole (BH3).

In light of this, a remedial strategy was prepared to address these areas along with a formalised 'discovery strategy' to apply during groundworks to identify the procedure to ensure any soil contamination is looked for, identified and managed appropriately. Throughout the groundworks, verification that the soils left on site are suitable for the new use would be required and this verification and its evidence is required to be presented in report form. The plan to collect the necessary evidence for such reporting was also intended to verify the Materials Management Plan.

Three 'Areas of Potential Concern' were identified (as shown below) and they all broadly were located in the eastern half of the site with the exception of the principal drainage runs which extended into the western section. Borehole BH3 was located in the north eastern section (visible on Figure 3). Coincidentally, the areas of cut defined by the earthworks team (TSL & Collins) were also largely within the eastern half as shown on Figure 2, which would benefit the discovery strategy as additional trial pitting was required in those areas if they were not otherwise to be disturbed.

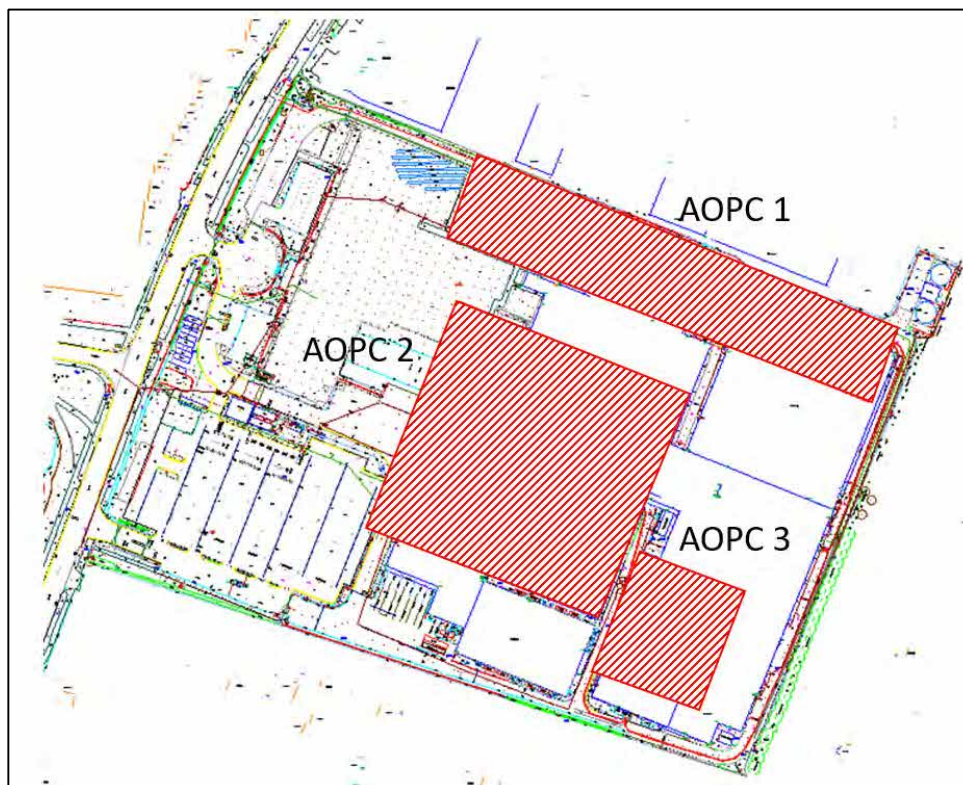


Figure 1 - Location of Areas of Potential Concern (from Remedial Strategy)

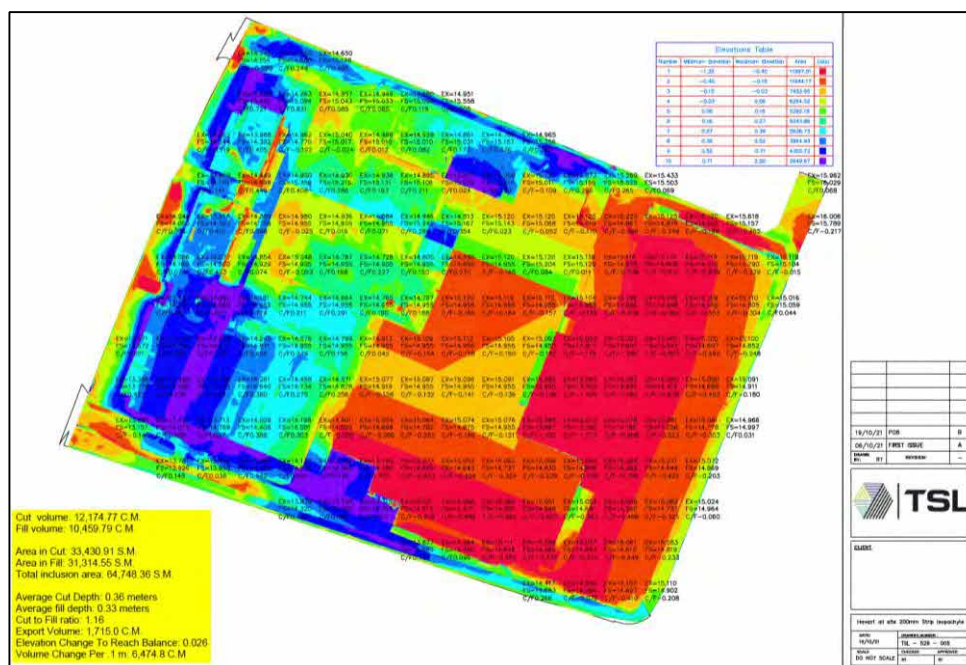


Figure 2– Cut & Fill Plan (from MMP – red denotes the cut, blue denotes fill)

There was no treatment or betterment of groundwater required in the Remedial Strategy, as risks to controlled waters from site-derived contamination had been dismissed in the CSM. However, there was a possibility that contamination would become remobilised during the earthworks.

Therefore as part of the Remedial Strategy, to ensure that the works did not disturb contamination and 'release' it to impact on groundwater, monitoring wells were to be retained and sampled throughout the works. The strategy recommended four groundwater wells be monitored every four weeks, and then finally at 12 weeks after the earthworks were complete. One of the wells was to be BH03. EPS selected six wells for this purpose including BH03, the rationale for the selected wells is given below along with a monitoring well location plan

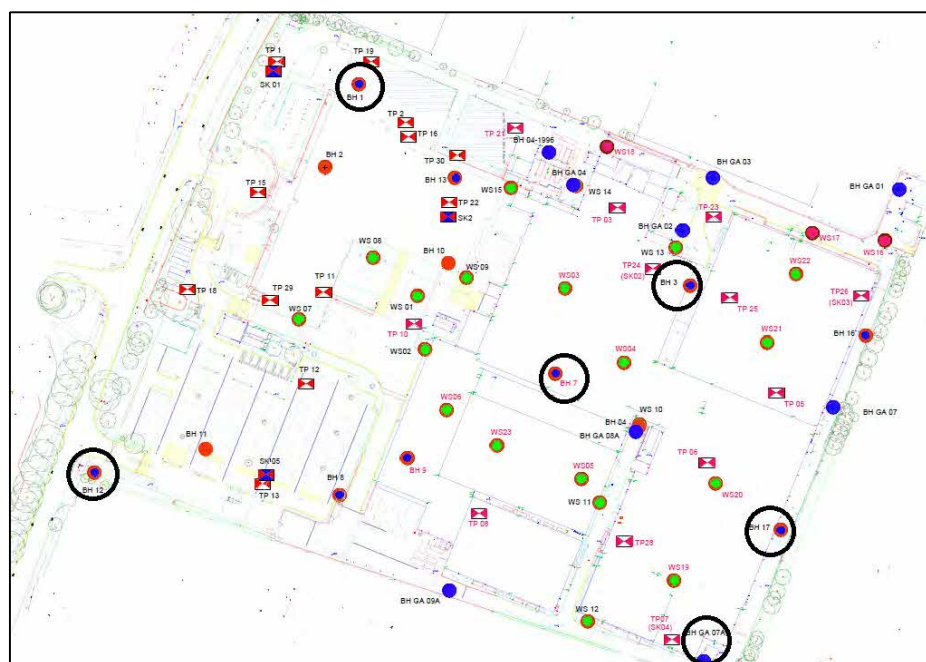


Figure 3 – Remediation Monitoring Wells (Groundwater)

The rationale for selecting monitoring wells to be retained throughout the works was driven by a balance between the technical requirements, and the realistic challenges of protecting monitoring wells (and safely sampling them) while large earth moving plant tracked across the site. EPS' rationale is presented below:

Monitoring Well	Rationale
BH3	Recorded initial unacceptable levels of phthalates (albeit in soils, not groundwater). High risk of well being damaged during excavations.
BH7	Hydraulically down-gradient of BH3 and located internally within a building. Groundwater is understood to flow to the south west. High risk of well being damaged during demolition.
BH1, 12, 17 & GA 07A	Positioned on site boundaries where the off-site risks to controlled waters could be monitored reliably throughout the works as the risk of damage to the wells was manageable.

1.4 Verification Objectives

The aspects of the Remedial Strategy covered within this Verification Report specifically involved the following objectives:

- Implement the Discovery Strategy to ensure safe development by overseeing earthworks and testing soils, in accordance with the Environment Agency's *Land Contamination: Risk Management guidance* (LC:RM, 2020) and the *National Planning Policy Framework*.
- Undertake targeted investigation of the BH3 Phthalate hotspot and ensure the Areas of Potential Concern are adequately investigated and any unsuitable soils are disposed (or treated) off-site under the appropriate duty of care.
- To oversee the implementation of the Materials Management Plan under CL:AIRE's *Definition of Waste: Development Industry Code of Practice (DoW CoP)*, whereby this report should fulfil the requirements of the MMP verification process.

1.5 Scope of Work

In accordance with *BS10175-'Investigation of Potentially Contaminated Sites'* and *BS5930:2015-'Code of practice for ground investigations'*, the following tasks were undertaken:

- Full time site presence during earthworks by an experienced EPS Geo-Environmental Engineer.
- Attendance of site meetings to advise project team on requirements and approaches to implementing the Remedial Strategy.
- Collection of visual and photographic records to demonstrate effective implementation of Remedial Strategy, as recorded on Survey123 App
- Sample collection and laboratory analysis of soils and groundwater to evaluate any potential contamination risks in accordance with published re-use criteria and the conceptual risk characterisation (i.e. the CSM).
- Production of a written Verification Report.

1.6 Remaining Verification of Remedial Strategy & MMP

Following this verification process, a Construction Phase Verification Plan will also be required which will cover:

- Reinstatement of remaining stockpiles (no further testing), see Section 3.
- Installation of barrier drinking water pipes (these are to be installed site-wide).
- Installation and independent 3rd party integrity testing of soil gas protection measures if requested by end-client (discretionary).
- Any import of materials including topsoil for any soft landscaping (currently no import is anticipated).

The only aspect of the above list that would be strictly required to comply with the planning process is the use of barrier drinking water pipes which were identified as necessary in the Remedial Strategy (albeit not needed across the whole site). Following discussions with the contractor it is more practical to simply install barrier pipes site-wide than attempt to use them in certain areas so that will be implemented.

The Construction Phase Verification Plan will be a considerably less expansive and onerous exercise compared to this report and no further materials management verification is envisaged beyond confirmation that the stockpiled materials currently on site were installed as intended.

1.7 Limitations and Constraints

The purpose of this report is to present the findings of a verification exercise conducted at the location(s) specified. When examining the data collected from the investigations made during the assessment, Environmental Protection Strategies Ltd (EPS) makes the following statements:

No investigation method is capable of completely identifying all ground conditions that might be present in the soil under a site or within soil brought to a site. Where outlined in our report, we have inspected the ground or soil by constructing a number of boreholes, trial pits or grab samples. The locations of these excavations are considered to be representative for the objectives of this verification process however, ground conditions are naturally variable and it may be possible that the ground conditions encountered may differ to those encountered during the investigation.

Where third party data has been consulted during compilation of this report, the validity of any data that has been supplied, and which are included in the report, have been assessed as far as possible by EPS, however EPS cannot guarantee the validity of these data.

EPS Ltd cannot confirm that Japanese Knotweed rhizomes do not exist at the site, this is due to the difficulty of identifying the plant, especially in the early stages of growth. It is recommended that if Japanese Knotweed, (or any other similarly invasive plants,) is suspected to be present, a specialist contractor should be commissioned to make a detailed assessment.

EPS are not licensed asbestos surveyors, and this report does not represent a formal asbestos survey. Asbestos has only been covered through soil analysis and field observations then discussed in relation future ground-driven risks. EPS understand that Asbestos Surveys of the buildings were carried out by others in the soft-strip exercise prior to demolition.

2 REMEDIAL EARTHWORKS

The remedial earthworks commenced shortly after the declaration of the Materials Management Plan on the 1st November 2021. EPS maintained a full time site-presence from before this time during the initial soft-strip and sporadic trial pitting from the 20th October throughout the works until this phase was completed in late February 2022. Full time presence ended on the 18th February with day-visits carried out in the following two weeks.

2.1 Materials Management Plan Status

The MMP was produced in accordance with CL:AIRE's *Definition of Waste: Development Industry Code of Practice* (DoW CoP) and was declared by a Qualified Person (Kate Wooldridge, QP #381) on the 1st November 2021 with a timestamp of 11:34:45.

Under the DoW CoP, a Verification Report is required to provide an audit trail to confirm works were undertaken in accordance with the MMP as well as to confirm any agreed variations.

The MMP was amended initially following comments from the Qualified Person prior to declaration (Revision 1, 26th October 2021), then additional minor amendments were also made post-declaration (Revision 2, 29th November 2021). The amendments related to a refined stockpiling approach taking account of feedback from the Principal Contractor, an updated Earthworks Specification and amended contingency details. These changes were discussed with CL:AIRE by the QP and EPS were advised to keep a record of the amendments and define them in this Verification Report.

The document control record for the MMP is included in the current version (Revision 2). The declaration and the MMP are included in Appendix A. The supporting information for the MMP is available upon request.

2.2 Material Tracking & Remedial Oversight

In order to track the MMP and the implementation of the Discovery Strategy, EPS had a permanent site presence throughout the works. This involved an experienced Geo-Environmental Engineer (Paul O'Connor) overseeing and being available as required to sample and steer the earthworks in this aspect.

2.2.1 Site Grid & Survey123™

To track the material movements, sampling locations and site records, EPS primarily used the site grid developed by TSL (and distributed to all parties working on the project). The grid, included in Figure 2, includes 143 squares which are 25x25m each. To further enhance the accuracy of EPS records and transparency of the sampling process, digital records were also included in the field and uploaded to ArcGISSurvey123 app using a tablet with GPS capabilities. The national grid references are included on the Survey123 reports but the sampling locations based on the grid cells (Figure 3) are more accurate.

In total, 137 Survey123 records were taken and broadly that was driven by one record for each soil sample. The small discrepancy (140 samples in total) is accounted for by collecting 2 samples from the same trial pits. The main benefit of the records is that they confirm the site grid where the sampling took place and include photographs of the material tested. The Survey 123 reports record the date in the American format (month/day/year).

The full set of Survey123 records are included in Appendix E and relevant records are referred to throughout this report.

2.2.2 Approach to Sampling & Nomenclature

In total 140 samples of soil and fill materials were collected along with 17 groundwater samples during the remedial earthwork phase. This does not include any of the samples undertaken as part of the preceding investigations. The rate and location of sampling positions was determined by the discovery strategy and at the discretion of the EPS Engineer as defined in the Remedial Strategy.

At the outset it was envisaged that the cut & fill process would be contained to within the discrete grid cells and the sampling would be focussed on the point of 'origin'. But in reality the process was an excavation within a grid cell, then a distribution of the material in a thin layer over a wider 'destination' area, which may have extended to beyond a single grid. So the initial origin samples may not have been particularly representative of the final grid cell where the material was re-instated, although still yielding valuable data. To ensure that representative data was gathered of both the 'origin' and 'destination' samples, the approach to sampling was refined to include both and this is reflected in the nomenclature which is as follows:

Sample Typ	No. of Samples	Identification	Example	Comment
BH3 hotspot	12	'TP BH3'	TP BH3 N1	Trial Pit Orientation (North, East) or B (bae) of excavation
Stockpile	5	'SP'	SP B10-C13 01	Stockpile number Cell range Numeric reference
Crushed Stockpile	38	'SP'	SP03 E5 18	Stockpile number Collected from cell Numeric reference
Trial Pit	22	'TP'	TP109 D10 1.5	Trial Pit Collected from cell Depth (m bgl)
Origin (cut)	30	'OR'	OR H6 01 Surface	Origin sample Collected from cell Numeric reference Depth of sample (m bgl)
Destination (fill)	33	'DT' *	DT J9 01 Surface	Destination sample Collected from cell Numeric reference Depth of sample (m bgl)
Groundwater	17	By Well Ref.	'BH03' – Groundwater samples from monitoring well BH03	-
Total (soil & groundwater)				157

* Count includes two samples erroneously labelled VS

* Samples relating to drainage features are referred to in this report, with 'drain' or 'int' (interceptor).

2.2.3 Analytical Suites

Initially EPS developed analytical suites for the principal contaminants of concern. This was largely based on the previous investigations, the CSM and input from the end-client which meant the suites were very broad-ranging as a result. To ensure the data was of high value, the initial intention was to only undertake the Full/Enhanced suites in areas of concern/hotspots where the additional data (relative to the Standard suite) would add value. However, primarily because of the phthalates and the difficulty identifying them in the field with visual/olfactory evidence, the full/enhanced suites were the most widely used as shown in the table below. The full sampling schedules are also included as Table 1 (soils) and Table 2 (water).

Testing Suites		No. of samples taken
Soils/Fill	Standard – PAH, Heavy Metals, Asbestos Screen, Cyanide (non-specified), Phenol (non-specified) & TPH CWG, BTEX	66
	Full/Enhanced – PAH, Heavy Metals, Asbestos Screen, Cyanide (non-specified), Phenol (non-specified), TPH CWG, BTEX, VOCs, SVOCs & Ammoniacal Nitrogen	69
	Waste – Standard & Full plus Inert WAC	3 (at request of TSL)
Tarmac	Coal tar (absence/presence), PAHs, biomarkers (triterpane triaromatic steranes), saturates, aromatics, resins, asphaltenes scanning electron microscopy.	2

Groundwater	Full – PAH, Heavy Metals, Cyanide, Phenol, TPH CWG, BTEX, VOCs, SVOCs & Ammonical Nitrogen	17
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Notes

PAH	Polycyclic Aromatic Hydrocarbons
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
TPH CWG	Total Petroleum Hydrocarbons (Criteria Working Group)
VOCs	Volatile Organic Compounds (SVOCs – Semi-Volatile)
WAC	Waste Acceptance Criteria

All soil analytical results are included in Appendix F, and all water analytical results are included in Appendix G. The sample locations are described in Table 3 as well Figure 3 where relevant.

2.3 Remedial Targets & Re-Use Criteria

Environmental re-use criteria were defined in the Remedial Strategy and MMP. These are included in a summary table in Appendix B and were subject to a written letter of approval by Jonathan Driver of HBC on the 20th October 2021 (letter is included in MMP).

Geotechnical criteria were presented in the Earthworks Specification by Pinnacle Consulting Engineers as described within the MMP.

All of the sample results and their status in relation to the environmental re-use criteria are given in Table 3. In addition, the individual sets of results relevant to specific parts of the site are given in Section 2.5 -2.8.

2.4 Soil Quarantine & Waste Management

Within the MMP (Supporting Documents), the earthworks phasing was included which showed a processing/quarantine area for potentially unsuitable soils pending test results. This quarantine area was setup in the south west of the site as intended. Samples collected from the quarantine area received the designation of SP01.

The quarantine area was surrounded by site won crushed material, nominally 0.4m high but with allowance made for the natural surface gradient. The quarantine area, including the surrounding crush, was completely covered with proprietary damp proof membrane (Visqueen plastic) before potentially unsuitable soils were imported into the area. This stockpile was also covered before forecast poor weather.

The waste management was undertaken by TSL although a small number of waste tests (SP01.1, SP01.2 & SP01.3) were taken to assist them in characterising the waste.

The materials identified as unsuitable and required off-site disposal in accordance with the Remedial Strategy are summarised as follows:

- 1) Arisings from BH3 hot-spot excavation, as summarised in Section 2.6. This equated to c.100 tonnes/8 loads of soils off-site disposal.
- 2) Excavation from phthalates failure material in stockpile, as summarised in Section 2.7. This equated to c.50m³. This resulted in an additional load of soil for off-site disposal.

- 3) A small amount of material excavated from the base of the interceptor structure excavated from G4 was also imported to the quarantine area but reused following receipt of favourable laboratory analysis (sample ref OR G4 Int 1, 2 & 3).

TSL have confirmed that the total number of loads taken for off-site disposal was 9. The waste transfer documentation is included in Appendix E.

2.5 Borehole BH3 (Phthalate Hotspot) November 2021

At borehole BH3, a localised excavation was required in the Remedial Strategy to remove unacceptable levels of the phthalates Bis (2-ethylhexyl) phthalate (B2eP) and Butylbenzyl phthalate (BBP) which were detected in the soils (at 53.568mg/kg), but not in the surrounding soils (at trial pits TP24 and TP25) or underlying groundwater sampled from BH3 itself, suggesting vertical migration was limited.

The source of this detection was not defined in the previous assessments. The contamination is likely to be have been associated with a coating substance emanating from a drain as there were drainage runs in that area with gullies and inspection chambers, as BH3 was external of the buildings. The coating may have been used for tabletting or packaging.

Due to the lack of clarity over the source of the phthalates in this location and the lack of field evidence of contamination when drilling BH3, it was not known whether the extent of the contamination would be obvious based on field observations. At these concentrations phthalates are odourless and colourless, and of low volatility. The Photo Ionisation Detector (PID) instrument used elsewhere on-site would detect VOCs, but likely not phthalates. However during the excavation, field evidence was recorded which allowed the excavation to be steered, as described in Survey123 report dated 12th September 2022 in Appendix E.

Due to careful excavation by TSL/Collins and supervision by EPS, the monitoring well at BH3 was retained whilst the excavation extended around it. As BH3 was in the original hot spot, and BH7 was hydraulically down gradient of it, both wells were retained as part of the groundwater monitoring programme (see Section 2.12).

Pertinent results from the excavation at BH3 are included in the table below.

BH 3 Initial Excavation 30/11/21

Contaminant	Re-use criteria (mg/kg)	No. of Samples	No of Detections	Range of Detections (mg/kg)		Highest Location & Depth (m bgl)	Achieved re-use criteria?	
				Min	Max		P	Y
Bis(2-ethylhexyl) phthalate (B2eP)	2.2	9	1	0.144		TP-BH3 E1 (1m)	P	
Butylbenzyl phthalate (BBP)	6.6	9	5	0.602	16.818	TP-BH3 S1 (1m)	Y (TP-BH3 E1)	

Relevant samples: TP-BH3 N1 (1.0m), TP-BH3 N2 (2.0m), TP-BH3 S1 (1.0m), TP-BH3 S2 (2.0m), TP-BH3 E1 (1.0m), TP-BH3 E2 (2.0m), TP-BH3 W1 (1.0m), TP-BH3 W2 (2.0m), TP-BH3 B (2.0m)

Once the initial excavation was completed, face & base verification testing of soil samples passed re-use criteria on all sides except the south (sample ref TP-BH3 S1,1m). As such, the excavation was extended in that orientation and the face and base results of that extension were then satisfactory, with all results below detection limits. The waste arisings were disposed of (see Appendix E). The excavation around BH3 was approximately 2m deep, and 8m wide/long centred on BH3. The southern extension added a further 5m in length, maintaining the same width and depth dimensions.

BH3 Extended Excavation 9/12/21

Contaminant	Re-use criteria (mg/kg)	No. of Samples	No of Detections	Range of Detections (mg/kg)		Highest Location & Depth (m bgl)	Achieved re-use criteria?	
				Min	Max		P	Y
Bis(2-ethylhexyl) phthalate (B2eP)	2.2	3	0	-	-	-	P	
Butylbenzyl phthalate (BBP)	6.6	3	0	-	-	-	P	

Relevant samples: TP BH3 SW (1.0m), TP BH3 S.2 (1.0m), TP BH3 SE (1.0m)

All samples from the extended excavation achieved re-use criteria. This was also corroborated field evidence, see Survey 123 reports.

2.6 Stockpile Failures (Phthalates) January 2022

During routine testing of stockpiled crushed fill materials, phthalates were encountered in two samples above re-use criteria. These were taken in sections of stockpiles referred to as SP02 and SP03.

Stockpile Testing Failures 21/12/21

Contaminant	Re-use criteria (mg/kg)	No. of Samples	No of Detections	Range of Detections (mg/kg)		Highest Location & Depth (m bgl)	Achieved re-use criteria?	
				Min	Max		P	Y
Bis(2-ethylhexyl) phthalate (B2eP)	2.2	5	5	0.304	4.618	SP02 J3 01		Y
Butylbenzyl phthalate (BBP)	6.6	5	1	0.803	2.109	SP02 K3 03	P	

Note:

- SP02 and SP03 were stockpiles of site won materials, principally below ground building foundations, crushed ready for future use as engineered fill.
- SP E6-G9 01 was a temporary stockpile of excess soil accumulated from cells E6 to G9 when foundations were being excavated from that area.

Relevant samples: SP02 J3 01, SP02 J4 02, SP02 K3 03, SP03 C5 01, SP03 C5 02

Condemning the whole stockpiles to landfill purely as a result of these selected samples would not be a pragmatic or necessary solution. The majority of these materials were derived from demolition arisings (from crushing the building and foundations) but it is plausible that some soil adhered to the

concrete foundations prior to crushing, although it seems equally likely that a residue from a drain or a coating used in the building could have caused the finding.

The failures were also marginal, and the re-use criteria for these phthalates were known to be conservative as described in the Remedial Strategy. But to deliver a pragmatic and suitable solution in accordance with the strategy, localised excavations were undertaken around the sampling points and those materials were removed for disposal off site. The waste transfer documentation is included in Appendix E.

EPS then re-tested the exposed sides of the excavations, and the results all achieved re-use criteria as summarised below

Stockpile Re-Testing Following Localised Excavation 17/1/21

Contaminant	Re-use criteria (mg/kg)	No. of Samples	No of Detections	Range of Detections (mg/kg)		Highest Location & Depth (m bgl)	Achieved re-use criteria?	
				Min	Max		P	Y
Bis(2-ethylhexyl) phthalate (B2eP)	2.2	6	3	0.192	0.414	SP02 J3 05P 1.0m	P	
Butylbenzyl phthalate (BBP)	6.6	6	1	0.767		SP02 J3 06P 1.50m	P	

Relevant samples: SP02 J3 04 P (2.0m), SP02 J3 05 P (1.0m), SP02 J3 06 P (1.50m), SP03 C5 09 P (1.0m), SP03 C5 10 P (2.0m), SP03 C5 11 P (1.0m).

No further removal of material was considered necessary from these stockpiles.

2.7 Areas of Potential Concern & Depth of Excavations

As stated in Section 1.3, coincidentally much of the eastern half of the site was to undergo a 'cut' and this should have helped with the exploration of the Areas of Potential Concern and the underpinning discovery strategy. However the cut was not intended to be very deep and in many areas was <0.5m hence why in the Remedial Strategy a provision was made for extra trial pitting in the areas of concern.

In reality, a significant challenge to the wider earthworks programme was the presence of deep foundations from the form Pfizer buildings. Primarily substantial ring-beam foundations resulted in a turn of soil consistently to around 1.5m depth across the vast majority of the site. The buildings on the southern border of the site, approximately cells G7 to J10 had pile foundations which were locally excavated to a depth of around 7m bgl. No visual or olfactory evidence of contamination was recorded in soils in this area.

Whilst these deep foundations were problematic for TSL and Collins, it did mean that EPS were able to implement the Discovery Strategy to a greater level of intensity and depth, by inspecting and sampling soils across the shallow profile to a greater level of detail and sampling density than originally planned. It did however mean that these structures had to be removed and that reduced the volume of site won soils and increased the crushed fill as described in Section 3. When encountered, samples

were collected from beneath excavated drainage pipework. Any materials which looked potentially unsuitable for reuse were moved to the quarantine area.

The consolidated results relative to re-use criteria covering these areas are included in Table 3.

2.8 General Material Re-Use

In areas which were otherwise not expected to be affected by contamination, there was still a need to test the material at sufficient rates to ensure it was suitable for re-use. Although this was likely to be true anyway given the visual absence of contamination and EPS' existing understanding of the soil quality based on previous investigations, the testing provides a clear record of material quality and the consistent achievement of re-use criteria.

The consolidated results covering these areas in terms of achieving re-use criteria are included in Table 3 and within the relevant Survey123 in Appendix D.

2.9 Asbestos in Soils

Significant concentrations of Asbestos Containing Materials or fibres in soils were not anticipated and were not encountered in the previous investigations. But with any made ground on previous commercial sites, the presence of asbestos should not be ruled out and as such it was tested for in all soil suites.

Lab analysis detected asbestos fibres in a two samples, but quantification showed the fibres to be below 0.001%, which is the accredited detection limit (and therefore the true result could be much lower) and all results were well within the re-use criteria. This suggests the soils have an unusually low amount of asbestos within them compared to typical brownfield sites in England where concentrations above this value are commonplace. No further action or detailed property registers are considered necessary under the Construction Design Management Regulations 2015 or the Control of Asbestos Regulations 2012.

2.10 Underground Tanks & Drainage Features

Four underground storage tanks were discovered on site and their locations are shown on Figure 3. The tanks were found in the following cells; A10 (east of the substation building), K6 & K7 (both beneath the former perimeter road) which were excavated completely and samples collected from the base of the excavations. No visual or olfactory evidence of contamination was seen in the soils excavated from, or remaining in the faces of, the excavations.

A further tank was located in cell B9 (immediately east of the substation). The tank consisted of a vertically orientated reinforced concrete ring structure approximately 6m in diameter. TSL decided to backfill the tank without excavating the structure. No evidence of contamination was seen.

An underground structure was located cell G4. The structure consisted of a three chambers formed from reinforced concrete and appeared consistent with an oil water interceptor.

The principal drainage runs were identified as an Area of Potential Concern in the Remedial Strategy and a high degree of confidence can be stated that these drainage runs were all excavated/inspected

and sampled for any residual contamination. This was made easier due to the deeper 'turn of soil' as described in Section 2.7 where the soils were excavated to at least 1.5m across the site, if not much deeper in certain areas and therefore expected to capture any unrecorded drainage. Samples relating to drainage features are referred to in this report, with 'drain' or 'int' (interceptor). The majority of drainage runs were simply encountered during earthworks rather than chased out. For where drains extended off site, TSL capped them in all locations to avoid run-off into the public drainage system. Connection into the remaining four drainage runs will be the first part of drainage works in the next phase (construction).

The exception to this was an asbestos drain encountered at the western edge of the site at the end of the earthworks and this was chased out and the asbestos subsequently removed from site. It was a storm water drain, which TSL permanently capped at the site boundary. This is the only drainage run that will not be used for the new development. The method used for these decommissioning works was mixing sand and cement, placing this into sandbags and placing in the mouth of the pipe at the boundary. The asbestos drain was chased out through cells G4 & 5. The excavation was estimated to be around 30m long and was perpendicular to New Lane. The location of these drains including the asbestos feature is shown on the plan included in Appendix D.

2.11 Groundwater Monitoring

The monitoring of selected wells was undertaken at roughly 4-weekly periods throughout the works.

At the outset of the earthworks there were 45 monitoring wells, and only six needed to be retained. The other 39 wells were formally decommissioned through grout pumping by Remediation Technologies Ltd.

The decommissioning comprised the sealing up of monitoring wells using a wet cement / grout slurry. The process involved the mixing up of a suitable slurry using dehydrated mix of cement, bentonite powder and water and then pumping it into the various monitoring wells previously installed. Displaced water from the various wells would then be extracted, contained and then processed through carbon before disposal to drain.

As with the previous investigation, 'low-flow' sampling techniques had been used in order to minimise the amount of sediment entrained in the samples. The full results are included in Appendix G and summarised as follows:

Contaminant	No. of Samples	No of Detections	Range of Detections (ug/ l)		Highest Location & Monitoring Visit No.
			Min	Max	
Arsenic	17	1	2.7		BH01 (#3)
Calcium	17	0	-		-
Chromium	17	2	1.7	3.4	BH03 (#2)
Copper	17	0	-	-	-
Lead	17	0	-	-	-
Mercury	17	0	-	-	-
Nickel	17	2	7	14	BH12
Selenium	17	1	-		-
Zinc	17	6	3	23	BH17
Naphthalene	17	0	-		-
Benzo[a]pyrene	17	0	-		-
TPH CWG	17	0	-		-
VOCs	17	1	3 (Chloroform)		BH01 (#3)
Phenols	17	0	-	-	Phenols
Phthalates	17	0	-	-	Phthalates
SVOCS(exc. Phenols/ Phthalates)	17	0	-	-	-
Cyanide	17	0	-	-	-
Ammoniacal Nitrogen	17	4	30	50	BH07 (#1)

Notes

- Contaminant not found above laboratory detection limits
PAH Polycyclic Aromatic Hydrocarbons
BTEX Benzene, Toluene, Ethylbenzene, Xylenes
TPH CWG Total Petroleum Hydrocarbons (Criteria Working Group)
VOCs Volatile Organic Compounds (SVOCS – Semi-Volatile)

- Number of Samples: Six monitoring wells were scheduled to be sampled on three occasions through the earthworks, on the 29/11/21 (#1), 5/1/2022 (#2) & 2/2/2022 (#3). The only exception being on the first visit where BH17 was not accessible due to adjacent demolition work and therefore only five wells were sampled.
- No Contaminants of Concern were detected at concentrations above relevant screening criteria (as defined in the Phase II report). The dissolved metals detected are likely to reflect generally background concentrations. Therefore no further risk assessment for controlled waters or refinement of the CSM in this regard is considered necessary.
- The remedial earthworks do not appear to have influenced groundwater quality beneath the site. There is no trend of worsening concentrations during the course of the works.

A comprehensive investigation of soil vapour had been undertaken in the previous assessments and some additional simple screening of the surface materials was undertaken as part of these works just to highlight any areas potentially requiring further attention, although it was unlikely that significant volatile contamination would remain in the ground given the sampling data and aeration of the soils undertaken.

A Photo Ionisation Detector (PID) is a field instrument used to measure volatile organic hydrocarbon vapours. Vapour levels can be used to target remediation work, consequently a

PID was retained on site throughout the work to be used should any hydrocarbon contamination be encountered. Since no signs of such contamination were seen, a precautionary survey was performed on 16th February 2022. A shovel was used to disturb the surface layer of soil in every second available grid square on site. An extension hose attached to the PID was inserted into the disturbed soil and a measurement made. No hydrocarbon vapour readings were detected during the survey. Over 40 measurements were made across the site, principally in columns to the east of grid column "6". At the time of the survey, columns 1- 5 were either; occupied by offices, had not yet had its surface covering removed, was under a stockpile or was a working area where plant movements were ongoing. It is not deemed likely that any significant additional remedial works would be required in these grid cells so it is not considered a significant issue.

In the Remedial Strategy, in addition to the 4-weekly monitoring rounds there was also a visit scheduled for 12 weeks after the program had finished. Obviously the maintenance responsibility for retaining the wells for this duration would be quite significant for the principal contractor. As such, at the request of TSL, EPS reviewed the available data from the 3 existing rounds and concluded that given the complete absence of any significant contamination and the earthworks had largely concluded, there did not appear to be a need for any further monitoring. EPS spoke to Jonathan Driver in Environmental Health at Havant Borough Council on the 21st February 2022 and he was also of that view, in that additional monitoring was only necessary if it would add value to the characterisation of contamination at the site and that did not appear to be the case. This was confirmed in an email from Mr Driver received on the 9th March. So the requirement was dropped and the remaining six wells were decommissioned through grout pumping as before on the 1st March 2022 by Remediation Technologies Ltd.

2.12 Re-use of Tarmac (Coal Tar Analysis)

The presence of coal tar was not part of the re-use criteria in the Remedial Strategy but the re-use of tarmac containing coal tar under a U1 permit exemption is not allowed at hazardous concentrations (i.e. coal tar content above 0.1%). As such, for the modest volume of tarmac re-used at the Pfizer site it was tested for coal tar on a precautionary basis to ensure full compliance. The results are as follows, and show that the material did not contain hazardous concentrations of coal tar and would have been appropriate for re-use under a U1 exemption if one had been required (it was not as these materials were covered under the MMP).

Sample ref.	No. of Samples	Coal Tar Content
SP MAC WEST SP MAC EAST	2	<0.1 %

2.13 Geotechnical Testing

As required by the MMP and Earthworks Specification, geotechnical testing was required of both the materials subject to re-use and their performance following compaction. The results along with a covering letter from Pinnacle Consulting Engineers outlining how the materials complied is included in Appendix H.

3 MATERIALS MANAGEMENT

3.1 Details and Quantities of Excavated, Screened, Treated and Reused Soils

In terms of quantities of materials managed, the following table shows the estimated re-use quantities stated in the MMP compared to the actual quantities.

Material	Estimated Quantity from MMP	Actual Quantities
Site Won Fill Materials	Total Cut - 12,175m ³	Total Cut – 5,578.1m ³
	Total Fill - 10,460m ³	Total Fill - 8,988.0m ³
	= Surplus (export volume) of 1,715m ³	= Deficit (import volume) of 3,409.9m ³

The reason the earthworks balance went from a modest surplus to quite a large deficit is because the volumes of crushed materials generated through the demolition and foundation removal was larger than anticipated. The remaining earth movements will be carried out in the construction phase. This will include re-using c.35, 000m³ of currently present stockpiled crushed fill materials, to be supplemented with drainage arisings in due course. These materials have already been tested and inspected as part of these works so no further environmental testing is considered necessary. No significant import of material is envisaged. The remaining installation of site-won materials, imported material quality (if any) will be reported in a separate Construction Phase Verification Report.

4 VERIFICATION STATEMENT

On the basis of the information obtained by EPS and supplemented during the remedial works by both TSL and their sub-contractors, it is concluded that the earthworks aspects of the Remedial Strategy and the Materials Management Plan prepared for the former Pfizer site have been implemented satisfactorily. The current development platform for building the new unit should, through this report and associated records, have a clear audit trail demonstrating soil and groundwater quality and a clear 'bill of health' in terms of planning requirements, waste management and any liabilities relating to contaminated land.

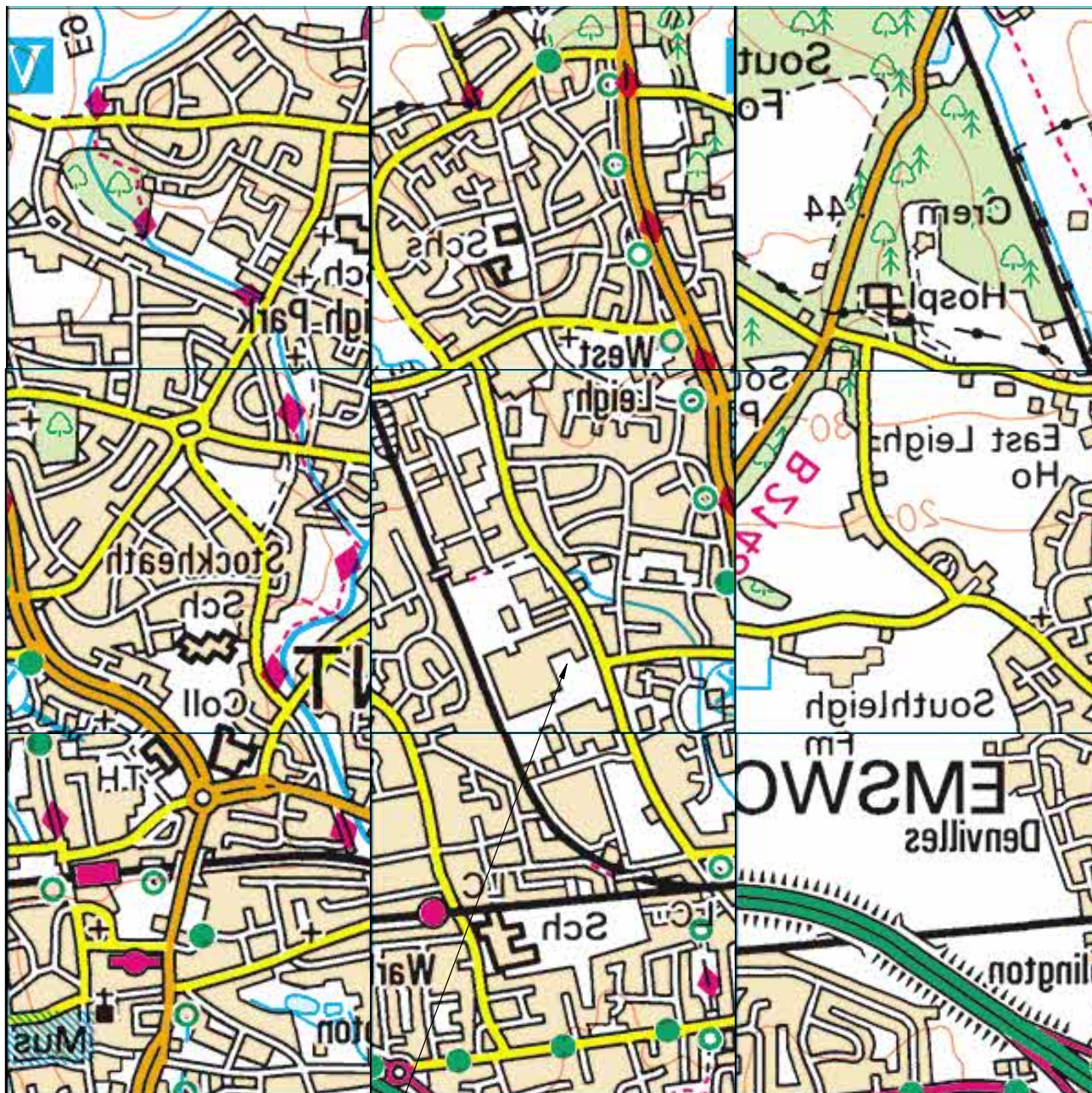
This position also completes the phase of the project covered by the Materials Management Plan.

For the aspects of the Remedial Strategy that remain outstanding, they will be reported in a separate Construction Phase Verification Report, likely in late 2022. This will cover the remaining installation of site-won materials, imported material quality (if any) plus the discretionary aspects of the Remedial Strategy in the building such as the installation of sub-floor soil gas protection.

5 GLOSSARY

ACM	Asbestos Containing Material
BTEX	Benzene, Toluene, Ethylbenzene & Xylenes
CSM	Conceptual Site Model
DEFRA	Department of Environment, Food and Rural Affairs
EA	Environment Agency
EPS	Environmental Protection Strategies Ltd
MTBE	Methyl Tert Butyl Ether
PAH	Polycyclic Aromatic Hydrocarbons
PID	Photo-Ionisation Detector
TPH CWG	Total Petroleum Hydrocarbons (Criteria Working Group)
VOCs	Volatile Organic Compounds (SVOCs – Semi-Volatile)
WAC	Waste Acceptance Criteria

FIGURES



Approximate Site Location

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Title: Site Location Plan

Project: 32 New Lane, Havant

Fig No: 1

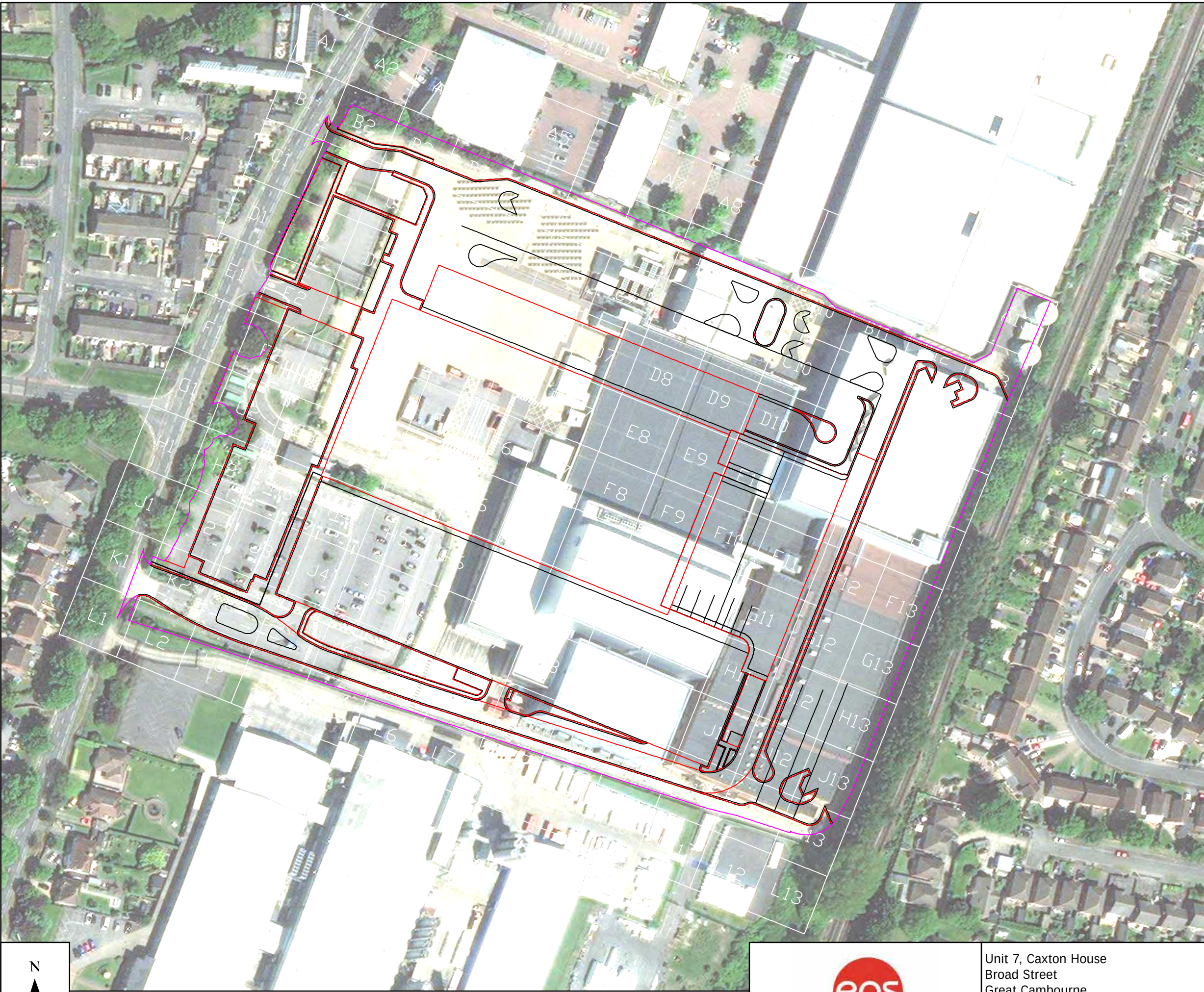
Scale: NTS

Drawn By: MJ **Approved By:** MB

Job No: UK2 1.5634

Dwg No: 32NewLane/ 0321/ 01

Date: March 2022



Legend

Title: Site Layout Plan

Project: Pfizer Havant

Client: HPI

Reference Scale: 1:1,500 @ A3

0

10

20

40

60

80

100

Meters

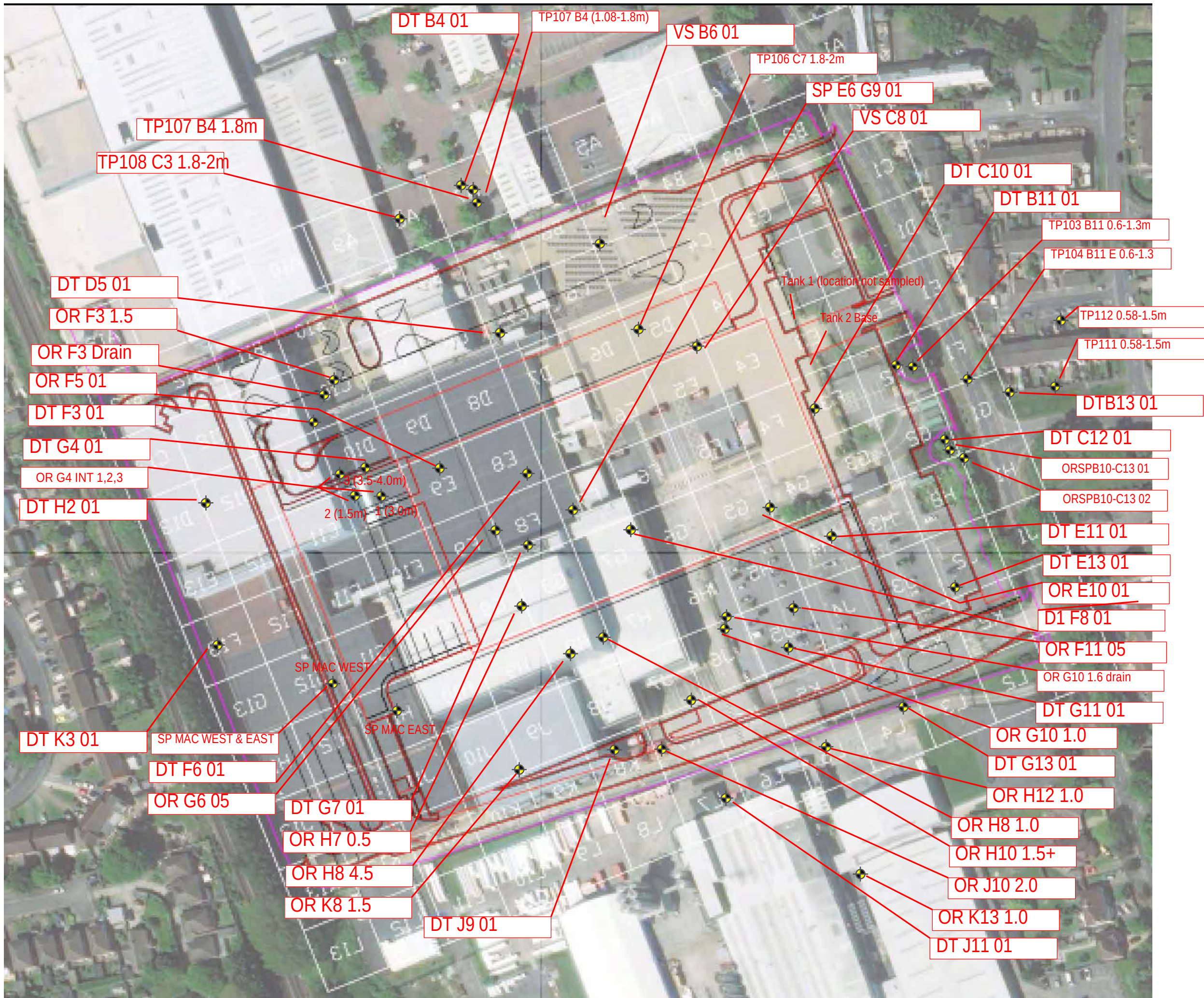


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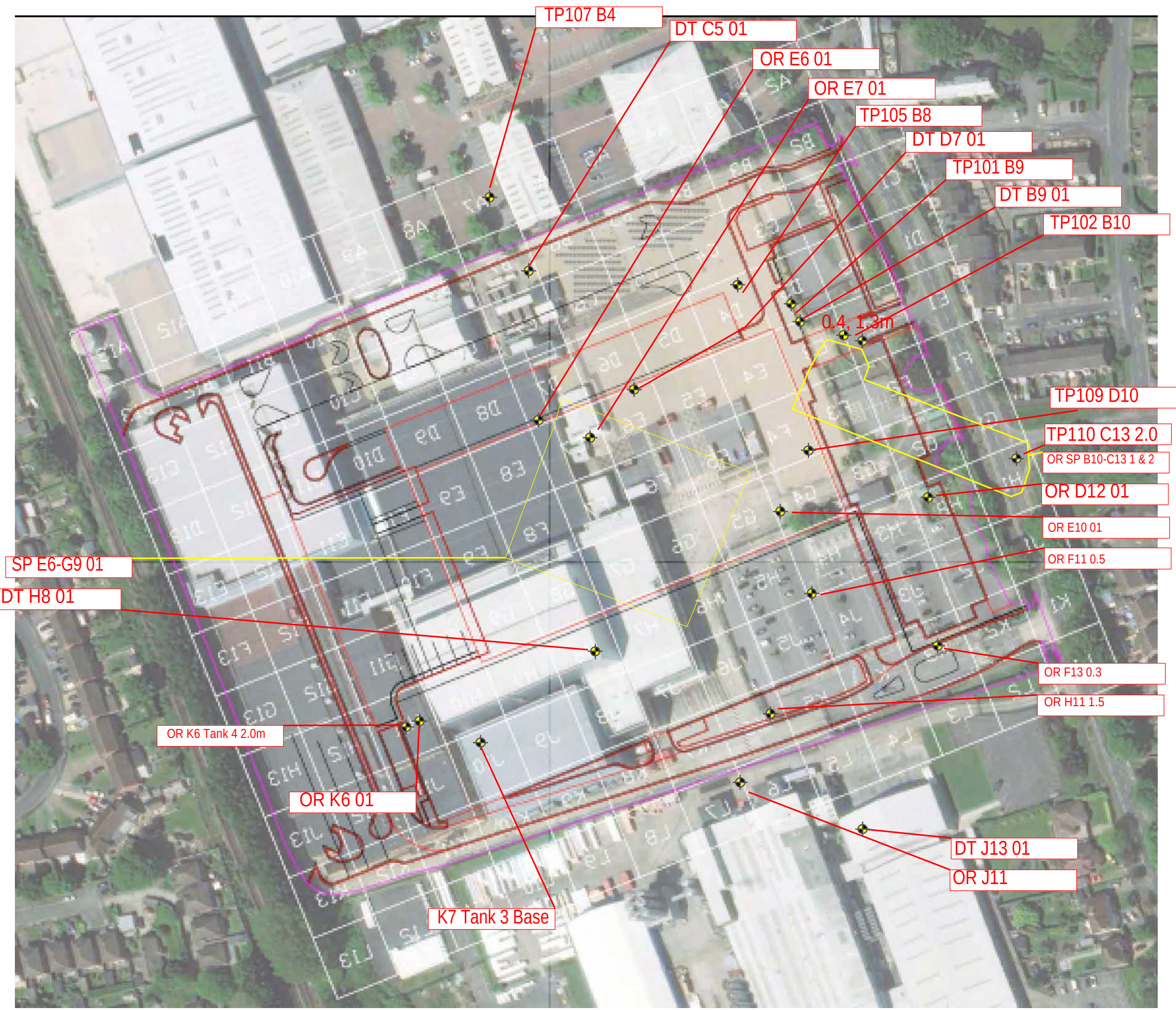
Unit 7, Caxton House
Broad Street
Great Cambourne
Cambridge
CB23 6JN

Project No:	
Drawing No:	Revision:
Drawn By: KD	Date: 16/03/2022
Checked By:	Date:

 Approximate Sampling Location

Project: Pfizer Havant





KEY:

 Approximate Sampling Location

Figure 3: Verification Sampling Plan Pt 2

Project: Pfizer Havant

Scale: NTS - For Illustration purposes only
Drawn By: MB
Job No: UK21.5634
Dwg No: Pfizer/1603/3
Date: March 22





Note. Stockpile 4 was eventually consolidated into stockpile 2.

Figure 4: Stockpile Plan correct 18-2-2022

Project: Pfizer Havant

Scale: NTS - For Illustration purposes only
Drawn By: MB
Job No: UK21.5634
Dwg No: Pfizer/1603/4
Date: March 22



Sample	Date Collected	Analysis
SP04 H4 01	21/01/2022	Full
SP04 J5 02	02/02/2022	Full

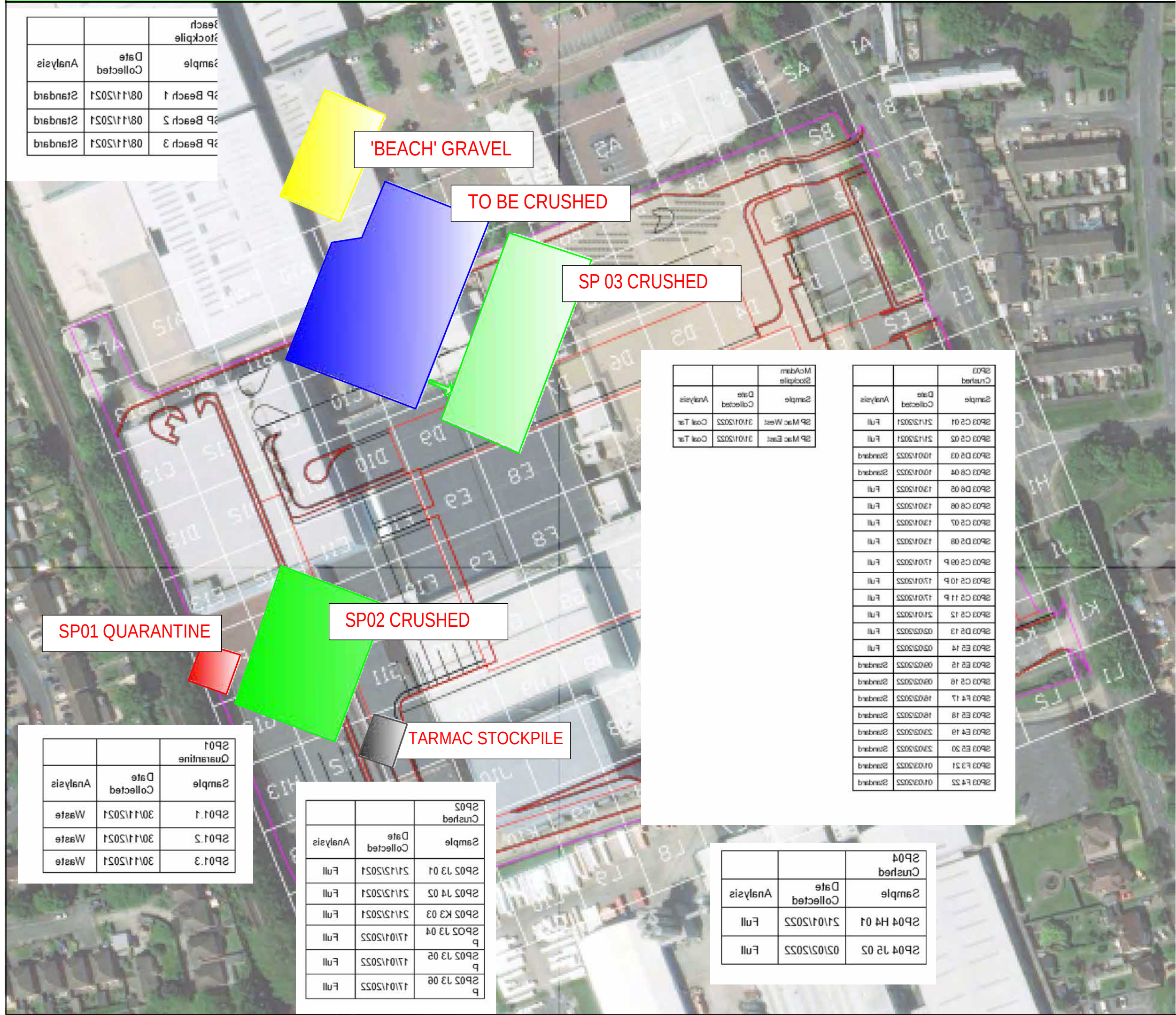
Sample	Date Collected	Analysis
SP03 C4 01	21/12/2021	Full
SP03 C4 02	21/12/2021	Full
SP03 D4 03	10/01/2022	Standard
SP03 C4 04	10/01/2022	Standard
SP03 D4 05	13/01/2022	Full
SP03 C4 06	13/01/2022	Full
SP03 C4 07	13/01/2022	Full
SP03 D4 08	13/01/2022	Full
SP03 C4 09 P	17/01/2022	Full
SP03 C4 10 P	17/01/2022	Full
SP03 C4 11 P	17/01/2022	Full
SP03 C4 12	21/01/2022	Full
SP03 D4 13	02/02/2022	Full
SP03 E4 14	02/02/2022	Full
SP03 E4 15	08/02/2022	Standard
SP03 C4 16	08/02/2022	Standard
SP03 F4 17	16/02/2022	Standard
SP03 E4 18	16/02/2022	Standard
SP03 E4 19	23/02/2022	Standard
SP03 E4 20	23/02/2022	Standard
SP03 F4 21	01/03/2022	Standard
SP03 F4 22	01/03/2022	Standard

Sample	Date Collected	Analysis
SP Mac West	31/01/2022	Coal Tar
SP Mac East	31/01/2022	Coal Tar

Sample	Date Collected	Analysis
SP02 J3 01	21/12/2021	Full
SP02 J4 02	21/12/2021	Full
SP02 K3 03	21/12/2021	Full
SP02 J3 04	17/01/2022	Full
SP02 J3 05	17/01/2022	Full
SP02 J3 06	17/01/2022	Full

Sample	Date Collected	Analysis
SP01 J1	30/11/2021	Waste
SP01 J2	30/11/2021	Waste
SP01 J3	30/11/2021	Waste

Sample	Date Collected	Analysis
SP Beach 1	08/11/2021	Standard
SP Beach 2	08/11/2021	Standard
SP Beach 3	08/11/2021	Standard



TABLES

Table 1 –Laboratory Analysis Schedule – Soils

Analytical Suite	Samples (depth mbgl)			No. Samples Submitted for Analysis
Standard	TP101 B9 (1.0) TP101 B9 (1.4) TP102 B10 (0.4) TP102 B10 (1.3) TP103 B11 (0.6) TP103 B11 (1.3) TP104 B11 (E) (0.6) TP104 B11 (E) (1.3) SP BEACH 1 (surface) SP BEACH 2 (surface) SP BEACH 3 (surface) TP106 C7 (1.0) TP106 C7 (2.0) TP107 B4 (1.0) TP107 B4 (1.8) TP108 C3 (1.0) TP108 C3 (2.0) OR D12 01 (1.0) DT B11 01 (surface) DT C10 01 (surface) DT C12 01 (surface) DT E9 01 (surface)	DT F8 01 (surface) DT G7 01 (surface) DT G9 01 (surface) SP03 D5 03 (surface) SP03 C6 04 (surface) OR G10 (1.0) OR H12 (0.5) OR K13 (1.0) DT F6 01 (0.0) DT B13 01 (0.0) DT G13 01 (0.0) OR H7 (0.5) DT E11 01 (surface) DT E13 01 (surface) OR F3 (1.5) OR G4 (surface) DT J13 01 (surface) OR H10 (1.5) OR H8 (1.0) OR H8 (4.5) OR K8 (1.8) SP03 E5 15 (surface)	SP03 C5 16 (surface) OR F3 DRAIN (2.5) DT F3 01 (surface) DT G4 01 (surface) OR F5 01 (surface) DT J9 01 (surface) DT H8 01 (surface) SP03 F4 17 (surface) SP03 E5 18 (surface) OR K6 01 (surface) DT K3 01 (surface) DT H2 01 (surface) DT H3 01 (surface) DT H5 01 (surface) OR H6 01 (surface) DT E2 01 (0.5) DT G2 01 (0.5) SP03 E4 19 (surface) SP03 E5 20 (surface) DT C2 01 (surface) SP03 F3 21 (surface) SP03 F4 22 (surface)	66
Full/ Enhanced	TP105 B8 (1.0) TP105 B8 (1.8) TP-BH3 N1 (1.0) TP-BH3 N2 (2.0) TP-BH3 S1 (1.0) TP-BH3 S2 (2.0) TP-BH3 E1 (1.0) TP-BH3 E2 (2.0) TP-BH3 W1 (1.0) TP-BH3 W2 (2.0) TP-BH3 B (2.0) TP BH3 SW (1.0) TP BH3 S.2 (1.0) TP BH3 SE (1.0) TP109 D10 (1.5) VS C8 01 (surface) VS B6 01 (surface) TP110 C13 (2.0) OR E10 01 (1.0) OR SPB10-C13 01 (surf) OR SPB10-C13 02 (surf)	OR E7 01 (1.0) OR E6 01 (1.0) DT D5 01(surface) DT B9 01(surface) DT B4 01(surface) DT C5 01 (surface) DT D7 01(surface) SP02 J3 01 SP02 J4 02 SP02 K3 03 SP03 C5 01 SP03 C5 02 SP E6-G9 01 OR F11 (0.5) OR F13 (0.3) OR G6 (0.5) SP03 D6 05 (surface) SP03 C6 06 (surface) SP03 C5 07 (surface) SP03 D5 08 (surface) SP02 J3 04 P (2.0)	SP02 J3 05 P (1.0) SP02 J3 06 P (1.5) SP03 C5 09 P (1.0) SP03 C5 10 P (2.0) SP03 C5 11 P (1.0) OR H11 (1.5) OR G10 (1.6) OR J11 (surface) SP03 C5 12 (surface) SP04 H4 01 (surface) SP03 D5 13 (surface) SP03 E5 14 (surface) SP04 J5 02 (surface) DT G11 01 (surface) OR J10 (2.0) DT J11 01 (surface) OR G5 DRAIN (1.3) OR G4 INT1 (3.0) OR G4 INT2 (1.5) OR G4 INT3 (3.5-4.0) B10 T2 BASE (surface) TP111 (0.5) TP111 (1.5) TP112 (0.5) TP112 (1.5) K7 TANK 3 BASE (3.0) OR K6 TANK 4 (2.0)	69
W aste	SP01.1 SP01.2 SP01.3			3
Coal Tar	SP MAC WEST SP MAC EAST			2
Total				140

Suites:

EPS Standard	PAH (US EPA17), Heavy Metals, Asbestos Screen, Cyanide (non-speciated), Phenol (non-speciated) & TPH CWG, BTEX
EPS Full/Enhanced	PAH (US EPA 17), Heavy Metals, Asbestos Screen, Cyanide (non-speciated), Phenol (non-speciated), TPH CWG, BTEX, VOCs, SVOCs & Ammoniacal Nitrogen
EPS Waste	Standard & Full plus Inert WAC (Waste Acceptance Criteria)
Coal Tar	Coal tar (absence/presence), PAHs, biomarkers (triterpanes, triaromatic steranes), saturates, aromatics, resins, asphaltenes and scanning electron microscopy.



Table 2 –Laboratory Analysis Schedule – Groundwater

Sample ID	Monitoring Round #1 29/11/21	Monitoring Round #2 5/1/22	Monitoring Round #3 2/2/22
BH01	1	1	1
BH03	1	1	1
BH07	1	1	1
BH12	1	1	1
BH17	*	1	1
BHGA 07A	1	1	1

Suites:

EPS Water

*

PAH (US EPA 17), Heavy Metals, Cyanide, Phenol, TPH CWG, BTEX, VOCs, SVOCs & Ammoniacal Nitrogen
Unsafe to access due to ongoing demolition work nearby



Table 3 –Consolidated Soil Results Compared to Re-Use Criteria

Sample Ref	Site Grid Locati	Observations/ Comments	Passed RE-USE CRITERIA P Y	For Failures of RE-USE CRITERIA		
				Sample Ref	Site Grid Location	Passed RE-USE CRITERIA
TP101 B9 (1.0)	B9	Trial pitting exercise to get an early soil sample data set	P			
TP101 B9 (1.4)	B9		P			
TP102 B10 (0.4)	B10		P			
TP102 B10 (1.3)	B10		P			
TP103 B11 (0.6)	B11		P			
TP103 B11 (1.3)	B11		P			
TP104 B11 (E) (0.6)	B12		P			
TP104 B11 (E) (1.3)	B12		P			
SP BEACH 1	C3	Stockpile of gravel surfacing.	P			
SP BEACH 2	C3		P			
SP BEACH 3	D3		P			
SP03 D5 03 (0.0)	D5		P			
SP03 C6 04 (0.0)	C6		P			
OR G10 (1.0)	G10		P			
OR H12 (0.5)	H12		P			
OR K13 (1.0)	K13		P			
DT F6 01 (0.0)	F6		P			
DT B13 01 (0.0)	B13		P			
DT G13 01 (0.0)	G13		P			
OR H7 0.5 (0.5)	H7		P			
DT E11 01 (surface)	E11		P			
DT E13 01 (surface)	E13		P			
OR F3 (1.5)	F3		P			
OR G4 (surface)	G4		P			
DT J13 01 (surface)	J13		P			
OR H10 (1.5)	H10		P			
OR H8 (1.0)	H8		P			
OR H8 (4.5)	H8		P			
OR K8 (1.8)	K8		P			
OR F3 DRAIN (2.5)	F3	Sample from beneath drain in F3	P			
DT F3 01 (surface)	F3		P			
DT G4 01 (surface)	G4		P			

Table 3 –Consolidated Soil Results Compared to Re-Use Criteria

Sample Ref	Site Grid Locat	Observations/ Comments	Passed RE-USE CRITERIA P Y	For Failures of RE-USE CRITERIA		
				Sample Ref	Site Grid Location/Comments	Passed RE-USE CRITERIA
OR F5 01 (0.0)	F5		P			
DT J9 01 (0.0)	J9		P			
DT H8 01 (0.0)	H8		P			
SP03 F4 17 (0.0)	F4		P			
SP03 E5 18 (0.0)	E5		P			
OR K6 01 (0.0)	K6		P			
DT K3 01 (0.0)	K3		P			
DT H2 01 (0.0)	H2		P			
DT H3 01 (surface)	H3		P			
DT H5 01 (surface)	H5		P			
OR H6 01 (surface)	H6		P			
DT E2 01 (0.5)	E2		P			
DT G2 01 (0.5)	G2		P			
SP03 E4 19	E4		P			
SP03 E5 20	E5		P			
DT E2 01 (0.5)	E2		P			
DT G2 01 (0.5)	G2		P			
DT H3 01 (0.0-0.1)	H3		P			
DT H5 01 (0.0-0.1)	H5		P			
OR H6 01 (0.5-1.0)	H6		P			
DT C2 01 (surface)	C2		P			
SP03 F3 21 (surface)	F3		P			
SP03 F4 22 (surface)	f4		P			
TP105 B8 (1.0)	B8		P			
TP105 B8 (1.8)	B8		P			
TP106 C7 (1.0)	C7		P			
TP106 C7 (2.0)	C7		P			
TP107 B4 (1.0)	B4		P			
TP107 B4 (1.8)	B4		P			
TP108 C3 (1.0)	C3		P			
TP108 C3 (2.0)	C3		P			
TP-BH3 N1 (1.0)	D10	BH3 Phthalate excavation	P			
TP-BH3 N2 (2.0)	D10		P			
TP-BH3 S1 (1.0)	D10		Y (phthalates)	TP BH3 SW (1.0m)	Additional testing undertaken after extension of BH3 hotspot excavation	P
				TP BH3 S.2 (1.0m)		P
				TP BH3 SE (1.0m)		P
TP-BH3 S2 (2.0)	D10		P			
TP-BH3 E1 (1.0)	D10		P			
TP-BH3 E2 (2.0)	D10		P			
TP-BH3 W1 (1.0)	D10		P			
TP-BH3 W2 (2.0)	D10		P			
TP-BH3 B (2.0)	D10		P			

Table 3 –Consolidated Soil Results Compared to Re-Use Criteria

Sample Ref	Site Grid Locati	Observations/ Comments	Passed RE-USE CRITERIA P Y	For Failures of RE-USE CRITERIA		
				Sample Ref	Site Grid Location	Passed RE-USE CRITERIA
TP BH3 SW (1.0)	D10	BH3 Phthalate excavation	P			
TP BH3 S.2 (1.0)	D10		P			
TP BH3 SE (1.0)	D10		P			
TP109 D10 (1.5)	D10		P			
VS C8 01 (surface)	C8	"VS" designation should be "DT"	P			
VS B6 01 (surface)	B6		P			
TP110 C13 (2.0)	C13		P			
OR E10 01 (1.0)	E10		P			
OR D12 01 (1.0)	D12		P			
OR SPB10-C13 01 (surf)	B10 - C13	Excess soil stockpile gathered from cell range	P			
OR SPB10-C13 02 (surf)	B10 - C13		P			
OR E7 01 (1.0)	E7		P			
OR E6 01 (1.0)	E6		P			
DT D5 01(surface)	D5		P			
DT B9 01(surface)	B9		P			
DT B4 01(surface)	B4		P			
DT C5 01 (surface)	C5		P			
DT D7 01(surface)	D7		P			
SP02 J3 01	J3		Y (phthalates)	SP02 J3 04 P (2.0)	Additional testing undertaken after excavation from stockpile SP02 in affected area	P
				SP02 J3 05 P (1.0)		P
				SP02 J3 06 P (1.5)		P
SP02 J4 02	J4		P			
SP02 K3 03	K3		P			
SP03 C5 01	C5		Y (phthalates)	SP03 C5 09 P (1.0)	Additional testing undertaken after excavation from stockpile SP03 in affected area	P
				SP03 C5 10 P (2.0)		P
				SP03 C5 11 P (1.0)		P
SP03 C5 02	C5		P			
SP E6-G9 01	E6-G9	Excess soil stockpile gathered from cell range	P			
OR F11 (0.5)	F11		P			
OR F13 (0.3)	F13		P			

Table 3 –Consolidated Soil Results Compared to Re-Use Criteria

Sample Ref	Site Grid Locati	Observations/ Comments	Passed RE-USE CRITERIA P Y	For Failures of RE-USE CRITERIA		
				Sample Ref	Site Grid Location	Passed RE-USE CRITERIA
OR G6 (0.50)	G6		P			
DT B11 01 (0.5)	B11		P			
DT C10 01 (0.5)	C10		P			
DT C12 01	C12		P			
DT E9 01	E9		P			
DT F8 01	F8		P			
DT G7 01	G7		P			
DT G9 01	G9		P			
SP03 D6 05 (surface)	D6		P			
SP03 C6 06 (surface)	C6		P			
SP03 C5 07 (surface)	C5		P			
SP03 D5 08 (surface)	D5		P			
SP02 J3 04 P (2.0)	J3		P			
SP02 J3 05 P (1.0)	J3		P			
SP02 J3 06 P (1.5)	J3		P			
SP03 C5 09 P (1.0)	C5		P			
SP03 C5 10 P (2.0)	C5		P			
SP03 C5 11 P (1.0)	C5		P			
OR H11 (1.5)	H11		P			
OR G10 (1.6)	G10		P			
OR J11 (surface)	J11		P			
SP03 C5 12 (surface)	C5		P			
SP04 H4 01 (surface)	H4		P			
SP03 D5 13	D5		P			
SP03 E5 14	E5		P			
SP04 J5 02	J5		P			
DT G11 01 (I)	G11		P			
OR J10 (2.0)	J10		P			
DT J11 01 (I)	J11		P			
OR G5 DRAIN (1.3)	G5	Sample from beneath drain in G5	P			
OR G4 INT1 (3.0)	G4	Interceptor excavation	P			
OR G4 INT2 (1.5)	G4		P			



Table 3 –Consolidated Soil Results Compared to Re-Use Criteria

Sample Ref	Site Grid Locati	Observations/ Comments	Passed RE-USE CRITERIA P Y	For Failures of RE-USE CRITERIA		
				Sample Ref	Site Grid Location	Passed RE-USE CRITERIA
OR G4 INT3 (3.5-4.0)	G4	Interceptor excavation	P			
B10 T2 BASE	B10	Tank 2 excavation	P			
TP111 (0.5)	A13	A13 trial pits	P			
TP111 (1.5)	A13		P			
TP112 (0.5)	A13		P			
TP112 (1.5)	A13		P			
SP03 E5 15	E5		P			
SP03 C5 16	C5		P			
K7 TANK 3 BASE (3.0)	K7	Tank 3 excavation	P			
OR K6 TANK 4 (2.0)	K6	Tank 4 excavation	P			

APPENDICES



APPENDIX A

Materials Management Plan & Qualified Person Declaration

Marcus Bell

Subject: FW: Declaration Receipt Issued - Pfizer MMP - Revisions

From: dowcop.declarations=claireinitiatives.com@mg.claireinitiatives.com <dowcop.declarations=claireinitiatives.com@mg.claireinitiatives.com> On Behalf Of Claire Initiatives
Sent: 01 November 2021 11:35
To: Kate Wooldridge <KWoolldridge@epstrategies.co.uk>
Subject: Declaration Receipt Issued

Definition of Waste Code of Practice Declaration 2021-11-01 11:34:45

Hello,

DoW CoP Declaration 2021-11-01 11:34:45 has been issued and submitted to the Environment Agency under the DoW CoP. A pdf copy is attached for your records.

You are reminded that if materials are not used in accordance with the Materials Management Plan or risk assessment or if it is discovered that materials were not suitable for use, were used in excessive quantity or in such a manner as to harm human health or pollute the environment, the Environment Agency may conclude that those materials were discarded and were waste.

You are also reminded that a Verification Report must be prepared on completion of the work as set out in the Remediation Strategy / Design Statement covering the site. This Verification Report must be provided to the Environment Agency upon request.

If you have any questions, please raise a Help Desk ticket at www.claire.co.uk/help-desk.

Regards,
The DoW CoP Team

CL:AIRE Initiatives Ltd

Chiltern House, Haddenham Business Centre, Thame Road, Haddenham, Buckinghamshire,

HP17 8BY. Tel: +44 (0)1844 296 112

Web: www.claire.co.uk

Business Registration No. 13628954

Materials Management Plan (MMP) Form

This form should be completed once the lines of evidence have been marshalled in relation to suitability for use, certainty of use and quantity required.

The answers to the questions posed within this form, together with the supporting information will constitute the MMP and must be provided to the Qualified Person. A Qualified Person may comment on draft versions of this MMP, but will not complete the Declaration until all the relevant documents, demonstrating lines of evidence have been provided for each site.

The person / organisation who will pay the Declaration fee should confirm that they have read and understand the Terms and Conditions relating to the payment of the Declaration fee to CL:AIRE. These can be found on the CL:AIRE website.

The person / organisation agreeing to pay the Declaration Fee - Name, organisation and contact details inc. email address	EPS Ltd, 7B Caxton House, Broad Street Cambourne, Cambridge CB23 6JN Contact: Marcus Bell – Associate Director mbell@epstrategies.co.uk
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☒ **I confirm I have read and understood the Terms & Conditions.**

Each question must be answered. If the question is not applicable please state this and provide a brief explanation.

1. Specify the scenario to which this MMP relates, as described in the CoP (1, 2, 3 or 4):

1. Reuse on the Site of Origin

In the case of a combination of reuse scenarios, please describe it below (e.g. (i) Reuse on Site of Origin and Direct Transfer of clean naturally occurring unpolluted soils, (ii) Reuse on the Site of Origin with Direct Transfer of clean naturally occurring soil to x number of development sites etc.):

2. Organisation and name of person preparing this MMP (full address and contact details)

Marcus Bell
EPS Ltd
7B Caxton House
Broad Street
Cambourne Cambridge
CB23 6JN
T:07872 069979/mbell@epstrategies.co.uk

Document Control

Date issued	25 th October 2021
1 st Revision date	26 th October 2021
2 nd Revision date	29 th November 2021
Summary of revision 1	- Amendments to Q5, Q19 (overall re-use volume), Q21c, Q22e
Summary of revision 2	- Revisions to Q21b) & 21d) on contingency parties. - Amendment to Q22d on site stockpiling procedure. (QP notified CL:AIRE of these changes on the 3rd Nov 2021). - New Earthworks Specification, referred to in Q13 & Q26 (for verification planning) and included as Appendix B: Item 7. - Summary table of environmental re-use criteria included as Appendix B Item 8 (included only for ease of use, no material changes).

Insert additional lines to the table above for any subsequent revisions.

Note - revisions to the MMP do not trigger an additional Declaration by a Qualified Person, unless an additional site is added to the project.

Revisions to the MMP must be recorded and summarised in the Document Control box above.

Site Details

3. Site / Project name(s)

Former Pfizer Site
32 New Lane
Havant
PO9 2NG

Landowners

4a. Name of Landowner(s) (full address and contact details) – Where excavated materials are arising from:

Landowner - Havant Property Investment LLP (Registered Number: OC431846)
38 Seymour Street
London
W1H 7BP
England

Contact - Russell Peters <rpeters@quartzprojectservices.com>
T: 020 3841 2288 M: 07768 746 031
34 Dover Street, London W1S 4NG

Summary and objectives

5a. Provide a brief description of the planned project and how excavated materials are to be reused.

The site is disused a pharmaceutical distribution centre, intended to undergo commercial redevelopment into a warehouse. The development requires a re-profiling (cut & fill) exercise as well as pile foundations which entails a reduced level dig across mainly in the eastern half of the site with raising in the western half, and to allow the placing of a piling mat. The approach to remediation during the earthworks phase is based on a formalised 'discovery strategy' to ensure any soil contamination is looked for, identified and managed appropriately.

6. Attach a location plan for the site(s) and a plan of the site(s) which identifies where different materials are to be excavated from, stockpile locations (if applicable), where materials are to be treated (if applicable) and where materials are to be reused.

Plan References:

Appendix A Item 1 - Site Location Plan
 Appendix A Item 2 - Site Layout Plan
 Appendix C Item 1 – Phasing Plan
 Appendix C Item 2 - Cut & Fill Isopachyte
 Appendix C Item 3 – Site Strip Volumes
 Appendix C Item 4 – Formation Volumes
 Appendix C Item 5 – Formation Plan

7. Attach a schematic of proposed materials movement. Where there is only one source area and one placement area briefly describe it below. For all other projects a schematic is required.

Source Area:

Appendix C Item 2 - Cut & Fill Isopachyte
 Appendix C Item 3 – Site Strip Volumes

Movement Plan:

Appendix C Item 1 – Phasing Plan

Re-Use Areas:

Appendix C Item 2 - Cut & Fill Isopachyte
 Appendix C Item 4 – Formation Volumes
 Appendix C Item 5 – Formation Plan

Parties Involved and Consultation – if more than one party please provide additional details for them and identify the location that they will be working e.g. where a site is zoned

8a. Main earthworks contractor(s) (full address and contact details) – Where excavated materials are arising from.

TSL Ltd.
 Chalfont Park House
 Chalfont Park
 Gerrards Cross
 Buckinghamshire
 SL9 0DZ

Contact Charlie O'Sullivan

Project Manager

M - +44 (0) 781 565 1785
 T - +44 (0) 845 330 7311
 F - +44 (0) 845 330 7309
 E - charlie.osullivan@tslprojects.com
 W - www.tslprojects.com

8b. Main earthworks contractor(s) (full address and contact details) - Where materials are to be reused:

As above (same site).

9. Treatment contractor(s) (full address and contact details) – for treatment on site of origin, or at a Hub site within a Cluster Project

N/A

10. Where wastes and materials are to be transported between sites provide details of the transport contractor(s) (full address, contact details and waste carriers registration details (if applicable)):

N/A

11. For each site where materials are excavated and where materials are to be reused provide Local Authority contact details (full address and named contacts):

For Planning – (Certainty of use)
 Planning Development Services
 Havant Borough Council
 Public Service Plaza, Civic Centre Road
 Havant, Hants PO9 2AX

Contact: David Eaves (case officer)
 T: 023 9244 6015
planning.development@havant.gov.uk

For Environmental Protection (Suitability for Use):
 Environmental Health
 Havant Borough Council
 Public Service Plaza, Civic Centre Road
 Havant, Hants PO9 2AX

Contact- Jonathan Driver (Regulatory Officer - Environmental Health)
 T: 023 9244 6670
 Jonathan.Driver.EHealth@havant.gov.uk

12a. For each site where materials are to be reused and for Hub Site locations provide Environment Agency contact details (full address and named contacts):

Environment Agency,
 EPS West & Central Waste Team Leader
 Solent & South Downs Area
 EA local waste team call centre on 0208 474 7974
waste@environment-agency.gov.uk

The local EA waste team were notified about the intention to utilise an MMP at this site on the 21st September 2021 and a response was received on the 8th October 2021, confirming that they have no objection to the use of the DoWCoP as intended at this site. The response is included in Appendix B Item 5.

For all Cluster Projects:
 NOT APPLICABLE

12b. Attach any relevant documentation from the EA relating to the excavation and reuse of the materials to demonstrate no objection to the proposals (see 3.37 of CoP)

EA DoWCoP Position Statement is included in Appendix B Item 4. The Local EA waste team consultation response is included in Appendix B Item 5.

Lines of Evidence

There is no one single factor that can be used to decide that a substance or object is waste, or when it is waste at what point it ceases to be waste. As complete picture as possible has to be created. The following sections require completion to ensure the correct decision is made.

If a requested item is not relevant it is important for you to clearly state why this is so (e.g. no planning permission required because permitted development status exists).

Suitable for use criteria

13. Please describe or provide copies of the required specification(s) for the materials to be reused on each site.

Reference:

For the Receiving Site specification of the soil quality backed up by a risk assessment and site specific target levels.

[Where existing contamination on the receiving site there will be a desk study, site investigation, risk assessment and remedial action plan] If there is no identified contamination, then in lieu of a risk assessment setting remedial targets for suitable for use soils, a letter from a consultancy setting out acceptable soil quality, based on GACs for example, is acceptable]

Environmental Requirements

Phase 1 and two Phase 2 Environmental Site Assessments have been completed by EPS for the site. These are referenced below.

An environmental risk assessment is included in the reports referenced below. Re-use criteria for soils that are the subject of this MMP were presented to the Local Authority in a Remedial Strategy – see below.

UK20.5052 Phase I Environmental Assessment: Pfizer, 32 New Lane, Havant, PO9 2NG (January 2021)

UK20.5052C Phase II Geo-Environmental Assessment: Pfizer, 32 New Lane, Havant, PO9 2NG (March 2021)

UK20.5052F Supplementary Phase II Geo-Environmental Assessment: Pfizer, 32 New Lane, Havant, PO9 2NG (October 2021)

A Remedial Strategy and Implementation Plan has been prepared and is referenced below:

UK20.5052D Remedial Strategy & Implementation Plan: Pfizer, 32 New Lane, Havant, PO9 2NG (October 2021).

The environmental site soil re-use criteria are presented in the Remedial Strategy, which is included in Appendix B Item 2. The environmental re-use criteria have also re-iterated in a standalone table for ease of use, which is included as Appendix B Item 8. These were reviewed by the Local Authority and their acceptance of them is presented in Appendix B Item 3. EPS will oversee the environmental re-use of the materials.

Geotechnical Requirements

The geotechnical re-use criteria for site-won materials are presented in the Pinnacle Consulting Engineer's 'Specification for Works at or Below Ground Level' (19th July 2021) and 'Earthworks Specification (28th October 2021). These documents are included in Appendix B Item 1 & Item 7, and should be read in full. The earthworks specification requires a Chartered Geotechnical Engineer to 'fully assess, supervise and monitor all earthworks and ground improvement works for the scheme'.

In the Earthworks Specification Section 2.2.3, it states 'Site won material may be used as general fill material Class 1 and Class 2, but is not to be reused as either Class 6 or Class 7 selected fill, (as defined by the Manual of Contract Documents for Highway Works, Volume 1, Specification for Highway Works) unless the Earthworks Geotechnical Engineer has demonstrated suitable testing and treatment to reclassify the material as suitable and has obtained prior written agreement from the Civil Engineer'. Section 2.3 also states that 'All works shall be carried out in accordance with this specification with reference to the latest edition of the Specification for Highway Works (SHW), where appropriate. The Contractor is wholly responsible for the design and installation of the lime and/or cement stabilised materials. Information should be provided to the Civil Engineer to prove the suitability of the modified materials for use within the works and the method of installation and compaction'. The design criteria are then stated in Section 3 of the 'Earthworks Specification'

In Section 4.2.5 of the specification, under 'Material for Filling under Suspended Slabs' it states, 'Hardcore or crushed demolition material as Clause 4.2.10 of this Specification may also be used for filling under suspended slabs. In Section 4.2.10 it expands on this aspect and states 'Hardcore and crushed demolition materials may be used as a sub-base material in car parks and certain lightly loaded situations where specifically noted on the Engineer's drawings. It shall consist of clean, hard, durable, chemically stable material, either broken stone, bricks or concrete and shall be free from extraneous matter which may have a deleterious effect on the permanent works such as timber, gypsum plaster or manganese bricks. It shall also be free of cohesive material. The material shall be uniformly graded and capable of passing a 75mm size sieve.'

Full reference to the Remedial Strategy, Specification for Works at or Below Ground Level and Earthworks Specification should be made (see Appendix B Items 1, 2 & 7).

Where contamination is suspected or known to be present

14a. Please provide copies or relevant extracts from the risk assessment(s) that has been used to determine the specification for use on the site. **This must relate to the place where materials are to be used.** This must be in terms of (i) human health (ii) controlled waters and (iii) any other relevant receptors. If a risk assessment is not relevant for a particular receptor given the site setting please explain why below:

(Includes assessment of soil quality and identifies areas where soils are contaminated, made ground or naturally occurring. Identifies where soils are to be excavated, and what is to happen to them, either removed from site, or exported under Cl:aire DoWCoP MMP. Where soils are contaminated, a risk assessment to demonstrate they can be left in situ for the proposed redevelopment, or the plan to excavate and dispose of them and how this will be managed)

Two site investigations, listed above in Section 13, were undertaken in the last 12 months. The findings of the investigation and risk assessment are summarised below.

The site was previously a pharmaceutical manufacturing facility and more recently a pharmaceutical distribution centre

The intrusive investigations found that the shallow and deeper soils from across the site do not pose a significant risk to future site users in a commercial setting. Moreover, laboratory testing of groundwater has not identified concentrations considered to pose a risk to the groundwater body, whilst soil vapour analysis has not identified a risk associated with intrusion of organic vapours into future buildings (or neighbouring properties).

From current findings, gross contamination of soils is not anticipated once groundworks begin as evidence of such would be expected to have been identified in the shallow groundwater, which it has not. However, localised soil contamination can be expected and has been evidenced in soil vapour analysis which indicates potential localised hot spots of volatile hydrocarbons and chlorinated solvents. In light of this, the approach to remediation during the earthworks phases is based on a formalised 'discovery strategy' to ensure any soil contamination is looked for, identified and managed appropriately. Once the groundworks are complete, verification that the soils left on site are suitable for the site use is required and this verification and its evidence is required to be presented in report form. The plan to collect the necessary evidence for such reporting is presented in the Remedial Strategy.

The now derelict buildings are pending demolition. Soils were assessed using generic criteria as detailed in the previous assessments. Commercial end use criteria were generally adopted for protection of human health. Certain contaminants (phthalates & petroleum hydrocarbons) have lower criteria taking account of saturation limits at the request of the local authority. These re-use criteria were agreed by the local authority (see correspondence in Appendix B – Item 3).

Re-Use Criteria

The environmental soil re-use criteria were set using the generic values for protecting human health but where the contaminant could breach saturation limits (in the case of petroleum hydrocarbons and phthalates), either a fraction of the saturation limit was used (25% - phthalates) or in the case of petroleum hydrocarbons, a total value (TPH CWG) not to be exceeded was also presented. In the absence of a nationally recognised generic assessment criteria for asbestos, the non-hazardous waste limit was adopted. These are presented in Appendix B – Item 2 & summarised in Item 8.

14b. Please attach any relevant documentation from the LA relating to the excavation and reuse of the materials to demonstrate no objection (see 3.37 of the CoP).

LA references:

See Appendix B Item 3 – Regulatory Correspondence

Appendix B Item 6 – Planning Decision Notice of Approval with Conditions

14c. Please attach any relevant documentation from the EA relating to the excavation and reuse of the materials to demonstrate no objection (see 3.37 and Table 2 of the CoP)

EA references:

Local EA waste team consultation response is included in Appendix B Item 5, with original EPS consultation email included as Appendix B Item 5b.

EA Position Statement on the Development Industry Code of Practice
See Appendix B Item 4.

14d. Please attach any relevant documentation from any other regulators (if relevant) relating to the excavation and reuse of the materials to demonstrate no objection (see 3.37 of the CoP)

Other references:

NOT APPLICABLE

Where contamination is not suspected

15a. Please attach copies or relevant extracts from the Desk Top Study that demonstrates that there is no suspicion of contamination.

NOT APPLICABLE (see Note 14)

15b. Please attach copies or relevant extracts from the site investigation/testing reports that adequately characterise the clean materials to be used (if appropriate).

NOT APPLICABLE (see Note 14)

15c. Please attach copies of any other relevant information (if available) confirming that land contamination is not an issue.

Reference(s):

NOT APPLICABLE (see Note 14)

Certainty of use

Various lines of evidence need to be provided to demonstrate that the materials are certain to be used. This includes:

The production of this MMP

An appropriate planning permission (or conditions that link with the reuse of the said materials)

An agreed Remediation Strategy(ies)

An agreed Design Statement(s)

Details of the contractual arrangements

Please identify in the following sections what lines of evidence relate to the site(s) **where the materials are to be used**.

16a. Planning Permission(s) relating to the site where materials are to be reused

APP/21/00200 | Demolition of existing buildings and redevelopment of site comprising erection of distribution warehouse (class B8) with ancillary offices and related facilities, vehicle storage deck, new access, landscaping and associated infrastructure. 32 New Lane, Havant, PO9 2NG. Decision notice is enclosed in Appendix A Item 6.

A16b. Explain how the reuse of the excavated materials fits within the planning permission(s) for each site.

The development requires a re-profiling (cut & fill) exercise as well as pile foundations which entails a reduced level dig across mainly the eastern half of the site to allow the placing of a piling mat and allow for site surface completions.

The Reduced Level dig is summarised in the plan presented in Appendix D Item 2 – Cut & Fill Isopachyte.

Average reduced level dig depth = 0.36m.

Area of RL dig = 33,431 m²

Approximate total volume RL dig = 12,175 m³.

16c. If planning permission is not required for any one site please explain why below e.g. permitted development, clean up of a chemical spill, surrender of an Environmental Permit, re-contouring within the existing permission:

Not Applicable

Where contamination is suspected or is known to be present

17. Please provide a copy of any Remediation Strategy(ies) that have been agreed with relevant regulators.

Reference:

The Remedial Strategy is presented in Appendix B – Item 2.

The agreement by the Local Authority is presented in Appendix B item 3.

(Includes assessment of soil quality and identifies areas where soils are contaminated, made ground or naturally occurring. Identifies where soils are to be excavated, and what is to happen to them, either removed from site, or exported under Cl:aire DoWCoP MMP. Where soils are contaminated, a risk assessment to demonstrate they can be left in situ for the proposed redevelopment, or the plan to excavate and dispose of them and how this will be managed)

Where contamination is not suspected

18. Please provide a copy of any Design Statement(s) that have been agreed (e.g. with the planning authority or in the case of permitted developments the client):

Reference:

NOT APPLICABLE (see Note 17)

Quantity of use

19. Please provide a break down of the excavated materials for each site and how much will be placed at each site or sub area of each site.

Where this is not specific to a single readily identifiable source refer to an annotated plan, schematic or attach a tabulated summary.

Reduced Level Dig = 12,175m³ (see Appendix C Item 2). Total cut area 33,431m²

Locations for re-use are presented in Appendix C Item 2.

Total fill volume – 10,460m³. Total fill area 31,315m²

Export volume (surplus) 1,715m³.

(NOTE this does not include site won and recycled crushed concrete /tarmac from demolition or concrete floor slab arisings which will be processed by crushing and screening. These separate crush arisings are likely to be used for piling mat construction to avoid the import of virgin aggregates as far as is practical, with the tarmac re-used in the buildings of new roads).

In this instance, an assumption is made that 0.2m thickness of the site is the surface and floor slabs which will be crushed to form a re-useable recovered aggregate for re-use as fill/piling mat. See Appendix D Item 3 Site Strip with Volumes. The crushed concrete and tarmac materials, with 20% bulking result in anticipated in 9,298m³ and 2,842m³, respectively.

Therefore the total material re-use volume anticipated to be covered by this MMP, and included in the verification reporting, is 10,460m³ + 9,298m³ + 2,842m³ = 22,600m³

An upper estimate of variation on these earthworks of 20% should be allowed for.

20a. How has consolidation/compaction being considered in the above mass balance calculations?

Bulking factors have not been applied as all volume measurements have been 'in-ground', with exception of site surfacing strip (Appendix D Item 3) which incorporates 20% bulking.

20b. How has loss due to treatment being considered in the above mass balance calculations (if applicable)?

Not applicable. No treatment of the material is proposed other than minor physical sorting of larger items such as bricks and concrete and organic materials where appropriate.

20c. How has the addition of treatment materials being considered in the above mass balance calculations (if applicable)?

Not applicable. No treatment of the material is proposed.

Note - An exact figure is not required but one that is reasonable in the circumstances and can be justified if challenged.

Contingency arrangements

Explain what is to happen in the following situations and identify the appropriate clauses in the contract(s) (Such clauses must be provided to the Qualified Person, preferably as a summary document): or

21a. What is to happen to, and who is to pay for out of specification materials?

Havant Property Investment LLP (Registered Number: OC431846)
38 Seymour Street
London
W1H 7BP
England

21b. What is to happen to, and who is to pay for any excess materials?

Havant Property Investment LLP (Registered Number: OC431846)
38 Seymour Street
London
W1H 7BP
England

21c. What happens if the project programme slips in relation to excavated materials or materials undergoing treatment?

Time allowed in programme for delays regarding managing excavated materials/treatment (no treatment is currently proposed).

21d. Other identified risk scenarios for the project (relating to excavated materials)?
Contract reference:

Ground risk related to excavated materials is with:

Havant Property Investment LLP (Registered Number: OC431846)
38 Seymour Street
London
W1H 7BP
England

The tracking system

22a. For all sites please describe the tracking system to be employed to monitor materials movements.

On a daily basis the earthworks works supervisor shall record the zone/s from which the material was excavated and the zone/s that it was placed in. In addition, EPS will undertake full time oversight of the remediation and materials tracking throughout the entire earthworks

phase. Remedial Oversight and tracking will be based on the use of the Survey123 app (Arc GIS) coupled with the site grid and stockpile plan as well as GPS positioning.

Duty of Care, as specified in Section 34 of the Environmental Protection Act 1990, will be followed in the excavation, disposal, treatment and re-use of any materials on site. All waste leaving site will be documented using waste transfer / consignment notes. A description of the waste, waste carrier details and destination will be recorded.

See:

Appendix C Item 1 – Phasing Plan

Appendix C Item 6 - Material Tracking Form

Appendix C Item 7- Site Grid

Where contamination is suspected or known to be present

State the procedures put in place to:

22b. Prevent contaminants not suitable for the treatment process being accepted

&

22d. Demonstrate that materials that do not require treatment and successfully treated materials reach their specific destination

In order to demonstrate the origin of any material originally sourced on site and reused as fill, it will be necessary to follow a disciplined procedure. Excavated soils that may be re-used on site will be stockpiled. The procedure for this is detailed in the Discovery Strategy and Materials Movement Flow Chart presented in the Remedial Strategy (Appendix B Item 2).

All materials that are suspected contaminated and are unexpected will be stockpiled and characterised in a 'Quarantine Area'. Soil quarantine and processing areas shown on Appendix D Item 1.

All soils stockpiled will have their source location recorded using the Site Grid – Appendix D Item 7 and the Survey 123/GPS process (Appendix C Item 6).

All soils re-used will come from stockpiles and will have the Source location grid reference recorded together with the re-use area grid reference also recorded. The analytical data will also be recorded as part of the verification.

This approach gives a 'cradle to grave' management and recording procedure for all soils that could be re-used on the site.

This procedure requires the use of a consigning system to control movements of on-site plant taking soil from cut areas to fill areas so that the soil can be traced through record keeping.

The operations of the consigning system should be recorded on a soil tracking spreadsheet. This shall be related to the Site Grid (Appendix D Item 7) of the site showing the location of the excavation blocks of soil and storage stockpiles.

Any unexpected contamination will be dealt with in accordance with the Discovery Strategy (included in Appendix B Item 2).

22c. Prevent cross contamination of materials not in need of treatment, wastes awaiting treatment and treated materials

All natural soils must be kept separate from topsoil, Made Ground and any materials that are considered to be impacted. The Contractor will ensure that organic materials such as trunks, roots and other vegetation are removed and that the topsoil is fully stripped from the underlying natural soils. Organic materials should not be incorporated into the compacted fill as the organic materials could generate ground gases as they decay and affect the geotechnical properties of the fill.

Arisings that are considered unacceptable for reuse by visual or olfactory inspection, as per the discovery strategy, should be excavated (providing that in doing so no unacceptable risks would be posed) and temporarily stockpiled in the separate 'quarantine' area. Sampling and testing should be carried out to satisfy the requirements of the waste management facility that will be accepting the material. Any arisings emitting strong odours or containing ACM should be removed from site as soon as possible. All stockpiles of soil in 'quarantine' shall be covered by polythene sheeting to minimise rainwater infiltration and mobilisation of contaminants. Stockpiles should be placed on an impermeable surface and be bunded. All such areas shall be clearly demarcated and identified as a temporary storage area for potentially contaminated soil. When dealing with the proposed excavation in the region of BH03 as per the Remedial Strategy, the contaminant of concern is a phthalate which will not present any clear field evidence. As such, the excavation will be guided by the extent of those exploratory locations in near proximity which were tested and found not to contain phthalates in the soils. Testing of the excavation will then prove if it is sufficient, or if it needs to be increased (taking account of the site-specific remedial criteria for phthalates presented in Appendix B Item 2).

22e. Ensure that waste for off-site disposal or treatment is properly characterised and goes to the correct facility

EPS will be on site throughout and can confirm there is a procedure for quarantining soils pending re-use or off-site disposal. If the soils are surplus or fail re-use criteria, they will undergo characterisation including waste acceptance criteria testing and EPS will be able to provide it. The analytical data shall be made available to the waste management facility and the haulier to ensure the waste goes to the correct facility.

23. Please attach a copy of the tracking forms / control sheets that are to be used to monitor materials movements. To include transfer of loads on site into stockpiles prior to treatment (if applicable), stockpiled after treatment (if applicable), stockpiled awaiting use (as appropriate) and final placement.

Reference:

See

Appendix C Item 1 – Phasing Plan

Appendix C Item 2 - Cut & Fill Isopachyte

Appendix C Item 6– Material Tracking Form

For Hub Sites within Cluster Projects & where materials need treatment before reuse

24. Please attach a copy of the Environmental Permit covering the treatment process. Or alternatively if the treatment is covered by a Mobile Plant Permit and associated Deployment Form, attach a copy of the EA agreement to the Deployment Form.

Permit reference / EA letter reference:

Not Applicable

Records

25. Where, and in what form, are records to be kept?

Records should be kept in electronic and hard copy format within the site office, and be available for review on request.

Note – records e.g. transfer notes, delivery tickets, Desk Top Study, Site Investigation, Risk Assessment(s), Verification Report(s) need to be kept for at least 2 years after the completion of the works and production of the Verification Report

Verification Plan

26. Provide or explain the Verification Plan which sets out how you will record the placement of materials and prove that excavated materials have been reused in the correct location and in the correct quantities within the development works.

A Remedial Strategy and Implementation Plan has been prepared for the site and has been approved by the Local Authority as per Appendix B Item 3. In addition, forming part of this verification report will be the Earthworks Completion and Validation Report as stipulated in Section 5.1 of Pinnacle's Earthworks Specification (Appendix B Item 7). This will be prepared by the contractor's Geotechnical Engineer and EPS will compile it into the overall Verification Report for the MMP (and submission to CL:AIRE).

The Contractor will record all waste movements occurring throughout the project (see soil tracking Appendix C Item 6). The Verification Report will detail the information as outlined below and it will be produced by EPS under reference UK20.50521.

- Pre-reclamation topographical features, including levels;
- Location, extent and depth of bulk excavation and excavated contaminant 'hotspots';
- Location and extent of all additional investigation works;
- Location and extent of all additional excavations;
- Location of stockpiled Hazardous waste;
- Location of stockpiled Non Hazardous waste;
- Location of stockpiled Inert waste;
- Position of proposed development;
- Position and depths of all validation sample points;
- Location of reused material.
- Full description of all excavation works undertaken, including details of volumes (in m3) of materials excavated from remediation areas and date(s) of excavation, sampling and construction progress;
- Digital photographs of excavations and stockpiles with descriptions and accompanied by a drawing identifying each vantage point;
- Results of analytical testing including MCERTS certification for soils and UKAS certification for water and asbestos;
- Confirmation of haulage subcontractor and waste disposal facilities, including legible photocopies of appropriate licences and chain of custody forms, consignment and/or transfer notes for waste materials;
- If applicable, records and data of any environmental monitoring undertaken;
- Legible copies of all laboratory test data, together with laboratory testing certificates, and if necessary, in-house AQC data.

Reference:

- EPS Remedial Strategy and Implementation Plan Appendix B Item 2.

Appendix A

- Item 1: Site Location Plan**
- Item 2: Site Layout Plan**
- Item 3: Exploratory Hole Location Plan**
- Item 4: Final Levels**
- Item 5: Warehouse Levels**

Appendix B

- Item 1: Below Ground Works Specification (Pinnacle)**
- Item 2: Remedial Strategy & Implementation Plan (EPS)**
- Item 3: Regulatory Correspondence**
- Item 4: EA Position Statement**
- Item 5: EA Consultation Response**
- Item 5b: EPS Consultation Email to EA**
- Item 6: Planning Decision Notice**
- Item 7: Earthworks Specification (Pinnacle)**
- Item 8: Summary Table of Environmental Re-Use Criteria**

Appendix C

- Item 1: Phasing Plan**
- Item 2: Cut & Fill Plan**
- Item 3: Site Strip Volumes**
- Item 4: Formation Volumes**
- Item 5: Formation Plan**
- Item 6: Material Tracking Form**
- Item 7: Earthworks Site Grid**

APPENDIX B

Environmental Re-Use Criteria



ENVIRONMENTAL RE-USE SOIL QUALITY (MMP) - Pfizer

PRINCIPAL CONTAMINANTS OF CONCERN

Please note these figures are upper threshold values for re-use of SITE-WON soils only through an MMP and they are intended to be used with a degree of professional judgement. They do not apply to imported materials and in most cases will be only hypothetical because the levels of contamination on site have been proven to be much lower. These are not remedial targets, as no remedial treatment is proposed.

Contaminant	Criteria (mg/kg)	Contaminant	Criteria (mg/kg)
Arsenic	640	MTBE	7,900
Calcium	410	Benzo(a)Pyrene (genotoxic PAHs)	76†
Chromium (VI)	49	Dibenz(ah)anthracene	3.5†
Chromium (III)	8,600	Naphthalene	190
Copper	68,000‡	Benzylbutyl Phthalate (BBP)**	6.6‡
Nickel	980‡	Bis (2-ethylhexyl)phthalate**	2.2‡
Mercury (elemental)	58	Chloroethene (Vinyl Chloride)	2.2
Lead	2,330	Trichloroethene (TCE)	3.4
Selenium	12,000	Tetrachloroethene (PCE)	130
Zinc	730,000‡	Asbestos (%) (All forms)	<0.1% & no visual fragments
Benzene	98‡	Visual Contamination: Soil to be free from an free phase hydrocarbons and asbestos. Soil containing invasive weeds such as Japanese Knotweed cannot be re-used.	
TPH CWG (Combined Aliphatic & Aromatic C5-35)	2,000‡		
Aliphatic C8-C10	2,000‡		

Notes

Soil Organic Matter – For certain re-use criteria, primarily volatile substances Soil Organic Matter will influence the risk. For these criteria, SOM of 6% has been assumed based on 2013 C4SL values (e.g. benzene) where other values are not available. For S4ULs 'Suitable For Use Levels for Human Health Risk Assessment' – LQM and CIEH (2014), values where SOM applies (i.e. not metals) an SOM of 1% has been assumed. For 2021 C4SL values (e.g. TCE), to ensure consistency with the 2013 values a SOM of 6% has been assumed. The contaminant benzene is the current C4SL most susceptible to changes in SOM along with the three chlorinated solvents. If appreciable levels of chlorinated solvents or volatile organics are identified where SOM would become an influencing factor, the data should be reviewed further with site specific SOM values. In these circumstances, review of where the materials in question are being placed will need to be undertaken to ensure the Conceptual Site Model for the site is not compromised (for instance by instating volatile contamination beneath the building without then installing any vapour protection). Theoretical scenarios are highly unlikely to become a reality at the Pfizer site though, as the vast majority of soils intended for re-use are expected to fall well below the re-use criteria (based on SI data undertaken to date)

‡ **Saturation Limits (petroleum hydrocarbons)** – To ensure the re-use values are pragmatic but provide assurance that no free-phase petroleum hydrocarbons are present, a Total (CWG) TPH value of 2,000mg/kg has been adopted. Where this is lower than the criteria for individual fractions, those criteria have not been shown (including for BTEX compounds).

‡ **Saturation Limits (phthalates)** - Following dialogue with the local authority, re-use values for these compounds are based on 25% of the saturation limits stated in the guidance EIC/AGS/CL:AIRE GAC 'Soil Generic Assessment Criteria' (2010) .

† **Genotoxic PAHs** – BaP will generally be adopted as a surrogate marker for genotoxic PAHs, provided the profile of the PAHs aligns with the approach outlined in Culp, S; Gaylor, D; Sheldon, W; Goldstein, L and Beland, F (1998). 'A Comparison of Tumours Induced by Coal Tar and Benzo(a)-pyrene in a 2-Year Biossay. This would include Dibenz(ah)anthracene, but not naphthalene.

‡ **Phytotoxicity** – These criteria are not aimed at risks to plants from metals such as Zinc, Copper and Nickel, as such risks are not considered to be a restriction to soils used with these criteria. To achieve ideal plant growing conditions, reference should be made to the maximum permissible levels within British Standard BS3882:2015 (table 1).

APPENDIX C

Regulatory Correspondence

HAVANT BOROUGH COUNCIL

Town & Country Planning Act 1990

Consultation on Planning Application

MEMORANDUM

From:	Environmental Health	To:	Development Control
Our Ref:	CONS/22/00131	Your Ref:	APP/21/00200
EH Case Officer Extn:	44 6677	Date:	09 March 2022
DC Case Officer:	David Eaves		
DC Case Officer Extn:	44 6549		
Application Number:	APP/21/00200		
Site Address:	32 New Lane, Havant, PO9 2NG		
Proposed Development:	Demolition of existing buildings and redevelopment of site comprising erection of distribution warehouse (class B8) with ancillary offices and related facilities, vehicle storage deck, new access, landscaping and associated infrastructure (approved 22.10.21). Request to discharge conditions 11 and 19 (received 27.10.21). Request to discharge conditions 14, 15, 16, and 27 (received 10/12/2021)		

Observations / Comments:

I have now had opportunity to review the submitted documentation in connection with condition 11 (contamination), comprising the 3 prior Golder Associates Reports (19125953.600/A.0, 20137712.600/A.0, 20137712.602/A.0), the EPS Ltd. Supplementary Phase 2 site investigation report (UK20.5052F iss.4), and the revised EPS Ltd. Remediation Strategy & Implementation Plan (UK20.5052D iss.6).

These documents have been read alongside relevant historical reports, 1997 ERM Phase 2 Site Investigation Report, 2008 ERM Combined Phase 1 & 2 Environmental Site Assessment, and 2015 Delta Simons Phase 1 & 2 Geo-Environmental Assessment, for environmental context both on-site, and on adjacent land.

The site has been afforded careful consideration as the results & conclusions of successive investigations collectively amount to an incoherent collection of data that do not readily fit a unified conceptual site model for the site. For example, groundwater levelling data obtained at different points in time display significant variability, at times indicating fully opposed hydraulic gradients in different areas of the site. Similarly, while soil results generally return low concentrations of contaminants of concern, groundwater results consistently return sporadic and variable detections of those contaminants over a distance which exceeds the full north/south length of the development land boundary, around 350m or so. Both primary contaminants and their breakdown products (chemicals formed by reductive de-chlorination) are represented at a number of locations, including boundary locations, with the pattern of detections being inconsistent with a single contamination plume migrating within a broadly stable/consistent/predictable groundwater regime.

Vapour results return concentrations that would be both higher than expected given the level of

contamination detected in either groundwater or soils, and at levels that would be of concern at sensitive locations. These factors suggest that there is material contamination either at the site or at/on adjacent land in some form that is sustaining such concentrations, despite the activity that is expected to be the source of the volatile contaminants ceasing at the site some time ago (meaning that losses to air via vapour should be permanently reducing residual contamination).

Contaminants of primary concern are denser-than-water volatile organics, and I am mindful that the local geology is known to be variable and to comprise of interbedded cohesive & granular deposits which have the potential to harbour isolated pockets of free product sporadically in contact with perched groundwater; capable of contributing to both groundwater concentrations & sustaining levels of soil vapour in the long term. In the absence of any specific suspected point of contaminant release, such deposits could be difficult to locate, as has proven to be the case on similar sites.

The Supplementary Phase II report does not explicitly include the scenario described above within its illustrative conceptual site model, and there are some issues with the human health vapour assessment – most notably I do not feel that the presented assessment supports ERM's un-supported conclusion that (the assessment shows-) that the vapour risk to off-site receptors is negligible. For similar reasons, I am not comfortable with accepting the Golder associates quantitative groundwater risk assessment – the parameterisation of the model is based upon a site conceptual model that I do not feel adequately reflects the documented results.

I remain unclear as to the conceptual model that should apply to the site, but it would appear clear that in at least two locations the contaminant source would be associated with the development land and not 'imported' from an adjacent site, and also that there is likely to be a contribution from adjacent land (via a groundwater pathway).

Notwithstanding the above, I am mindful of the significant investigatory effort that has been expended at the site to date, as well as the precautionary approach to remediation which aims to achieve overall betterment through the targeting of 'known-contamination-impacted' but arguably 'sub-significant' soils (given the commercial site context, and sensitivity status of controlled waters). Given this, I have sought to address some of the uncertainty, in particular in respect of the vapour assessment for sensitive human receptors off-site to the East, noting that ERM levelling data indicates that groundwater conditions can give rise to an NW>SE hydraulic gradient.

Vapour assessment

I have undertaken a CLEA 1.07 assessment with equivalent baseline parameters to those used within the EPS Supplementary Phase 2 Report. Notably, repeating the presented assessment has returned values which differ to the results presented in Appendix J, indicating some form of calculation or presentation error. Notwithstanding the above, and that the maximum recorded vapour result has not been selected as an assessment-driver in all cases (probably due to the phased monitoring-); I have confirmed that the vapour exposure results may be confidently regarded to represent a negligible risk for a commercial human receptor.

Using that model as a base, I have applied the results to a residential receptor, using the vapour extraction results to inform the risk assessment. On this basis it is only possible to consider exposure via vapour intrusion to habitable spaces – the model does not generate a hazard index where additional pathways are included. Given the documented depth to groundwater, in practice this only excludes the minor contribution derived from outdoor vapour inhalation. Whilst returning elevated results relative to the commercial assessment, the assessment returned hazard indices which fall below the trigger value for the majority of contaminants, with the exception of EC6-EC7(Toluene).

In principle, EC6-EC7 represents a material risk, returning a hazard index value >7 (on a C4SL basis – an indicator for regulatory purposes), relative to a trigger value of 1. The index value was further elevated on the standard model basis. Given that the EC6-EC7 parameter has been used by ERM to represent toluene (whilst in fact representing a wider group of congeners), I have repeated the assessment for this substance using the CLEA default values for the specific contaminant. This is reasonable given that it is known that the storage and handling of pure-product Toluene has occurred at the site, and in the majority of cases (including the at the location of the maximum recorded concentrations) there is reasonably close agreement between reported EC6-EC7 & Toluene concentrations.

The primary difference in model parameterisation (between EC5-EC6 & Toluene) is the saturation limits which limit phase partitioning behaviour – this value differs by several orders of magnitude between these parameters, and using the CLEA default values returns a hazard index for a residential receptor that is significantly reduced (below trigger level).

I have undertaken some sensitivity testing, and it is notable that in order to generate residential hazard indices above the trigger level, vapour concentrations elevated greater than one order of magnitude above the maximum site-recorded values are required. On this basis, the uncertainties as to the risk assessment are resolved, and I am able to agree that the initially concerning soil vapour results do represent an acceptably low risk to the sensitive offsite receptors.

Groundwater / Controlled Waters Risk

I am mindful that soil concentrations identified within the development red-line area do not indicate gross soils contamination. The concern that a source might exist is driven by the concentrations detected across the site within groundwater monitoring, and that despite evidence of both natural degradation & likely significant losses to soil vapour, and the length of time since cessation of manufacturing activity at the site; concentrations of tetrachloroethene are still being detected sporadically across the site.

Whilst I am not clear on all aspects of the Golder quantitative groundwater risk assessment, it is clear that it shows that the *modelled source* is unlikely to represent a significant risk to the Lavant, but also that the dimensions of the modelled source do not reflect the extent of detected contaminants across the site (and/or beyond its current boundaries). For this reason, I'm not sure that it's reasonable to dismiss the aggregate risk to controlled waters on this basis.

I am aware that significant site preparation groundworks have now been completed under both a contamination watching brief (provided by EPS), and a programme of groundwater quality monitoring. Qualitatively, I understand that no significant soil contamination has been identified throughout the works, and I note that the 3 rounds of groundwater monitoring undertaken since the commencement of site preparatory works have not identified concentrations of the principal contaminants of concern above the limit of detection. This is somewhat surprising given the results of the 2020/2021 investigations, and might be influenced to a degree by seasonal groundwater conditions (current hydraulic gradient). I would accept however that this empirical data does lend significant weight to the conclusions of the Golder risk assessment, and lends weight to the assessment that it is unlikely that an as-yet-undiscovered residual source of significant contamination exists within the boundary of the development land.

Uncertainty & Policy Context

Given the hydrogeology of the site, the nature of the principal contaminants of concern, and the available results – it may not be possible to fully characterise the site (explain all of the results). On related sites, Environmental Health has accepted that reliance upon the contamination watching brief throughout groundworks amounts to a reasonable & proportionate

measure to manage this residual uncertainty.

As regards the interpretation of NPPF para.183, and in particular the minimum standard (after remediation... land should not be capable of determined as contaminated land...); rather than interpreting the wording to mean 'land should *never* be capable of being determined as contaminated land' (183 b)), I believe that it is possible to interpret the policy to mean in practice that 'development proposals should be supported by adequate information to show that the site is not *likely* to be determinable as contaminated land upon completion of the proposed development' (183 b) & c)).

Local Policy (DM17) provides that development on contaminated land will be granted where an appropriate investigation of potential risks has been undertaken and identified risks are mitigated, and that remediation measures must ensure that the development does not have a negative effect on the wider environment. This leaves room for an interpretation where the ability to determine land as 'contaminated land' falls within the bounds of reasonable un-certainty, and is not considered likely.

That precautionary remedial works have been proposed (and I understand have largely now been undertaken), it is certain that there will be a degree of site betterment as a direct result of the works. Losses of volatile organics to atmosphere will also reduce residual concentrations over time in the long term. In this sense, and under the interpretations given above, it is reasonable to regard the policy obligations to have been met, notwithstanding the residual uncertainty which means that the of determination of the land as contaminated land at some point in the future cannot be ruled out with absolute certainty (e.g. in relation to new information, or new physical factors which adversely impact the current Conceptual Site Model (CSM)).

Recommendations

I recommend that condition 11 be discharged. Please list the following documents on the decision notice:

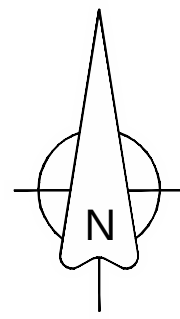
Golder Associates Divestiture Environmental Site Assessment 19125953.600/A.0
Golder Associates Groundwater Investigation 20137712.600/A.0
EPS Ltd. Supplementary Phase 2 site investigation report UK20.5052F iss.4
EPS Ltd. Remediation Strategy & Implementation Plan (UK20.5052D iss.6)

Whilst I have referenced groundwater monitoring data received directly from ERM, there should be no need to list these as supporting information in connection with the discharge of c.11. This data has provided additional context to assist our independent assessment of the submitted reports (similar to our own use of the CLEA model to generate hazard indices), but does not form part of the investigation required by this condition. These results will be submitted with the verification report required by c.12, anticipated in the coming weeks.

Mr. Jonathan Driver
Environmental Control Officer

APPENDIX D

Survey123 Records & Drainage Plan



ST ALBANS ROAD

KYOTO WALK
Kyoto Terrace

El Sub Sta

Hayward Business Centre

FLEXFORD GARDENS

PROPOSED CELLULAR ATTENUATION TANK
(SDS GEOLIGHT OR SIMILAR APPROVED)
58.0m X 13.0m X 0.5m (Dp) 95% VOID
BOTTOM OF THE TANK IL = 12.755M
REQUIRED STORAGE VOLUME= 358.15m³

Indicative location of Asbestos SW pipe

Termination point of existing SW pipe

POUL WATER DISCHARGES INTO EXISTING SEWER. MANHOLE EXPL COVER LEVEL TO BE RAISED TO 15.050m IL 11.960

PROPOSED CELLULAR ATTENUATION TANK
(SDS GEOLIGHT OR SIMILAR APPROVED)
TH=32.0m X 20.0m X 1.0m (Dp) 95% VOID
BOTTOM OF THE TANK IL = 12.883M
REQUIRED STORAGE VOLUME= 608m³

SURFACE WATER DISCHARGING INTO NEW CHAMBER S13 ON EXISTING SURFACE WATER RUN IL 12.350

FLOW CONTROL MANHOLE WITH 2630 ORIFICE PLATE LIMITING FLOW TO 135L/S

HYDRO-BRAKE MANHOLE
LIMITING FLOW TO 120L/S

PROPOSED CELLULAR ATTENUATION TANK
(SDS GEOLIGHT OR SIMILAR APPROVED)
10.0m X 8.0m X 1.0m (Dp) 95% VOID
BOTTOM OF THE TANK IL = 13.485M
REQUIRED STORAGE VOLUME= 80.00m³

EXISTING CELLULAR ATTENUATION TANK
TO BE ABANDONED
INLET IL 12.920m (PUMPED)
OUTLET IL 14.200m (PUMPED)
ASSUMED STORAGE CAPACITY= 138m³
ASSUMED PUMPING RATE= 40L/S

EXISTING ATTENUATION TANK TO BE ABANDONED
IL OF THE TANK= 12.80m
ASSUMED STORAGE VOLUME= 40m³

!

DESIGN NOTE
CLASH DETECTION BETWEEN THE PROPOSED DRAINAGE NETWORK AND THE SERVICES TO BE COMPLETED UPON RECEIPT OF THE SERVICES LAYOUT THE M&E CONSULTANTS.

!

DESIGN NOTE
INDICATIVE LOCATIONS OF THE RWP LOCATIONS SHOWN. ARCHITECT TO CONFIRM EXACT LOCATIONS.

!

DESIGN NOTE
ALL DRAINAGE PIPEWORK WITH LESS THAN 1.200m OF COVER TO HAVE CONCRETE PROTECTION.

- GENERAL NOTES**
- DO NOT SCALE THIS DRAWING. WC FIGURED DIMENSIONS.
 - FOR ALL RELEVANT NOTES, REFER TO STRUCTURAL AND CIVIL ENGINEERING PERFORMANCE SPECIFICATION.
 - ANY DISCREPANCIES ARE TO BE REPORTED TO PINNACLE CONSULTING ENGINEERS IMMEDIATELY.
 - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ENGINEERS, ARCHITECTS AND SUB-CONTRACTORS DRAWINGS AND DETAILS.
 - FOR COVER AND INVERT LEVELS REFER TO PINNACLE DRAWING C200810-PIN-XX-XX-DR-C-00207 MANHOLE SCHEDULE.

LEGEND

- SITE BOUNDARY
- PROPOSED PRIVATE SURFACE WATER SEWER
- PROPOSED PRIVATE FOUL SEWER
- EXISTING PUBLIC SURFACE SEWER
- EXISTING PRIVATE SURFACE SEWER
- EXISTING PRIVATE SURFACE SEWER TO BE ABANDONED
- EXISTING PUBLIC FOUL SEWER
- PERFORATED PIPE
- PO PERMEABLE PAVING OUTLET
- PROPOSED PRIVATE SURFACE WATER RISING MAIN
- PROPOSED PRIVATE FOUL WATER RISING MAIN
- PROPOSED SURFACE WATER DRAINAGE CHANNEL
- PROPOSED ATTENUATION TANK
- EXISTING ATTENUATION TANK
- PROPOSED PETROL INTERCEPTOR
- G PROPOSED GULLY
- OB PROPOSED OUT BOX/ SUMP UNIT
- AB PROPOSED ACCESS BOX
- FMP PROPOSED RAINWATER PIPE
- SRWP PROPOSED SIPHONIC RAINWATER PIPE
- PPIC PROPOSED POLYPROPYLENE INSPECTION CHAMBER
- PROPOSED POROUS PAVING
- TREE PRESERVATION ORDERS (TPO) AREA
- NO DIG CONSTRUCTION AREA CELLWEB SYSTEM OR EQUAL APPROVED

DRAINAGE NOTES

- ALL PRECAST CONCRETE UNITS ARE TO BE TO BS 5911 (CLASS 3 SULPHATE RESISTANT CEMENT).
- ALL PROPOSED MANHOLE COVERS AND FRAMES ARE TO BE DUCTILE IRON COMPLYING WITH BS EN 124.
- ALL MANHOLE COVER LEVELS ARE APPROXIMATE AND SHOULD BE ADJUSTED TO SUIT THE ARCHITECT'S PROPOSED LEVELS.
- CONTRACTOR IS TO ALLOW FOR ALL ABANDONED DRAINAGE RUNS AND MANHOLES / SOAKAWAYS TO BE FULLY GROUTED UP OR REMOVED AS NECESSARY.
- ALL PETROL INTERCEPTORS TO BE FITTED WITH OIL LEVEL ALARMS AND TO TERMINATE IN CUSTOMER SERVICES OR STAFF RECEPTION (TO BE AGREED WITH ARCHITECT / CLIENT). ALL INTERCEPTORS TO BE VENTED. LOCATION OF VENT PIPES TO BE AGREED BY THE DESIGN TEAM. CONTRACTOR TO ALLOW FOR POWER SUPPLY AND DUCTING AS NECESSARY.
- ALL DRAINAGE CHANNEL AND GULLY GRATINGS TO BE CAST IRON 'HEELGUARD' AND TO D400 LOADING.
- EXISTING MANHOLE COVER LEVELS TO BE ADJUSTED TO SUIT PROPOSED LEVELS.
- ALL MANHOLE COVERS, DRAINAGE CHANNELS, AND GULLIES TO BE SET 5mm LOWER THAN THE PROPOSED FINISHED LEVELS.
- ALL PRIVATE DRAINAGE WORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH BUILDING REGULATIONS PART H, BS EN 752. THE CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY AND, WHERE PROVIDED, THE PINNACLE DRAINAGE SPECIFICATION.
- THE EXACT POSITION, LEVEL, LINE, SIZE AND USE OF EXISTING DRAINAGE IS TO BE CONFIRMED ON SITE. ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORKS.
- FOR NEW CONNECTIONS TO EXISTING MANHOLES, EXISTING BENCHING IS TO BE BROKEN OUT AND REFORMED TO SUIT. CONCRETE/BRICK SURROUND TO BE MADE GOOD.
- UNDER ROADS AND EXTERNAL PAVED AREAS ALL MATERIALS WITHIN 450mm OF FINISHED LEVELS TO BE NON-FROST SUSCEPTIBLE. REINSTATEMENTS SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE PINNACLE STANDARD DETAIL.
- UNLESS NOTED OTHERWISE, ALL LATERAL CONNECTIONS ARE TO BE INSTALLED WITH LEVEL SOFFITS TO THE DIAMETER AND GRADIENTS SHOWN ON THE LAYOUT DRAWING. ANY PIPE BENDS SHOULD BE PROVIDED TO SUIT THE DIRECTION OF FLOW & NO PIPEWORK SHOULD BE DOWNSIZED IN THE DIRECTION OF FLOW.
- THE NUMBER AND LOCATION OF ALL RWP'S IS SHOWN INDICATIVELY ONLY. TO BE CONFIRMED BY ARCHITECT / M&E CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS.
- FOUL WATER 'POP UP POSITIONS' ARE SHOWN INDICATIVELY ONLY. TO BE CONFIRMED BY THE ARCHITECT / M&E CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS. REFER TO ARCHITECT PLANS FOR SETTING OUT OF INTERNAL FOUL POP UP POSITIONS.
- ALL RWP'S AND SVP'S TO BE FITTED WITH RODDABLE ACCESS PLATES. ALL FOUL DRAINS TO HAVE RODDABLE ACCESS.
- PROPOSED DRAINAGE PASSING THROUGH NEW FOUNDATIONS TO BE SLEEVED WITH CAST-IN OVERSIZED PIPEWORK.
- ALL SPECIALIST/PROPRIETARY PRODUCTS SUCH AS SEPARATORS, ATTENUATION TANKS, CHANNEL DRAINS AND PACKAGE PUMPING STATION TO BE INSTALLED AS PER THE MANUFACTURER'S INSTALLATION DETAILS AND SPECIFICATIONS.
- ALL DRAINAGE PIPEWORK WITH LESS THAN 1.200m OF COVER TO HAVE CONCRETE PROTECTION.

P18	UPDATED DRAINAGE FOR 0.1m SITE RAISE	SC	DV	20/01/21
P19	REMOVED QUADRACEPTORS	RFP	JJ	22/08/21
P1	FOR TENDER ISSUE - S2A REVISED.	TWR	JJ	09/08/21
F11	FOR TENDER ISSUE - OUTFALL NOTES	TWR	JJ	05/08/21
ADSD				
P08	FOR TENDER ISSUE	TWR	DV	26/07/21
P08	FOR TENDER ISSUE	JD	EO	30/07/21
P09	REVISED PROPOSED DRAINAGE LAYOUT	SC	EO	01/08/21
P08	REVISED DRAINAGE LAYOUT	SC	EO	09/04/21
P08	FOR TENDER ISSUE	SC	SG	09/02/21
P04	UPDATED SITE LAYOUT	SC	SG	05/02/21
P01	REVISED DRAINAGE LAYOUT	SC	SG	29/01/21
P01	UPDATED CLIENT NAME	IL	SG	23/01/20
P01	FIRST ISSUE	IL	SG	23/01/21
REV	DESCRIPTION	BY	CHK	DATE

HAVANT PROPERTY INVESTMENT LLP

PROJECT
**HAVANT
32 NEW LANE**

DRAWING TITLE
DRAINAGE STRATEGY

PINNACLE
CONSULTING ENGINEERS

ALCHEMY,
WESSHAM ROAD,
WELWYN GARDEN CITY,
HERTS.
AL7 1HE
NORWICH LONDON DUBLIN THE HAGUE

DRAWING STATUS			
TENDER			
SCALE @ A0	DATE	DRAWN BY	CHECKED
1:500	JAN '21	IL	SG
DRAWING NO.	REVISION		
C200810-PIN-XX-XX-DR-C-00205	P13		

COPYRIGHT PINNACLE



REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
Title:	Remedial Oversight & Material Tracking (Pfizer, Havant)	
Client:	Havant Property LLP	
Date:	03/01/2022	
EPS Contact Details:	7B Caxton House Broad Street Cambourne Cambridge CB23 6JN	T: 01954 710666 F: 01954 710677 E: info@epstrategies.co.uk W: www.epstrategies.co.uk
Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☐ Soil Excavation ☒ Stockpile	
Soil Grid Reference:	F3
Detailed Grid Reference:	50.85993, 0.97257
Stockpile Number:	SP03
Top of Excavation:	NA
Base of Excavation:	NA

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	NA
Detailed Grid Reference:	NA
Stockpile Number:	NA

General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	SP03 F3 21
Destination Sample Take	
Sample Reference:	
Sampling Comments	
General Observations	

Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

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Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☐ Soil Excavation ☒ Stockpile	
Soil Grid Reference:	F4
Detailed Grid Reference:	
Stockpile Number:	SP03
Top of Excavation:	
Base of Excavation:	

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	
Sample Reference:	
Destination Sample Taken:	
Sample Reference:	
Sampling Comments	
General Observations	

Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

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Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☐ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	
Top of Excavation:	
Base of Excavation:	

General Image
Detailed Image



Destination of Moved Soil

New Soil Location: ☒ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	C2
Detailed Grid Reference:	50.86065, 0.97208
Stockpile Number:	

General Image



Detailed Image



Sampling / Comments

Origin Sample Taken:	No
Sample Reference:	
Destination Sample Take	Yes
Sample Reference:	DT C2 01
Sampling Comments	
From directly below recently removed roadway.	
General Observations	

Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
Title:	Remedial Oversight & Material Tracking (Pfizer, Havant)	
Client:	Havant Property LLP	
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Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☐ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	
Top of Excavation:	
Base of Excavation:	

General Image
Detailed Image



Destination of Moved Soil

New Soil Location: ☒ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	E2
Detailed Grid Reference:	50.86035, 0.97246
Stockpile Number:	

General Image



Detailed Image



Sampling / Comments

Origin Sample Taken:	No
Sample Reference:	
Destination Sample Take	Yes
Sample Reference:	DTE201
Sampling Comments	
From directly below hardstanding	
General Observations	

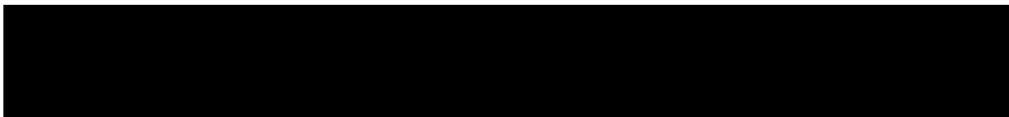
Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

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Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☐ Soil Excavation ☒ Stockpile	
Soil Grid Reference:	E5
Detailed Grid Reference:	50.85996, 0.97148
Stockpile Number:	SP03
Top of Excavation:	
Base of Excavation:	

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

General Image
Detailed Image





Sampling / Comments

Origin Sample Taken:	
Sample Reference:	
Destination Sample Taken:	
Sample Reference:	
Sampling Comments	
General Observations	

Additional Images





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Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☐ Soil Excavation ☒ Stockpile	
Soil Grid Reference:	E4
Detailed Grid Reference:	50.85994, 0.97202
Stockpile Number:	SP03
Top of Excavation:	
Base of Excavation:	

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

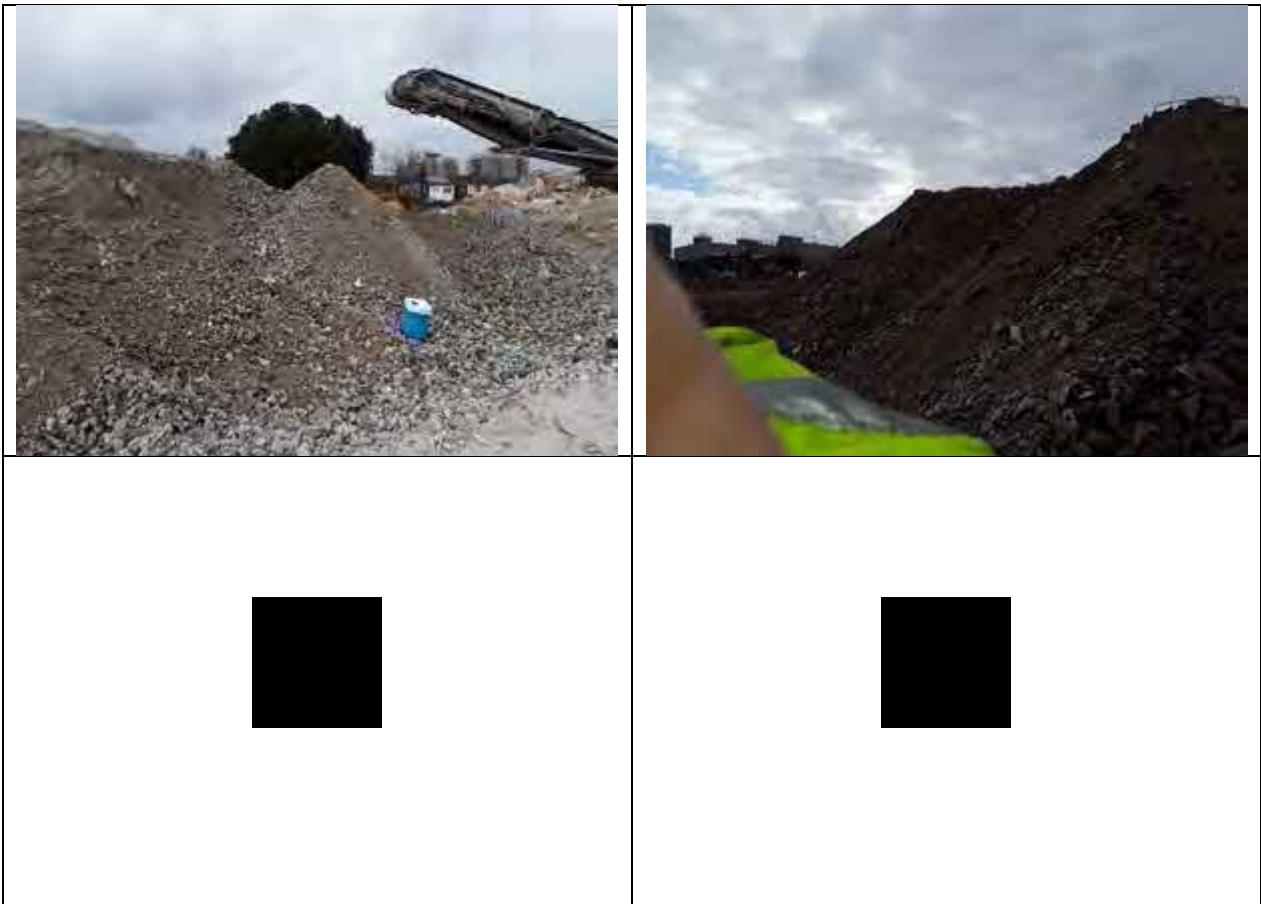
General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	
Sample Reference:	
Destination Sample Taken:	
Sample Reference:	
Sampling Comments	
General Observations	

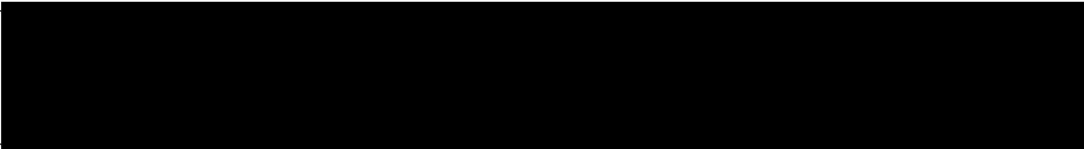
Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

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Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☐ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	
Top of Excavation:	
Base of Excavation:	

General Image
Detailed Image





Destination of Moved Soil

New Soil Location: ☒ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	G2
Detailed Grid Reference:	50.85983, 0.97278
Stockpile Number:	

General Image



Detailed Image



Sampling / Comments

Origin Sample Taken:	No
Sample Reference:	
Destination Sample Take	Yes
Sample Reference:	DT G2 01
Sampling Comments	
General Observations	

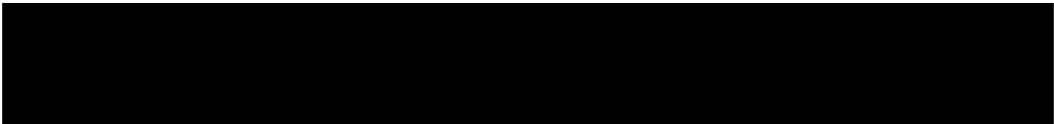
Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

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Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☒ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	K6
Detailed Grid Reference:	50.85914, 0.97150
Stockpile Number:	
Top of Excavation:	0.0
Base of Excavation:	1.0

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

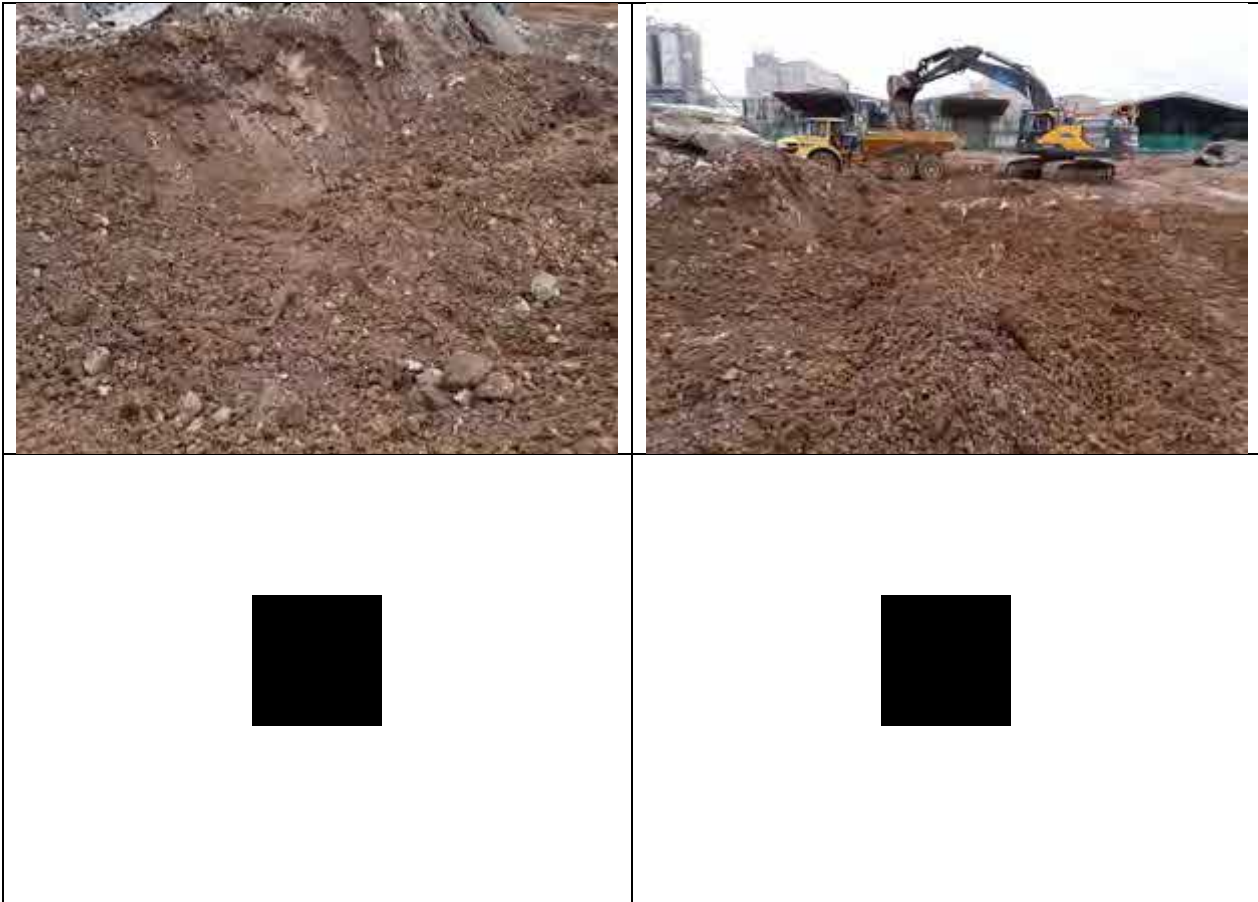
General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	ORH601
Destination Sample Take	
Sample Reference:	
Sampling Comments	
General Observations	

Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

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Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☐ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	
Top of Excavation:	
Base of Excavation:	

General Image
Detailed Image



Destination of Moved Soil

New Soil Location: ☒ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	H5
Detailed Grid Reference:	50.85938, 0.97188
Stockpile Number:	

General Image



Detailed Image



Sampling / Comments

Origin Sample Taken:	No
Sample Reference:	
Destination Sample Taken:	Yes
Sample Reference:	DTH501
Sampling Comments	
General Observations	

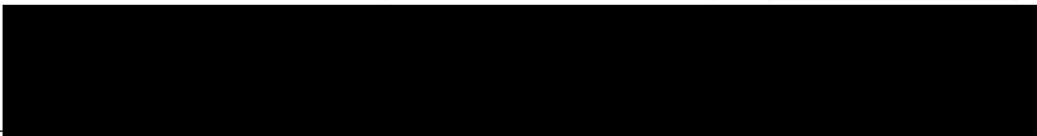
Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
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Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☒ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	
Top of Excavation:	
Base of Excavation:	

General Image
Detailed Image



Destination of Moved Soil

New Soil Location: ☒ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	H3
Detailed Grid Reference:	50.85963, 0.97241
Stockpile Number:	

General Image



Detailed Image





Sampling / Comments

Origin Sample Taken:	No
Sample Reference:	
Destination Sample Take	Yes
Sample Reference:	DTH301
Sampling Comments	
General Observations	

Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
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Client:	Havant Property LLP	
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Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☐ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	
Top of Excavation:	
Base of Excavation:	

General Image
Detailed Image

Destination of Moved Soil

New Soil Location: ☒ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	H2
Detailed Grid Reference:	50.8595204, -0.9728778
Stockpile Number:	

General Image



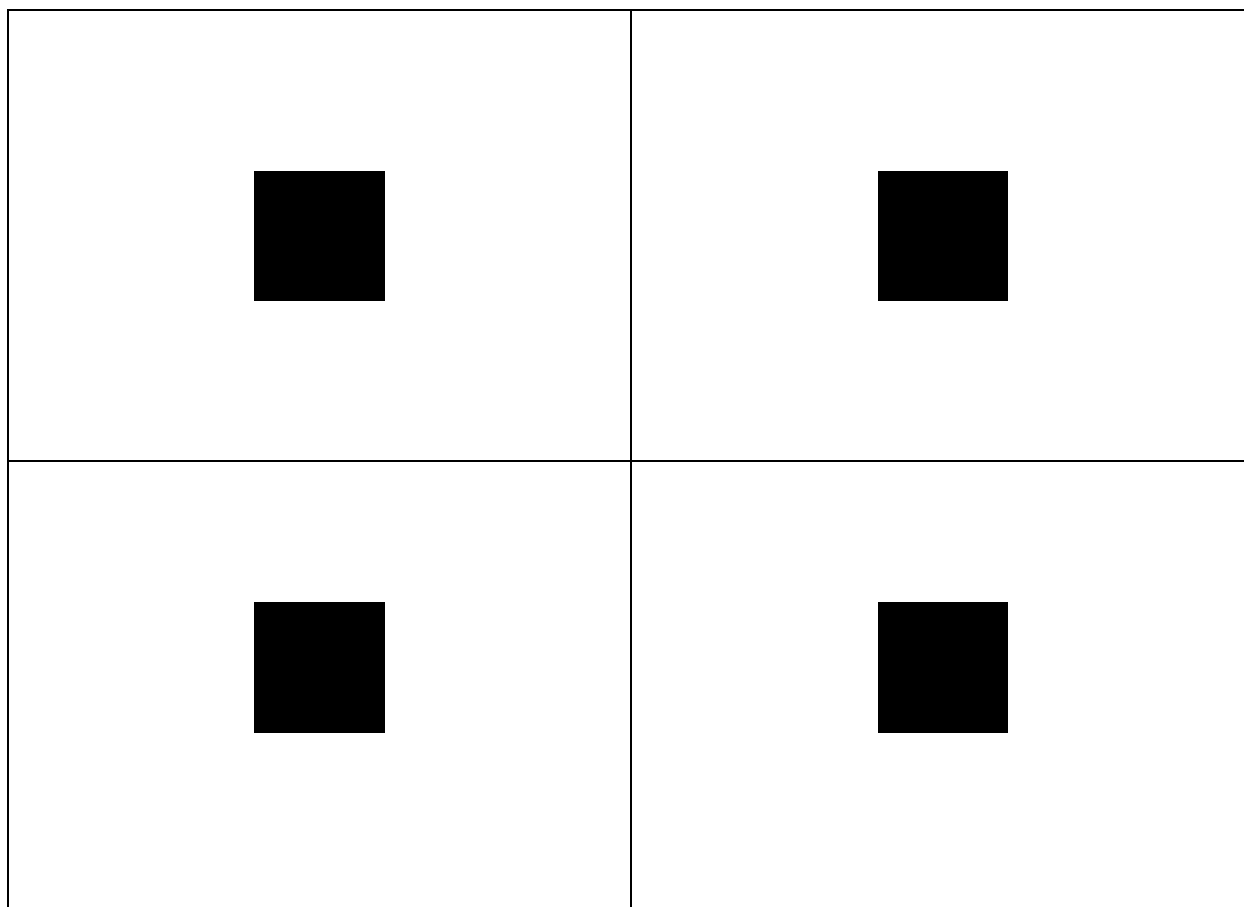
Detailed Image



Sampling / Comments

Origin Sample Taken:	No
Sample Reference:	
Destination Sample Take	Yes
Sample Reference:	Dt H2 01
Sampling Comments	
Sample collected of material below car park tarmac. (Original material, not demo crush).	
General Observations	

Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

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Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☐ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	
Top of Excavation:	
Base of Excavation:	

General Image
Detailed Image



Destination of Moved Soil

New Soil Location: ☒ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	K3
Detailed Grid Reference:	50.8591517, -0.9729210
Stockpile Number:	

General Image



Detailed Image

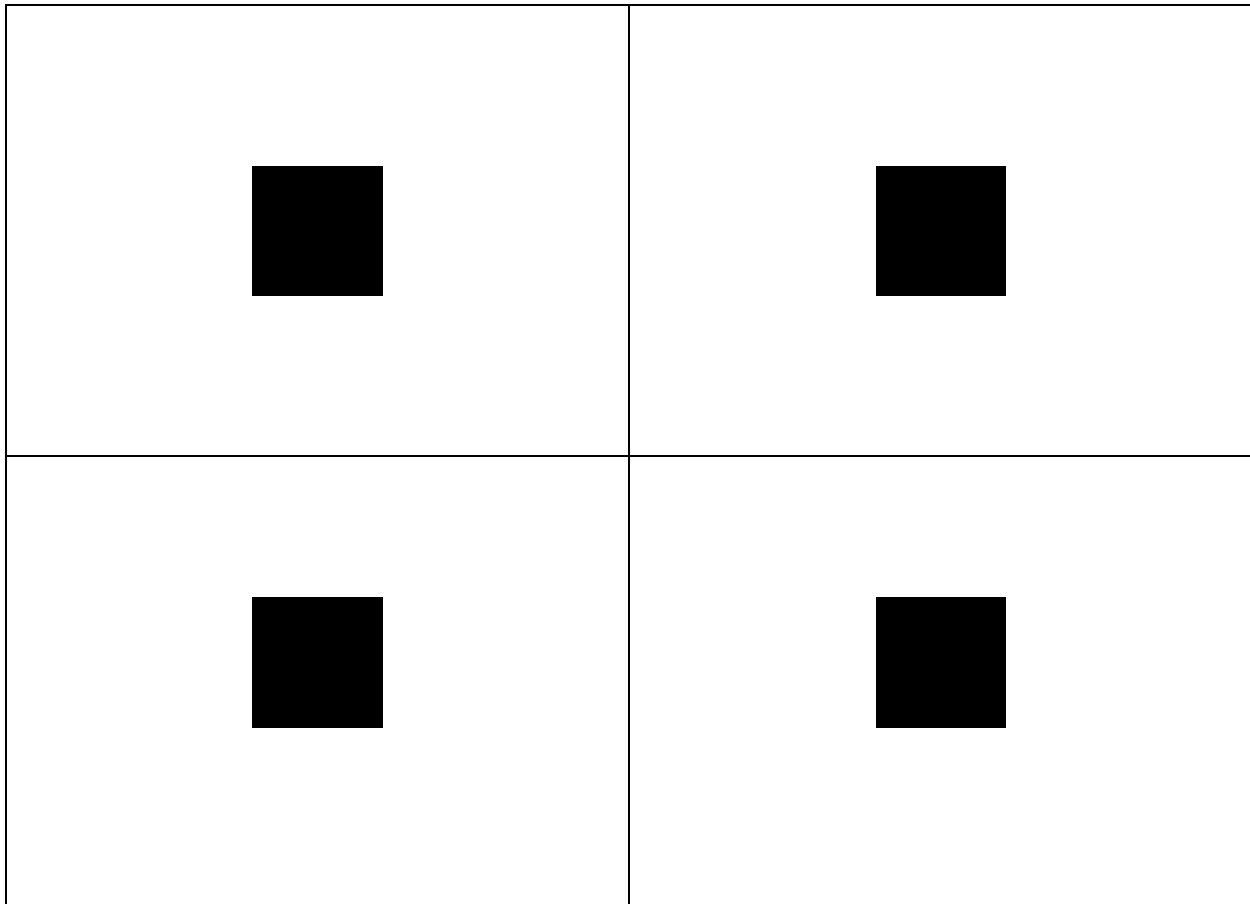




Sampling / Comments

Origin Sample Taken:	No
Sample Reference:	
Destination Sample Take	Yes
Sample Reference:	
Sampling Comments	
General Observations	

Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

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Author:	Reviewed:	Authorised:
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Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☒ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	K6
Detailed Grid Reference:	50.8587761, -0.9718994
Stockpile Number:	
Top of Excavation:	0.0
Base of Excavation:	2.0

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	Or K6 01
Destination Sample Take	No
Sample Reference:	
Sampling Comments	
General Observations	

Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
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Excavation of Soil

Soil Location: ☐ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	
Top of Excavation:	
Base of Excavation:	

General Image
Detailed Image

Destination of Moved Soil

New Soil Location: ☒ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	H8
Detailed Grid Reference:	50.8590891, -0.9709556
Stockpile Number:	

General Image



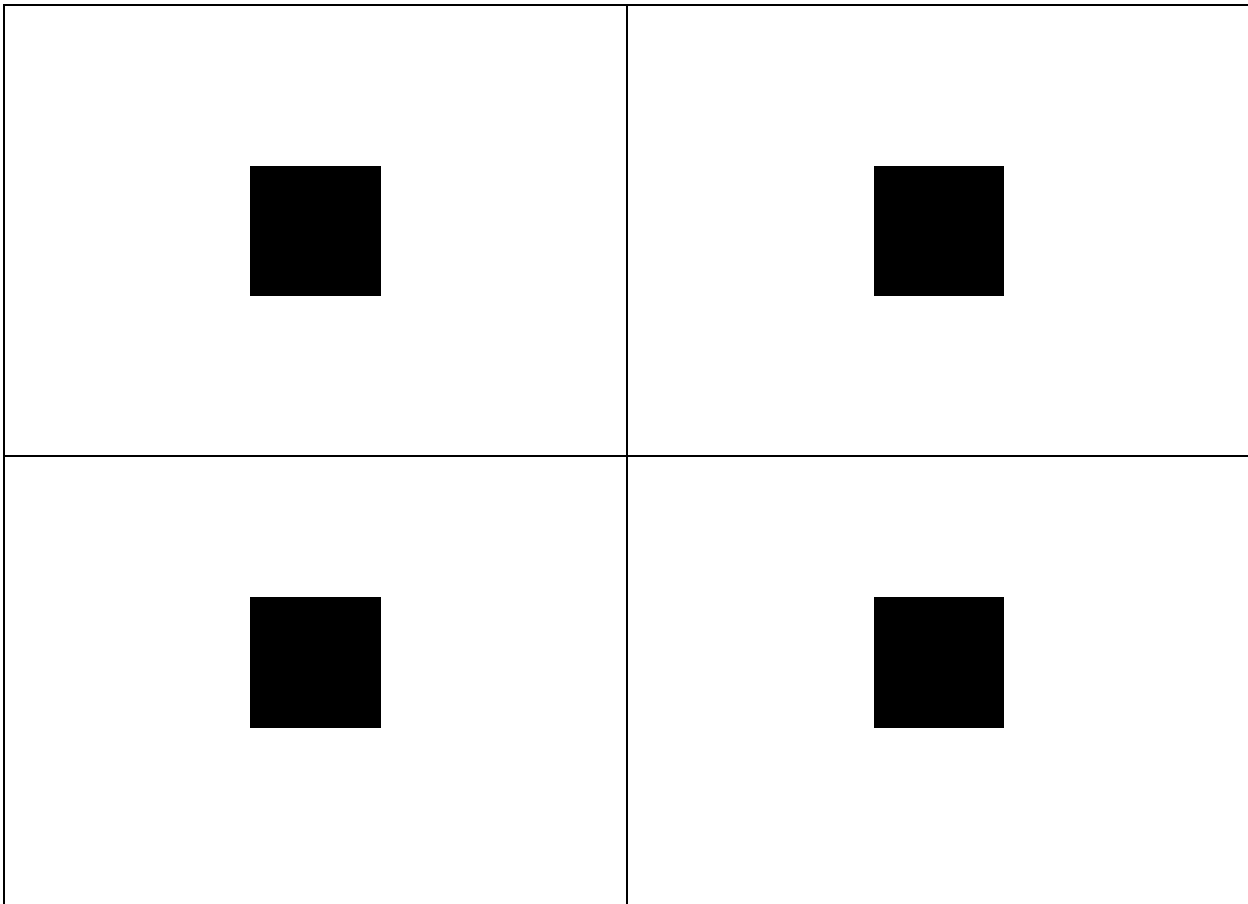
Detailed Image



Sampling / Comments

Origin Sample Taken:	No
Sample Reference:	
Destination Sample Take	Yes
Sample Reference:	Dt H8 01
Sampling Comments	
General Observations	

Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

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Author:	Reviewed:	Authorised:
		
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Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☐ Soil Excavation ☒ Stockpile	
Soil Grid Reference:	F4
Detailed Grid Reference:	50.8597669, -0.9721234
Stockpile Number:	
Top of Excavation:	
Base of Excavation:	

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

General Image
Detailed Image

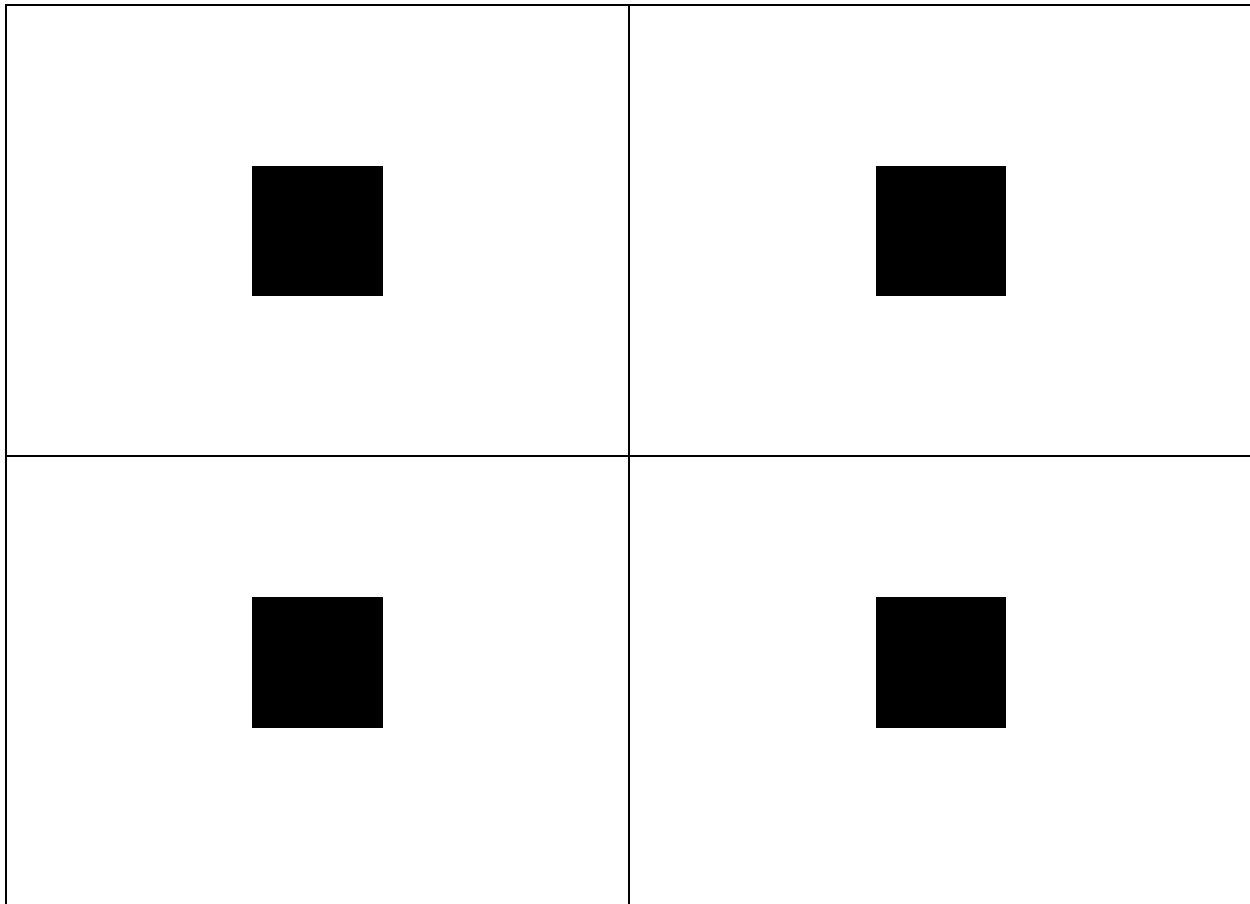




Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	Sp03 F4 17
Destination Sample Take	No
Sample Reference:	
Sampling Comments	
General Observations	

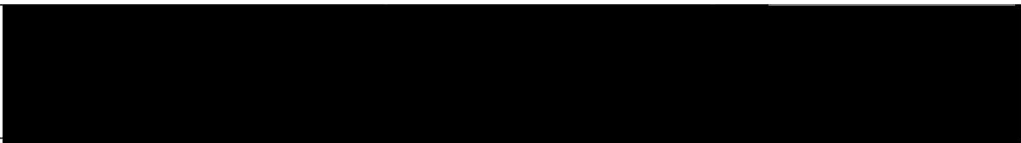
Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
Title:	Remedial Oversight & Material Tracking (Pfizer, Havant)	
Client:	Havant Property LLP	
Date:	02/16/2022	
EPS Contact Details:	7B Caxton House Broad Street Cambourne Cambridge CB23 6JN	T: 01954 710666 F: 01954 710677 E: info@epstrategies.co.uk W: www.epstrategies.co.uk
Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☐ Soil Excavation ☒ Stockpile	
Soil Grid Reference:	E5
Detailed Grid Reference:	50.8599305, -0.9713821
Stockpile Number:	Sp03
Top of Excavation:	
Base of Excavation:	

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

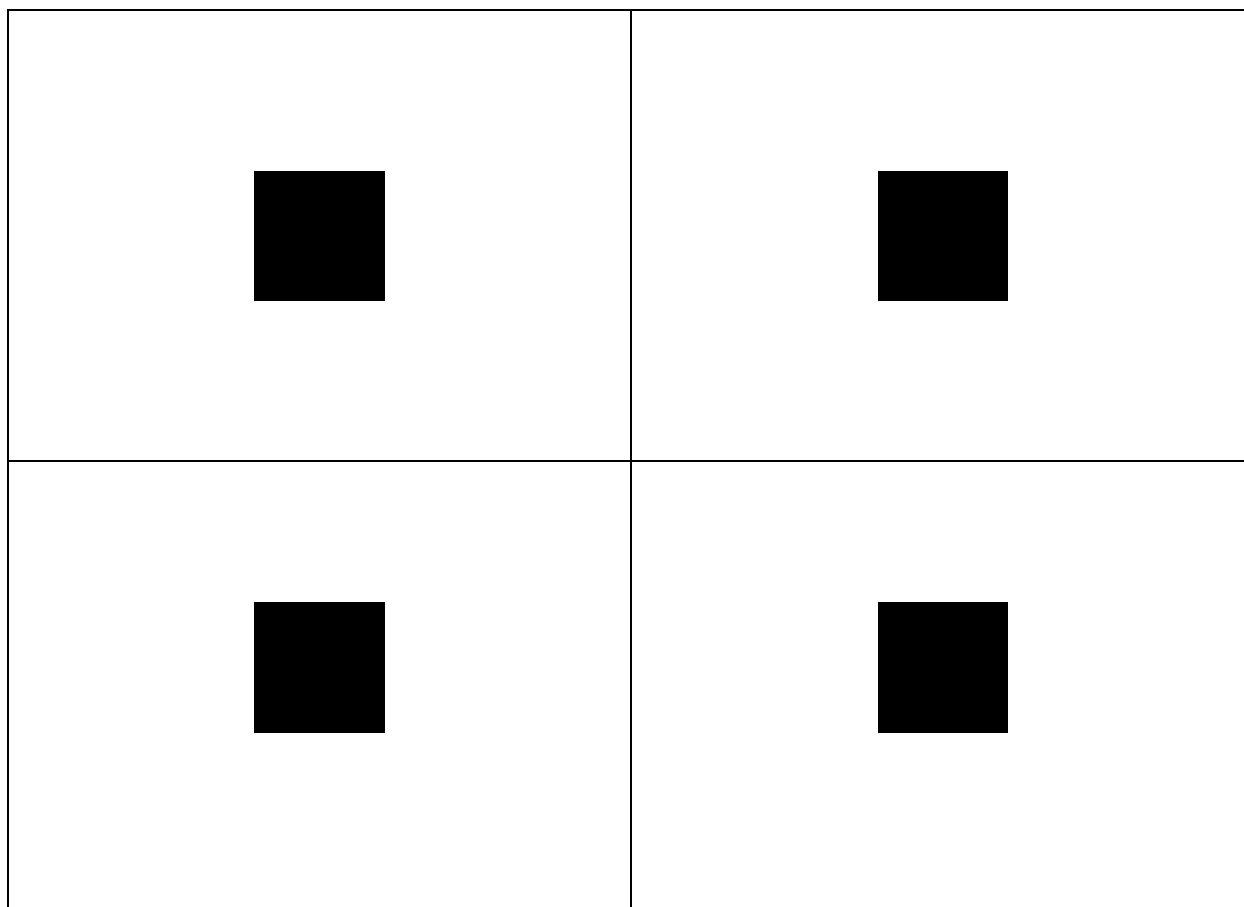
General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	Sp03 E5 18
Destination Sample Take	No
Sample Reference:	
Sampling Comments	
General Observations	

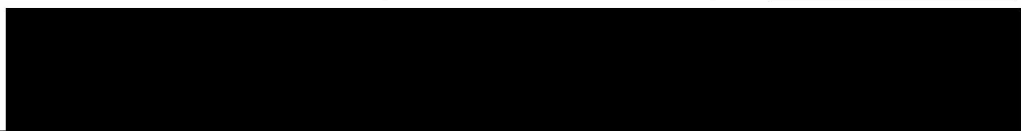
Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
Title:	Remedial Oversight & Material Tracking (Pfizer, Havant)	
Client:	Havant Property LLP	
Date:	02/16/2022	
EPS Contact Details:	7B Caxton House Broad Street Cambourne Cambridge CB23 6JN	T: 01954 710666 F: 01954 710677 E: info@epstrategies.co.uk W: www.epstrategies.co.uk
Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☒ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	
Top of Excavation:	
Base of Excavation:	

General Image
Detailed Image

Destination of Moved Soil

New Soil Location: ☒ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	J9
Detailed Grid Reference:	50.8587615, -0.9707246
Stockpile Number:	

General Image



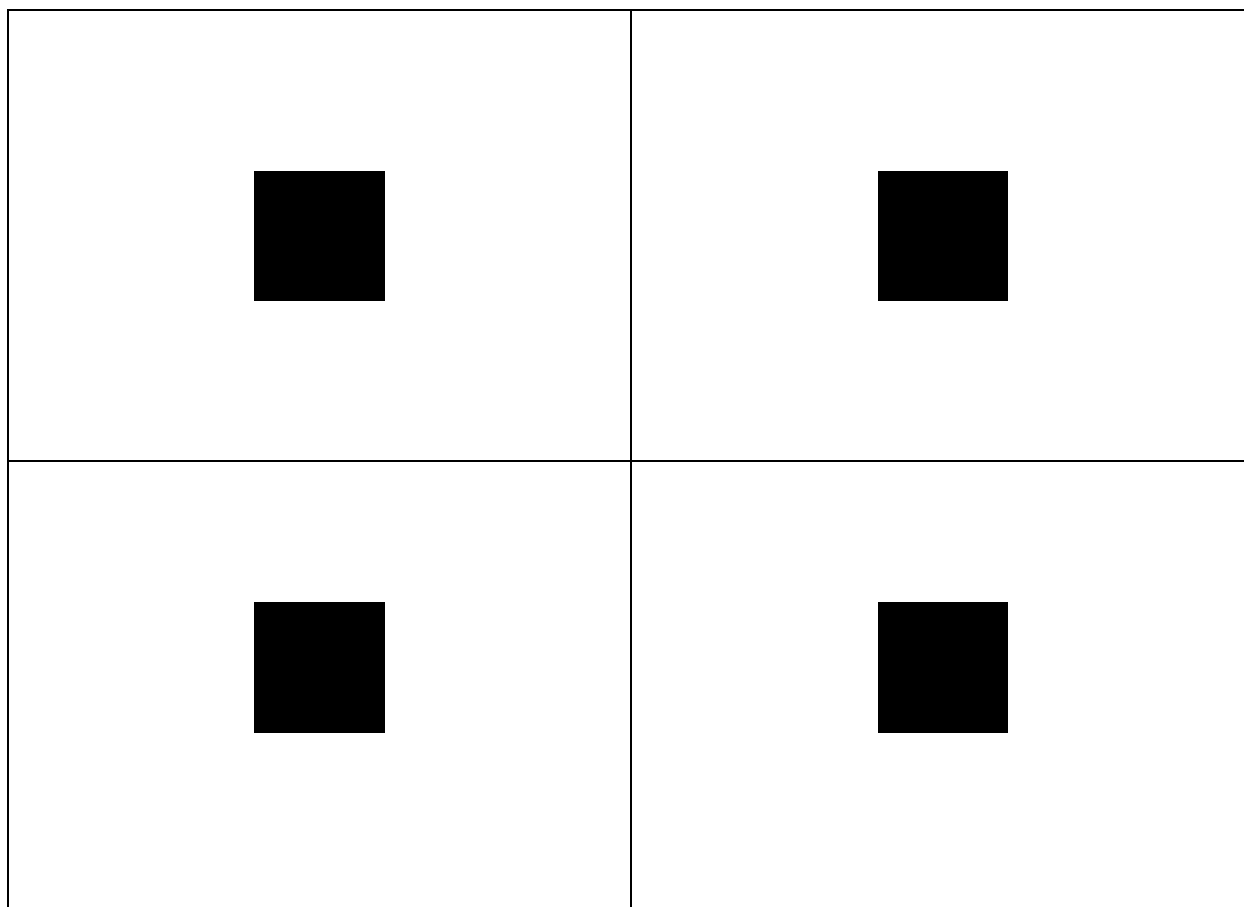
Detailed Image



Sampling / Comments

Origin Sample Taken:	No
Sample Reference:	
Destination Sample Take	Yes
Sample Reference:	Dt J9 01
Sampling Comments	
General Observations	

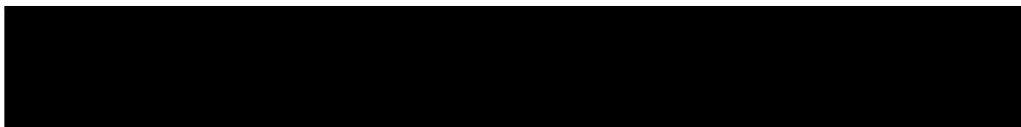
Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
Title:	Remedial Oversight & Material Tracking (Pfizer, Havant)	
Client:	Havant Property LLP	
Date:	02/16/2022	
EPS Contact Details:	7B Caxton House Broad Street Cambourne Cambridge CB23 6JN	T: 01954 710666 F: 01954 710677 E: info@epstrategies.co.uk W: www.epstrategies.co.uk
Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☒ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	F5
Detailed Grid Reference:	50.8596961, -0.9716420
Stockpile Number:	
Top of Excavation:	
Base of Excavation:	

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

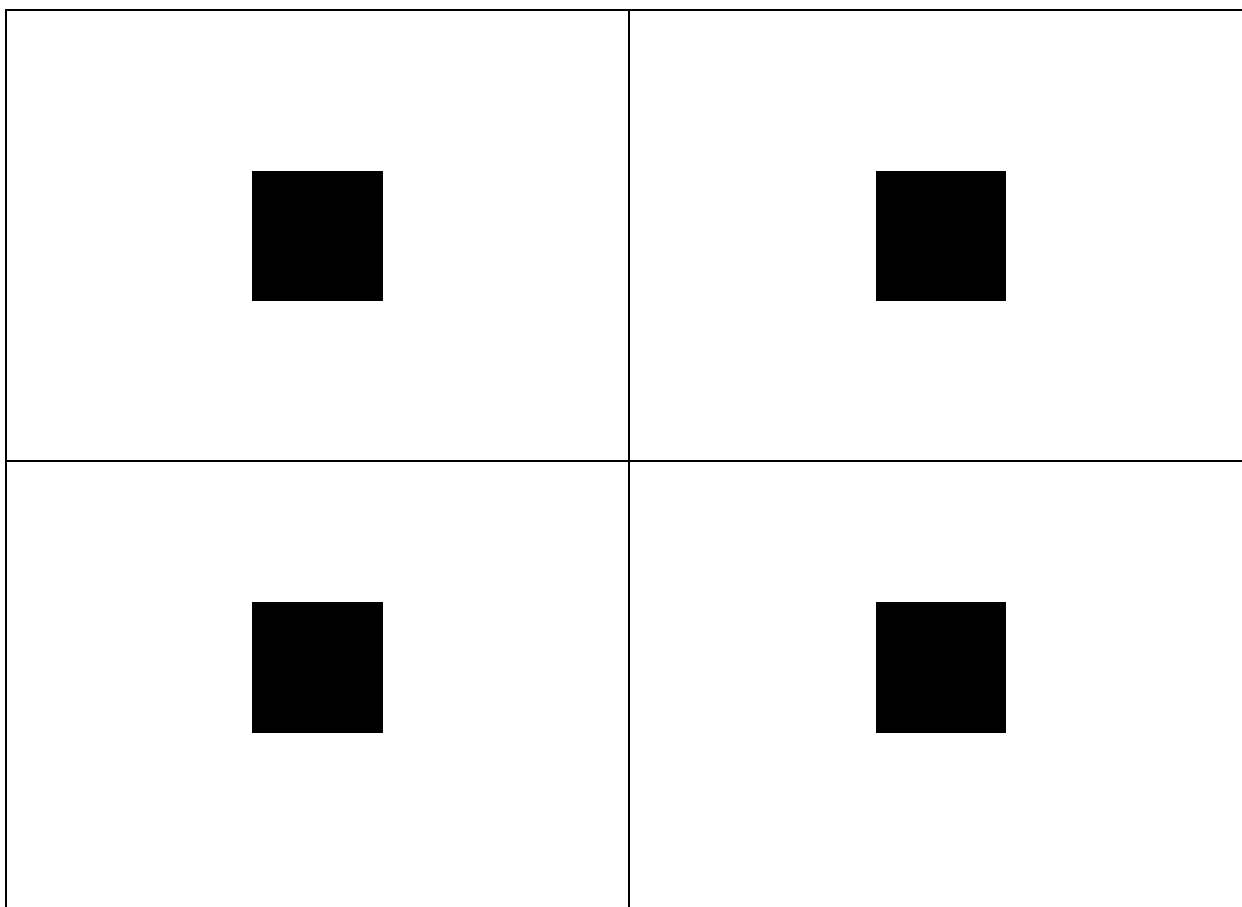
General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	Or F5 01
Destination Sample Take	No
Sample Reference:	
Sampling Comments	
General Observations	

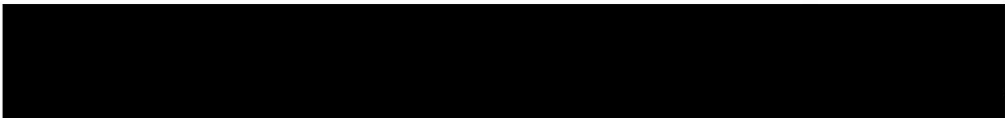
Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
Title:	Remedial Oversight & Material Tracking (Pfizer, Havant)	
Client:	Havant Property LLP	
Date:	02/11/2022	
EPS Contact Details:	7B Caxton House Broad Street Cambourne Cambridge CB23 6JN	T: 01954 710666 F: 01954 710677 E: info@epstrategies.co.uk W: www.epstrategies.co.uk
Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☒ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	B10
Detailed Grid Reference:	50.8601104, -0.9695844
Stockpile Number:	
Top of Excavation:	0.0
Base of Excavation:	3.0

General Image
Detailed Image



Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

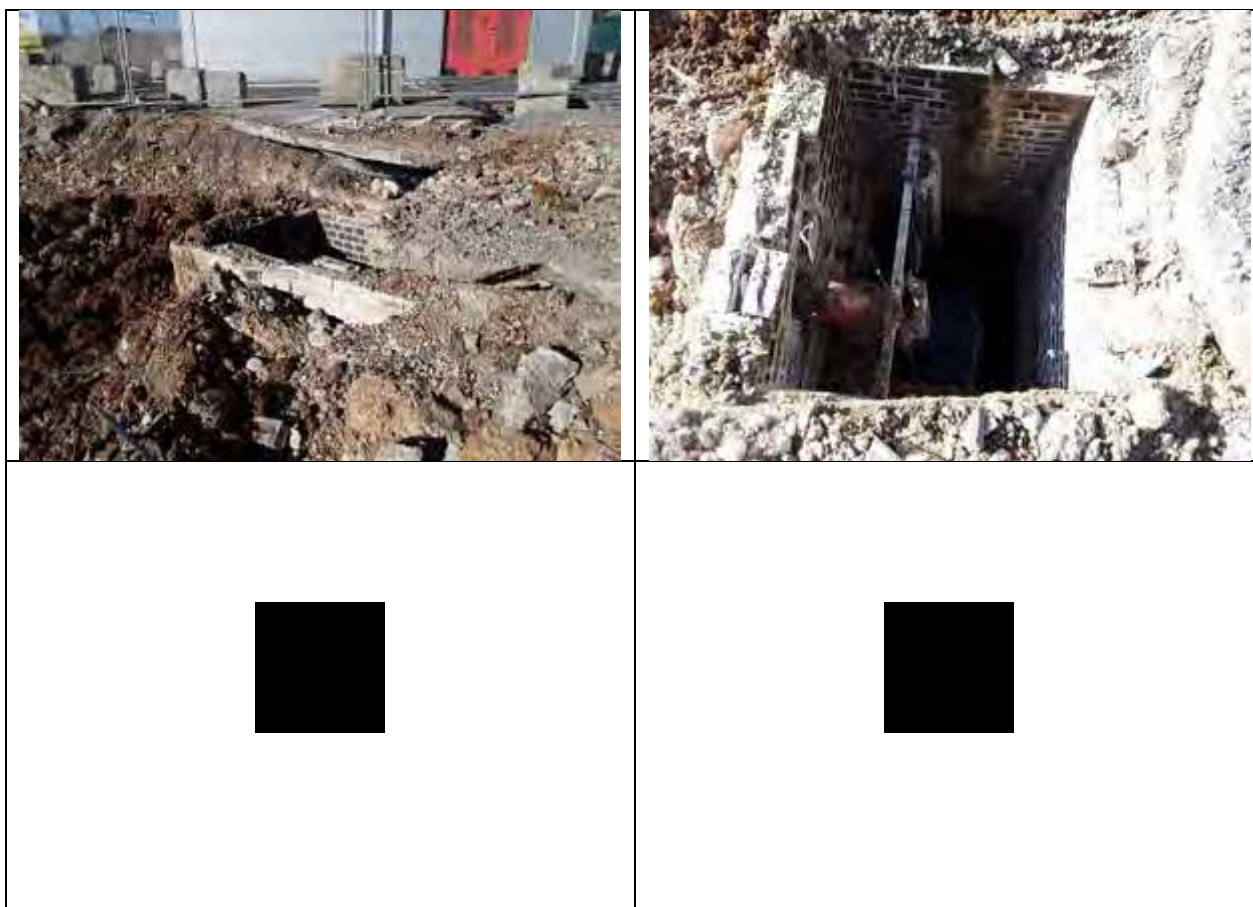
General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	B10 Tank 2 Base
Destination Sample Take	No
Sample Reference:	
Sampling Comments	
Post excavation sample. Fibreglass tank. No evidence of contamination.	
General Observations	

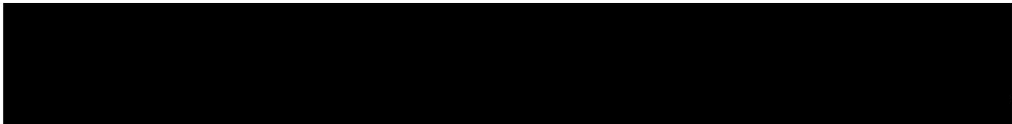
Additional Images





REMEDIATION OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
Title:	Remedial Oversight & Material Tracking (Pfizer, Havant)	
Client:	Havant Property LLP	
Date:	02/15/2022	
EPS Contact Details:	7B Caxton House Broad Street Cambourne Cambridge CB23 6JN	T: 01954 710666 F: 01954 710677 E: info@epstrategies.co.uk W: www.epstrategies.co.uk
Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☒ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	K8
Detailed Grid Reference:	50.8586834, -0.9713516
Stockpile Number:	
Top of Excavation:	0.0
Base of Excavation:	4.0

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☒ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

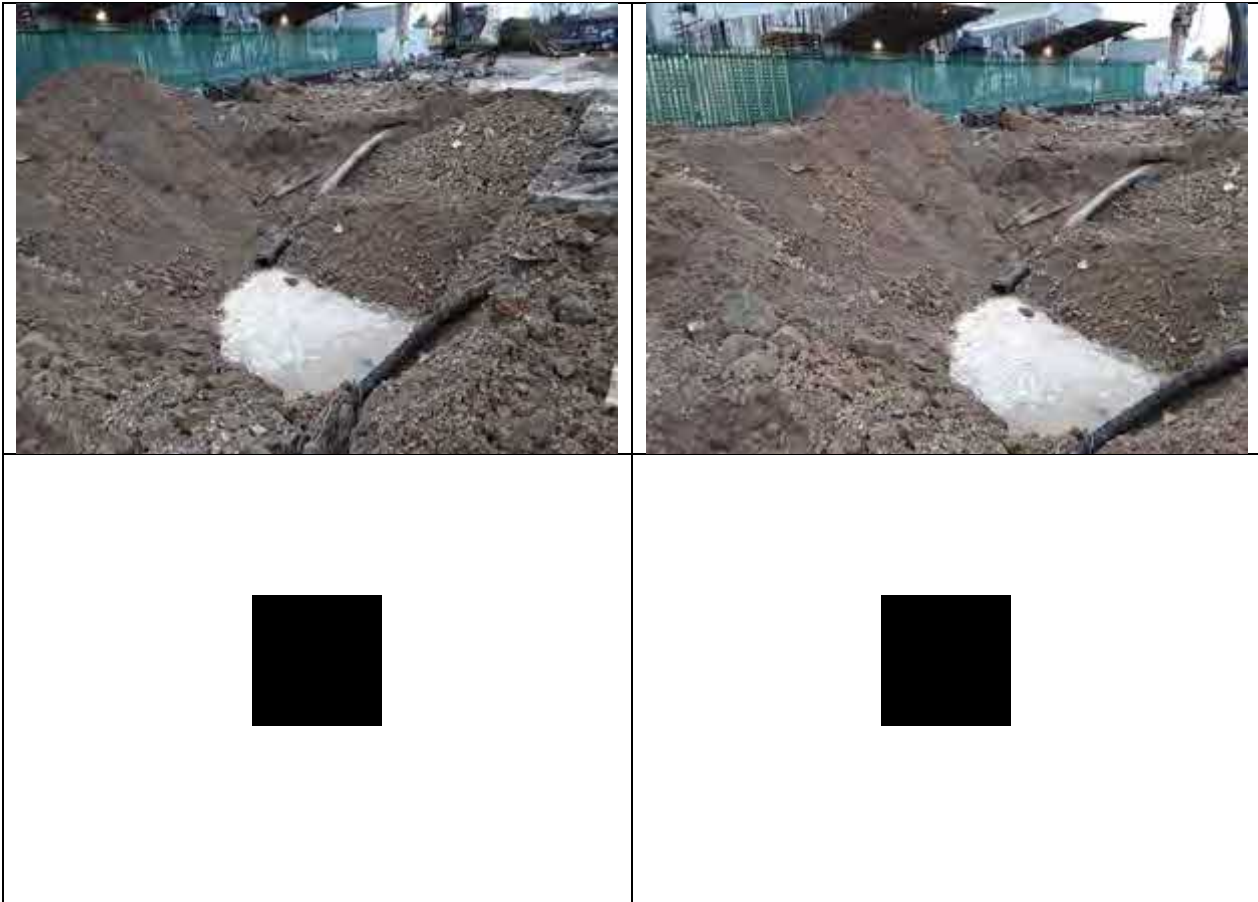
General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	K7 Tank 3 Base 3.0m
Destination Sample Take	No
Sample Reference:	
Sampling Comments	
Post excavation sample. Fibreglass tank. No evidence of contamination.	
General Observations	

Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
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Client:	Havant Property LLP	
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Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☒ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	Tank 2
Detailed Grid Reference:	50.8601056, -0.9695636
Stockpile Number:	
Top of Excavation:	
Base of Excavation:	

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

General Image
Detailed Image





Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	TANK 2 BASE
Destination Sample Take	No
Sample Reference:	
Sampling Comments	
General Observations	

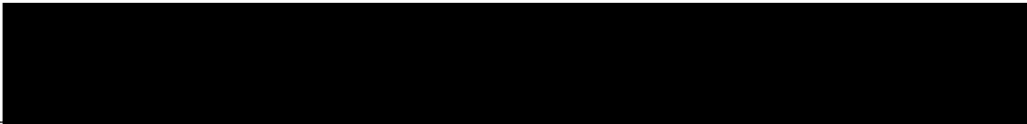
Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

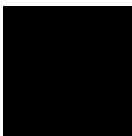
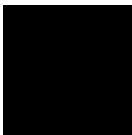
Project Reference:	UK21.5634	
Title:	Remedial Oversight & Material Tracking (Pfizer, Havant)	
Client:	Havant Property LLP	
Date:	02/10/2022	
EPS Contact Details:	7B Caxton House Broad Street Cambourne Cambridge CB23 6JN	T: 01954 710666 F: 01954 710677 E: info@epstrategies.co.uk W: www.epstrategies.co.uk
Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☒ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	
Top of Excavation:	
Base of Excavation:	

General Image
Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	G4
Detailed Grid Reference:	50.8596048, -0.9720647
Stockpile Number:	

General Image



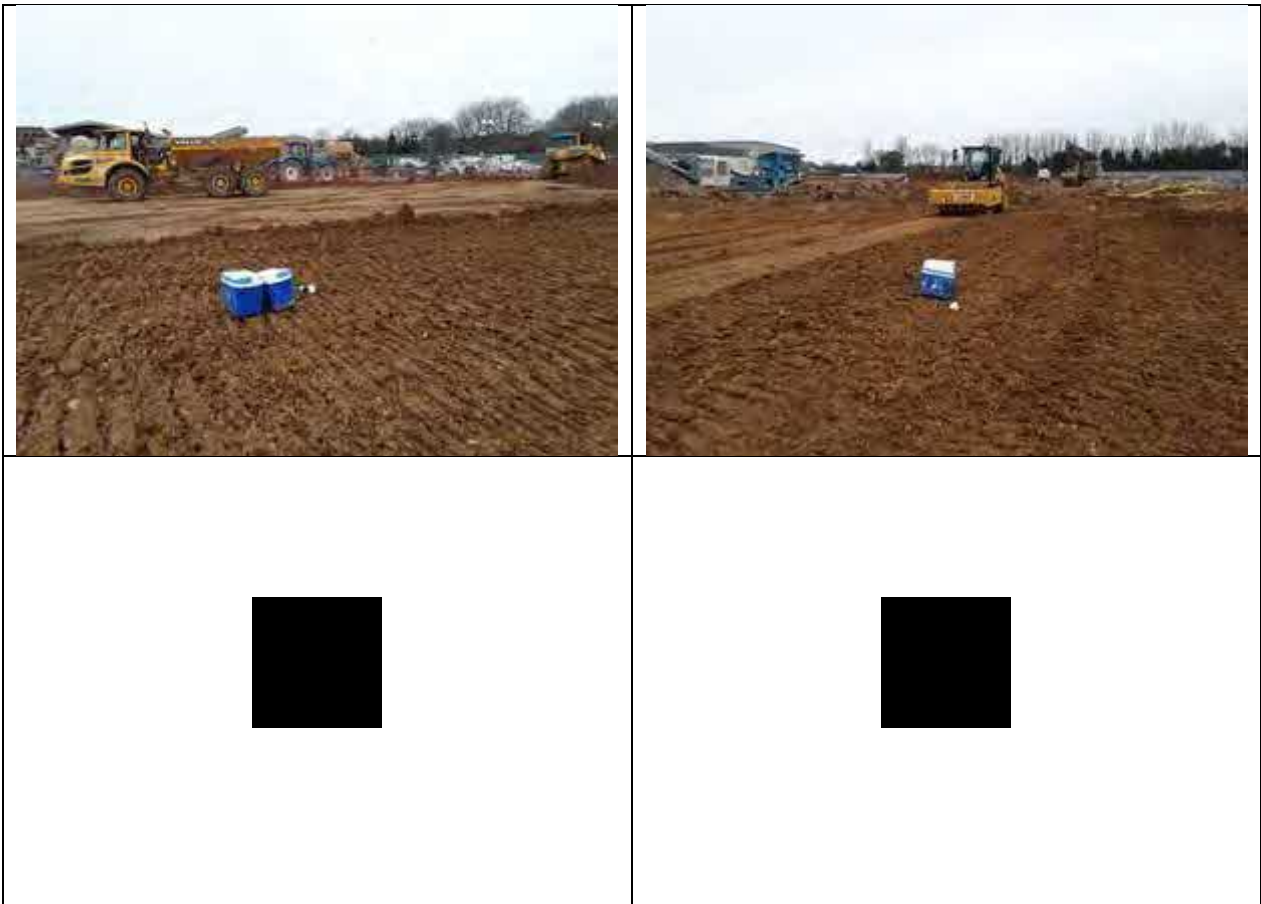
Detailed Image



Sampling / Comments

Origin Sample Taken:	No
Sample Reference:	
Destination Sample Take	Yes
Sample Reference:	Dt G4 01
Sampling Comments	
General Observations	

Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
Title:	Remedial Oversight & Material Tracking (Pfizer, Havant)	
Client:	Havant Property LLP	
Date:	02/10/2022	
EPS Contact Details:	7B Caxton House Broad Street Cambourne Cambridge CB23 6JN	T: 01954 710666 F: 01954 710677 E: info@epstrategies.co.uk W: www.epstrategies.co.uk
Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☒ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	
Top of Excavation:	
Base of Excavation:	

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	F3
Detailed Grid Reference:	50.8599054, -0.9723718
Stockpile Number:	

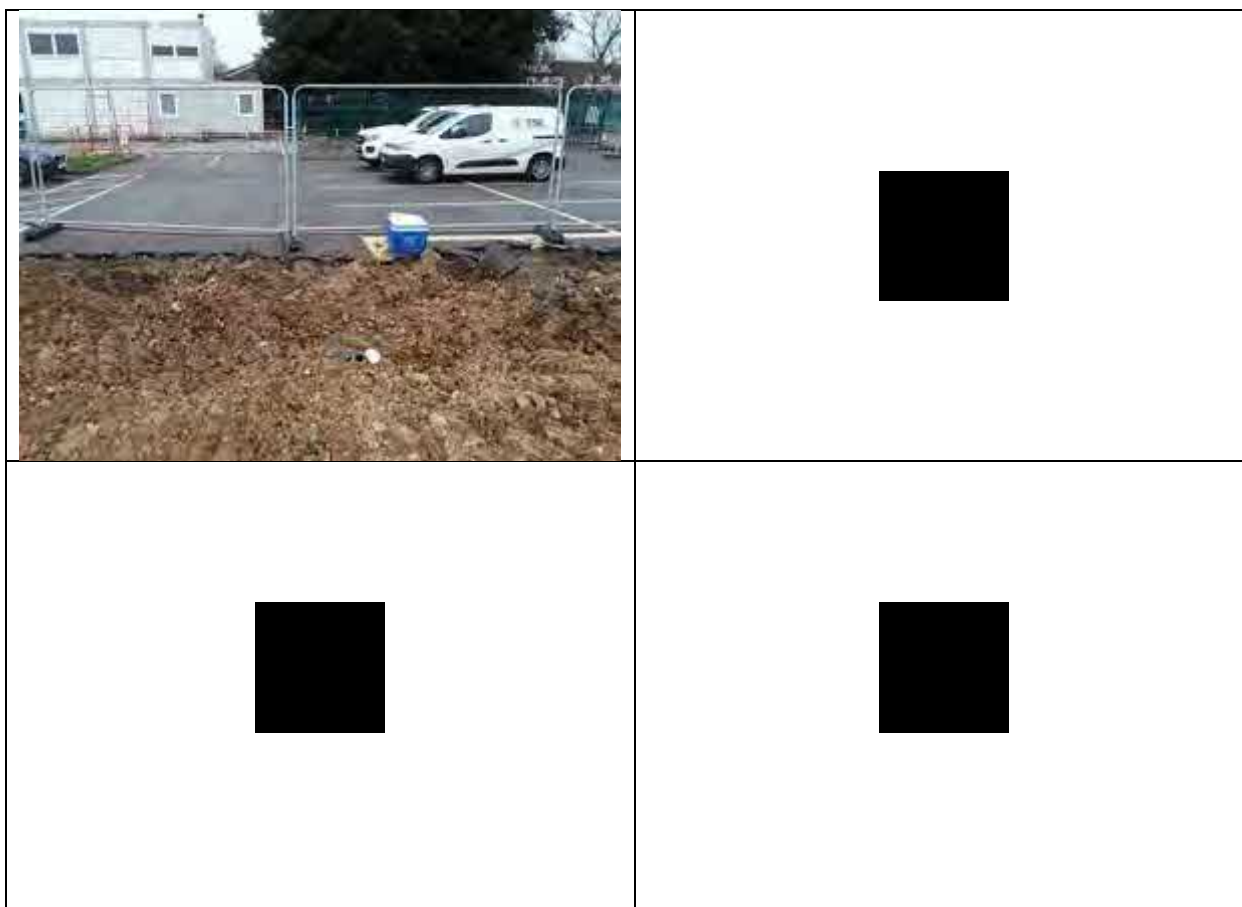
General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	No
Sample Reference:	
Destination Sample Taken:	Yes
Sample Reference:	Dt F3 01
Sampling Comments	
General Observations	

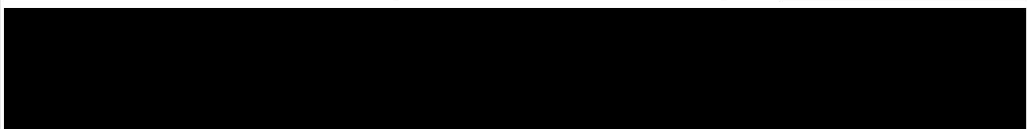
Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
Title:	Remedial Oversight & Material Tracking (Pfizer, Havant)	
Client:	Havant Property LLP	
Date:	02/09/2022	
EPS Contact Details:	7B Caxton House Broad Street Cambourne Cambridge CB23 6JN	T: 01954 710666 F: 01954 710677 E: info@epstrategies.co.uk W: www.epstrategies.co.uk
Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☒ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	F3
Detailed Grid Reference:	50.8598334, -0.9724480
Stockpile Number:	
Top of Excavation:	0.0
Base of Excavation:	2.5

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	Or F3 2.5 Drain
Destination Sample Take	No
Sample Reference:	
Sampling Comments	
Sample collected to represent the material remaining on site.	
General Observations	
Dark stained material added to the quarantine area.	

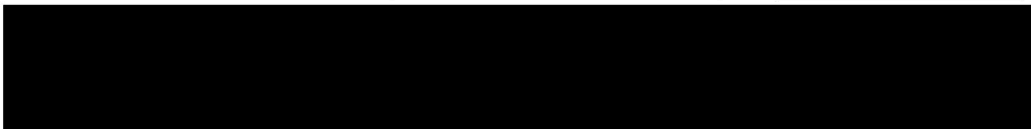
Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
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Client:	Havant Property LLP	
Date:	02/09/2022	
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Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☐ Soil Excavation ☒ Stockpile	
Soil Grid Reference:	E5
Detailed Grid Reference:	50.8600258, -0.9711789
Stockpile Number:	Sp03
Top of Excavation:	
Base of Excavation:	

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

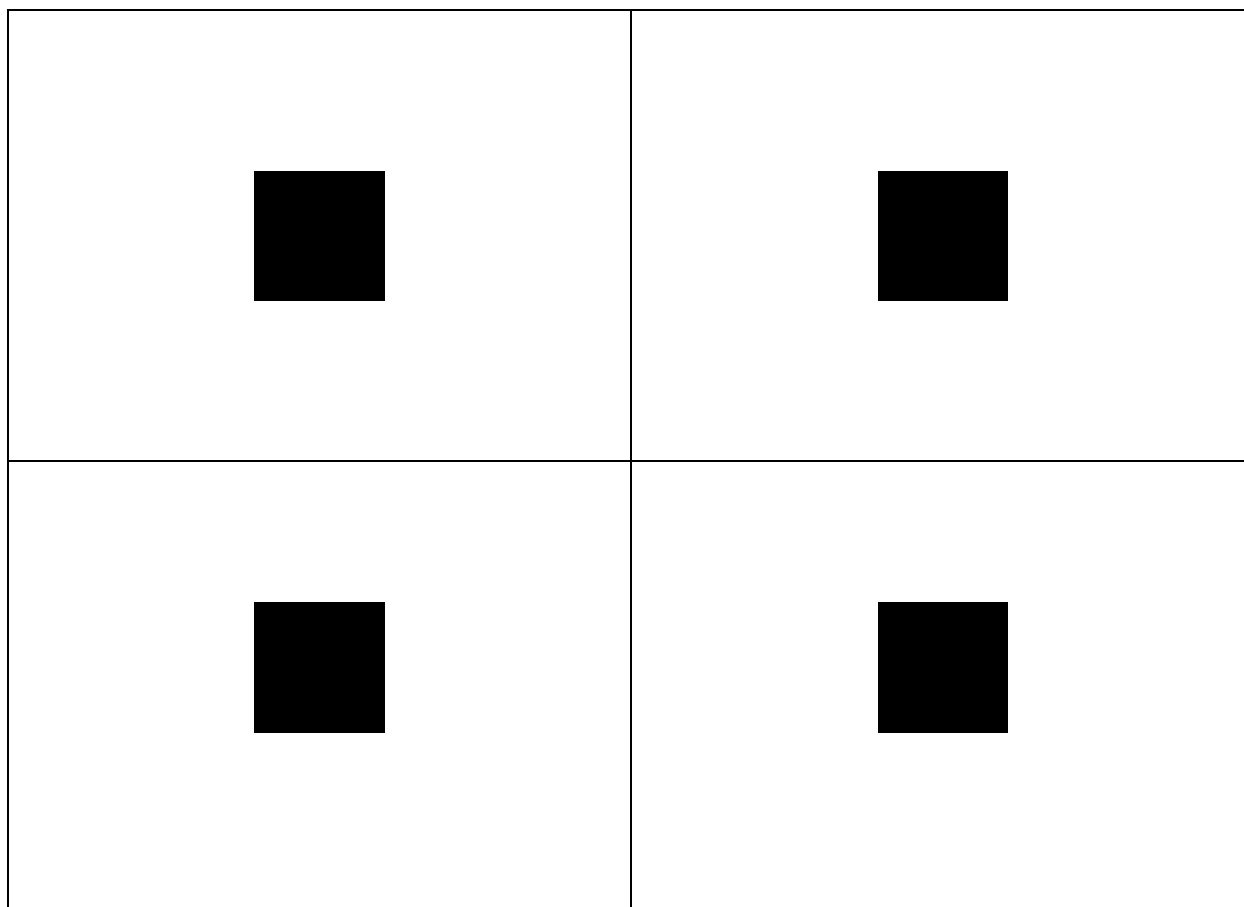
General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	Sp03 E5 15
Destination Sample Take	No
Sample Reference:	
Sampling Comments	
Crush pile sample	
General Observations	

Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

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Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☒ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	C5
Detailed Grid Reference:	50.8603659, -0.9713399
Stockpile Number:	Sp03
Top of Excavation:	
Base of Excavation:	

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

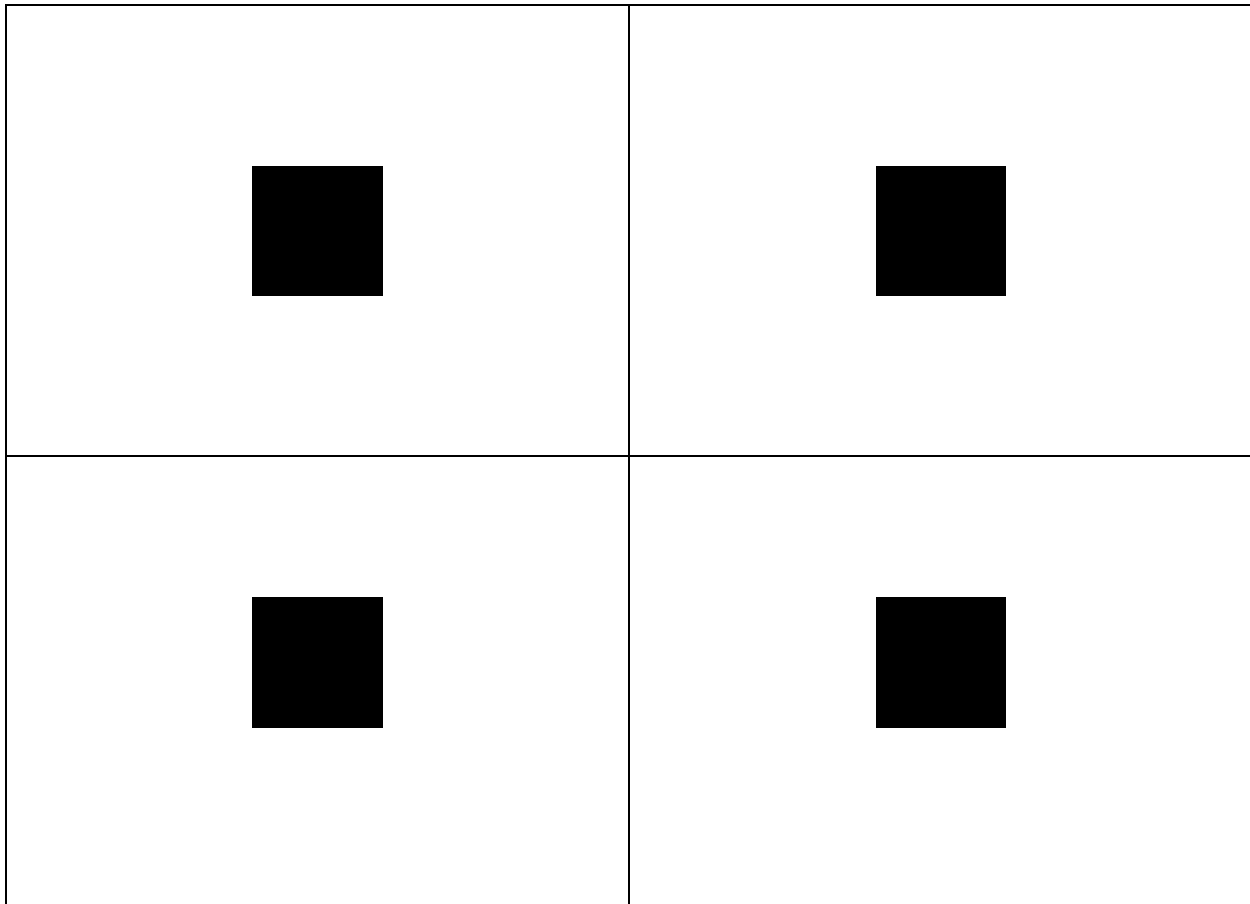
General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	Sp03 C5 16
Destination Sample Take	No
Sample Reference:	
Sampling Comments	
Crush pile sample	
General Observations	

Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
Title:	Remedial Oversight & Material Tracking (Pfizer, Havant)	
Client:	Havant Property LLP	
Date:	02/08/2022	
EPS Contact Details:	7B Caxton House Broad Street Cambourne Cambridge CB23 6JN	T: 01954 710666 F: 01954 710677 E: info@epstrategies.co.uk W: www.epstrategies.co.uk
Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☒ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	A13
Detailed Grid Reference:	50.8599553, -0.9682590
Stockpile Number:	
Top of Excavation:	0.0
Base of Excavation:	2.0

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	TP111 0.5
Destination Sample Take	No
Sample Reference:	
Sampling Comments	
Top meter is dark grey black sandy gravel	
General Observations	

Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
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Client:	Havant Property LLP	
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Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☒ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	A13
Detailed Grid Reference:	50.8601534, -0.9681702
Stockpile Number:	
Top of Excavation:	0.0
Base of Excavation:	2.0

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	TP112 1.5
Destination Sample Take	No
Sample Reference:	
Sampling Comments	
General Observations	

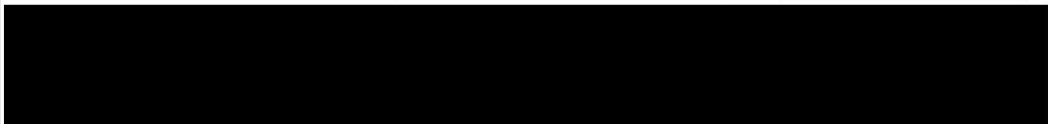
Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

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Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☒ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	A13
Detailed Grid Reference:	50.8601534, -0.9681702
Stockpile Number:	
Top of Excavation:	0.0
Base of Excavation:	2.0

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	TP112 0.5
Destination Sample Take	No
Sample Reference:	
Sampling Comments	
Dark grey black sandy gravel in top metre	
General Observations	

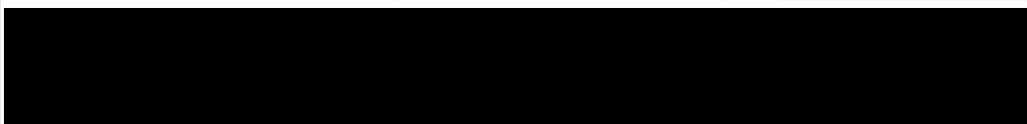
Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

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Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☒ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	A13
Detailed Grid Reference:	50.8599553, -0.9682590
Stockpile Number:	
Top of Excavation:	0.0
Base of Excavation:	2.0

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	TP111 1.5
Destination Sample Take	No
Sample Reference:	
Sampling Comments	
General Observations	

Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
Title:	Remedial Oversight & Material Tracking (Pfizer, Havant)	
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Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☒ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	G4
Detailed Grid Reference:	50.8597090, -0.9720597
Stockpile Number:	
Top of Excavation:	0.0
Base of Excavation:	4.0

General Image



Detailed Image



Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	Or G4 Int3
Destination Sample Taken:	No
Sample Reference:	
Sampling Comments	
Sample collected from material taken from under the base of the excavation and mo Coordinates provided are approximate.	
General Observations	

Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
Title:	Remedial Oversight & Material Tracking (Pfizer, Havant)	
Client:	Havant Property LLP	
Date:	02/05/2022	
EPS Contact Details:	7B Caxton House Broad Street Cambourne Cambridge CB23 6JN	T: 01954 710666 F: 01954 710677 E: info@epstrategies.co.uk W: www.epstrategies.co.uk
Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☒ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	G4
Detailed Grid Reference:	50.8596114, -0.9721985
Stockpile Number:	
Top of Excavation:	0.0
Base of Excavation:	4.0

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

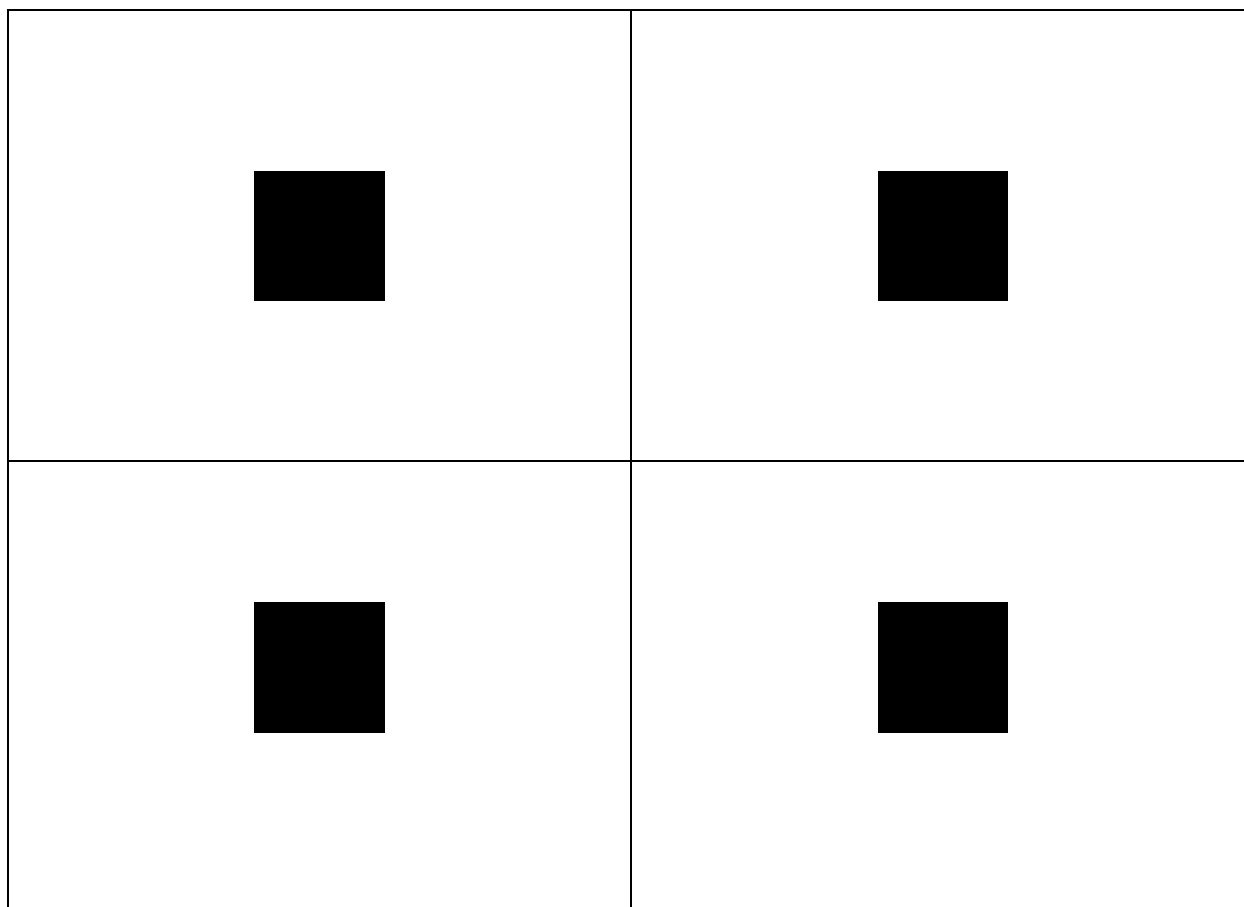
General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	Or G4 Int3
Destination Sample Taken:	No
Sample Reference:	
Sampling Comments	
Collected NW corner of interceptor excavation	
General Observations	

Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
Title:	Remedial Oversight & Material Tracking (Pfizer, Havant)	
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Date:	02/05/2022	
EPS Contact Details:	7B Caxton House Broad Street Cambourne Cambridge CB23 6JN	T: 01954 710666 F: 01954 710677 E: info@epstrategies.co.uk W: www.epstrategies.co.uk
Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☒ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	G4
Detailed Grid Reference:	50.8595384, -0.9721338
Stockpile Number:	
Top of Excavation:	0.0
Base of Excavation:	4.0

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

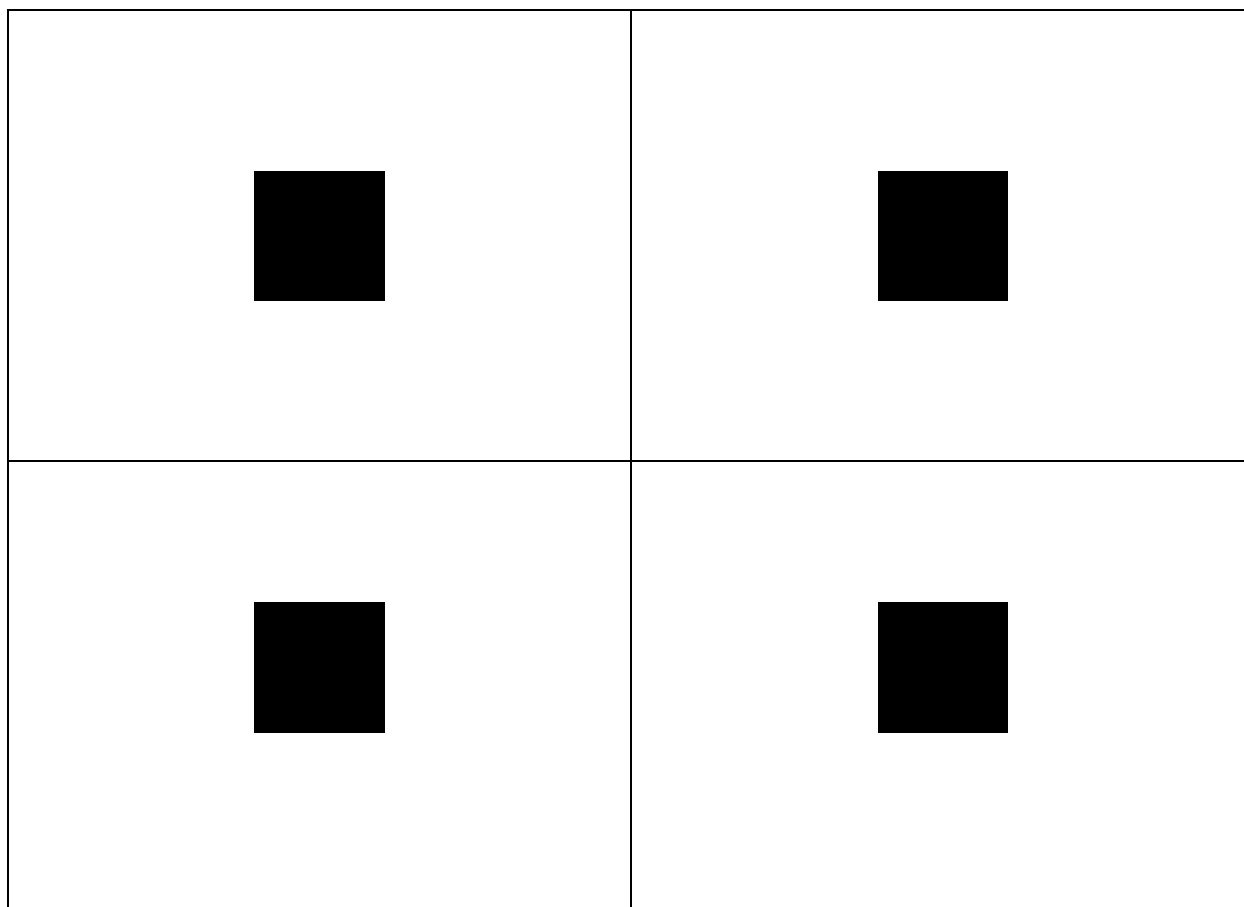
General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	Or G4 Int1
Destination Sample Take	No
Sample Reference:	
Sampling Comments	
Collected SE corner of excavation.	
General Observations	

Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
Title:	Remedial Oversight & Material Tracking (Pfizer, Havant)	
Client:	Havant Property LLP	
Date:	02/04/2022	
EPS Contact Details:	7B Caxton House Broad Street Cambourne Cambridge CB23 6JN	T: 01954 710666 F: 01954 710677 E: info@epstrategies.co.uk W: www.epstrategies.co.uk
Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☒ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	G5
Detailed Grid Reference:	50.8595261, -0.9717523
Stockpile Number:	
Top of Excavation:	0.0
Base of Excavation:	1.3

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

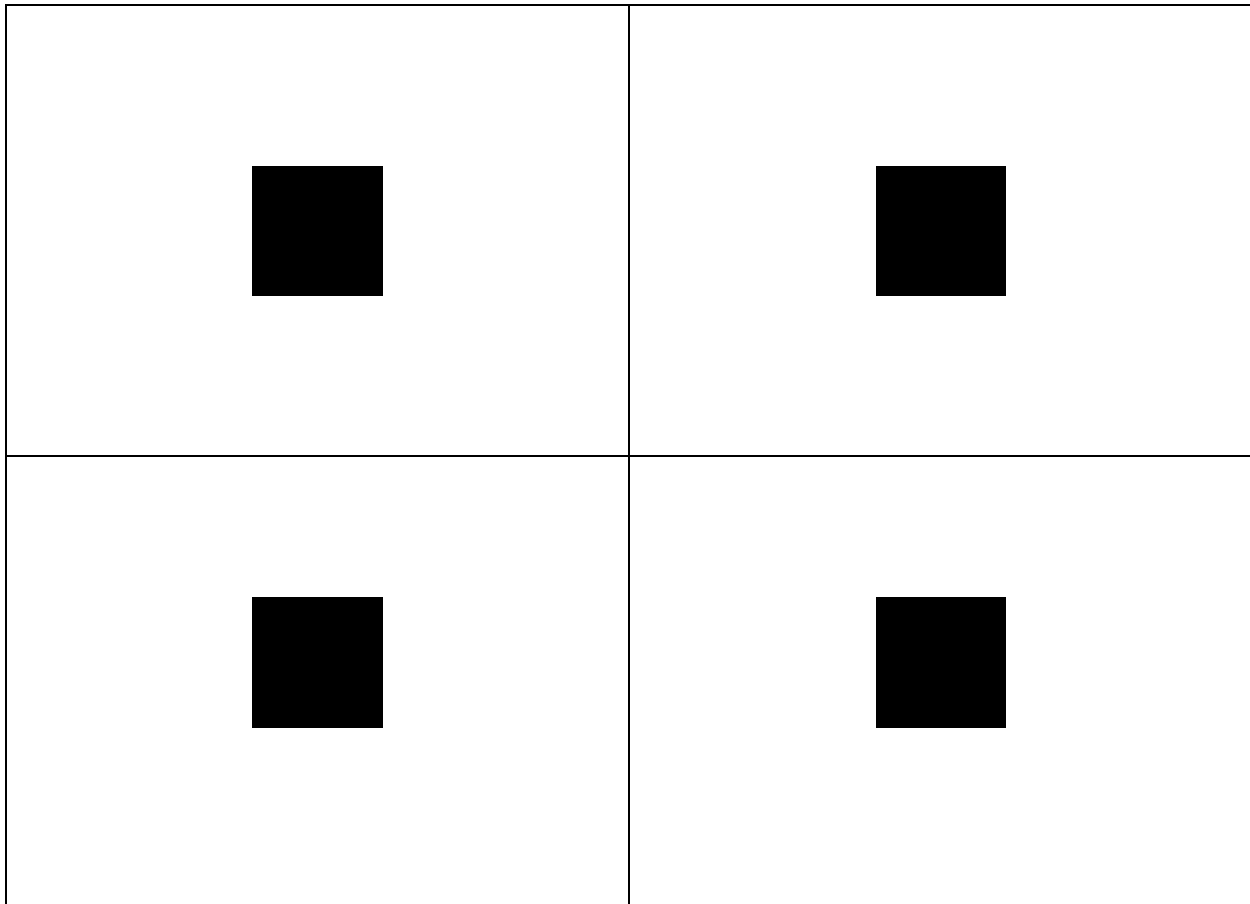
General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	Or G5 DRAIN 1.3
Destination Sample Take	No
Sample Reference:	
Sampling Comments	
From beneath drainage pipe.	
General Observations	

Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
Title:	Remedial Oversight & Material Tracking (Pfizer, Havant)	
Client:	Havant Property LLP	
Date:	02/03/2022	
EPS Contact Details:	7B Caxton House Broad Street Cambourne Cambridge CB23 6JN	T: 01954 710666 F: 01954 710677 E: info@epstrategies.co.uk W: www.epstrategies.co.uk
Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☒ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	H8
Detailed Grid Reference:	50.8589047, -0.9707890
Stockpile Number:	
Top of Excavation:	+2.0
Base of Excavation:	3.5

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

General Image
Detailed Image

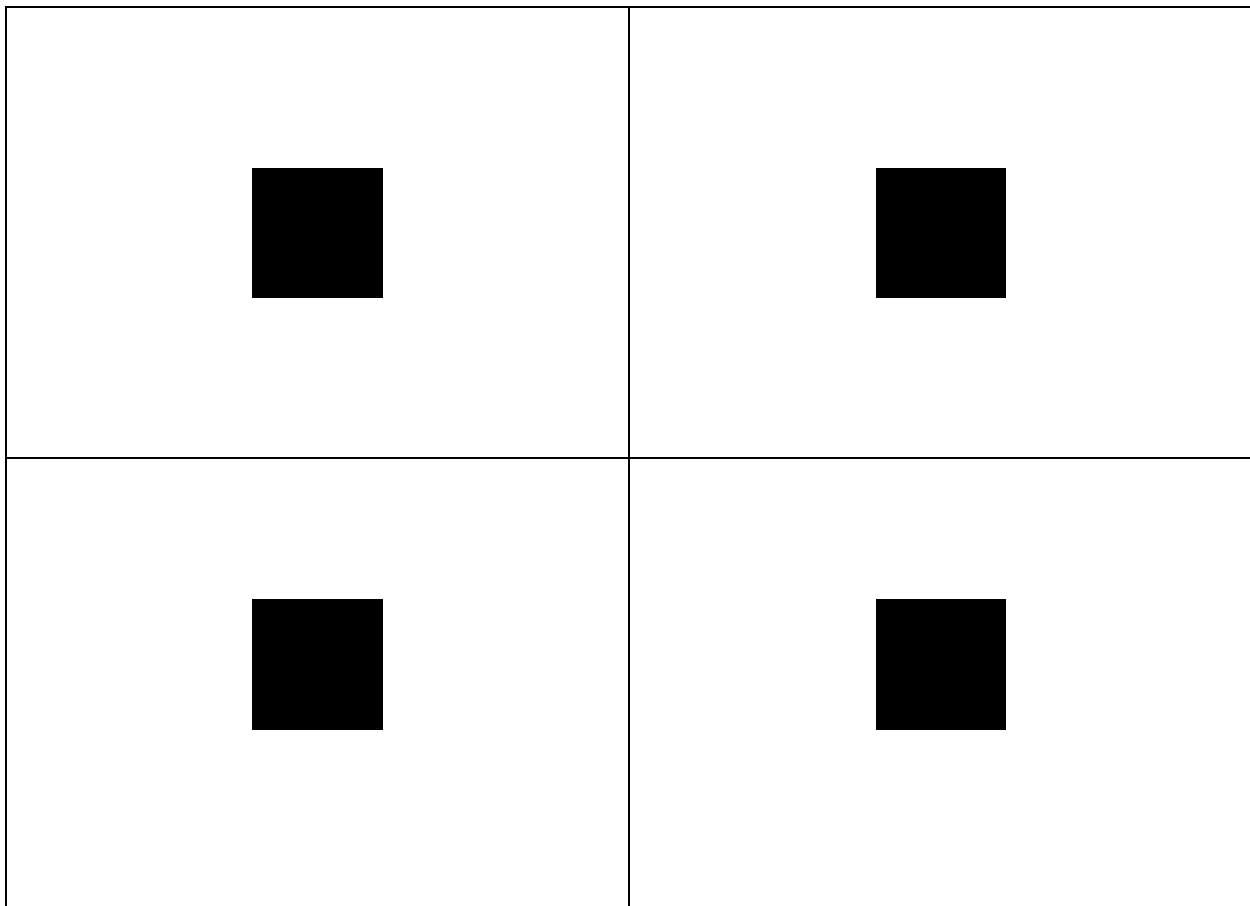




Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	Or H8 +1.0
Destination Sample Take	No
Sample Reference:	
Sampling Comments	
Sample collected from arisings mound made while excavating foundations. Represents surface to ~2.5m	
General Observations	

Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
Title:	Remedial Oversight & Material Tracking (Pfizer, Havant)	
Client:	Havant Property LLP	
Date:	02/03/2022	
EPS Contact Details:	7B Caxton House Broad Street Cambourne Cambridge CB23 6JN	T: 01954 710666 F: 01954 710677 E: info@epstrategies.co.uk W: www.epstrategies.co.uk
Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☒ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	H8
Detailed Grid Reference:	50.8588846, -0.9708913
Stockpile Number:	
Top of Excavation:	0.0
Base of Excavation:	4.7

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

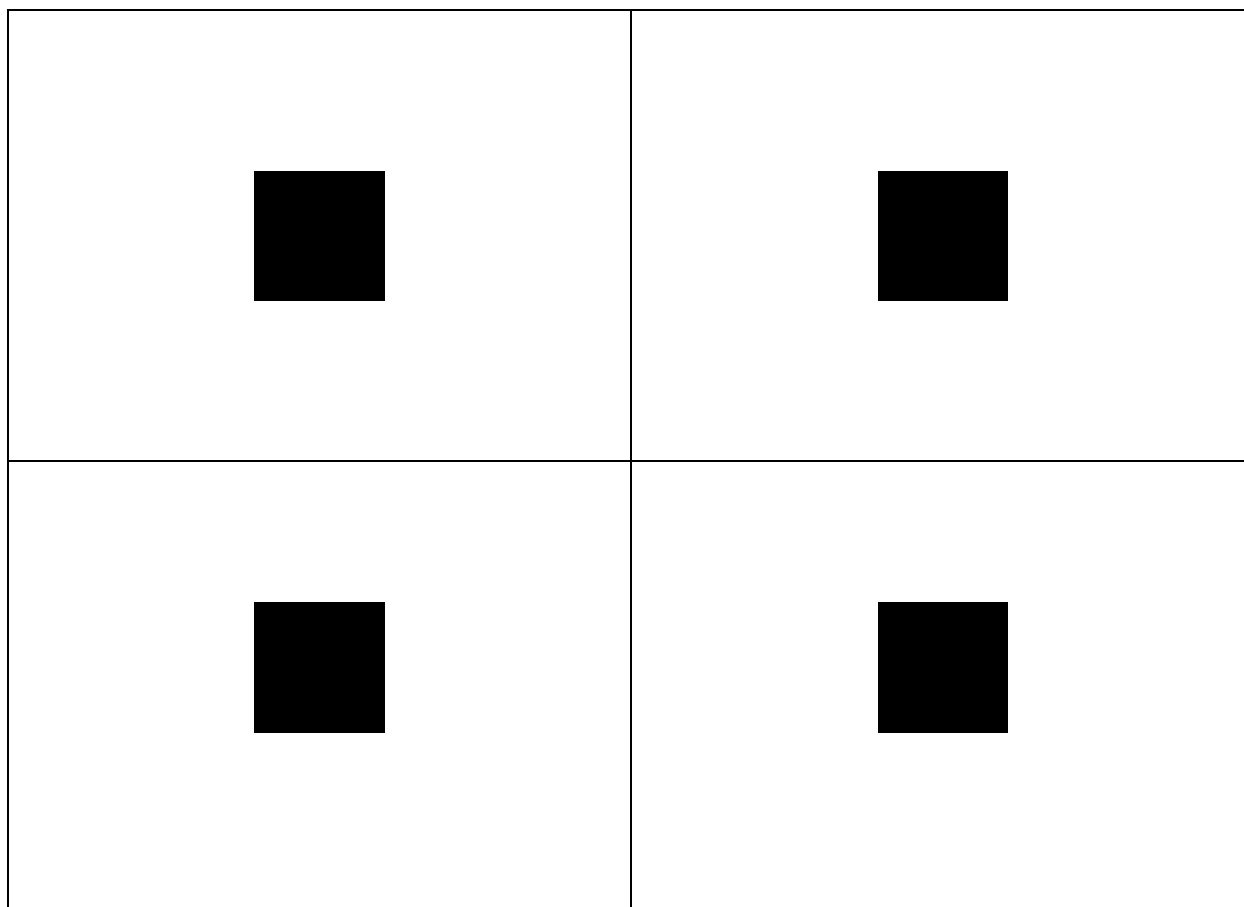
General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	Or H8 4.5
Destination Sample Take	No
Sample Reference:	
Sampling Comments	
General Observations	

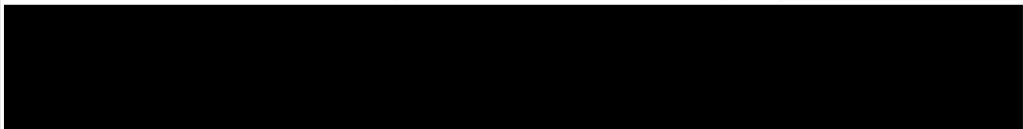
Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

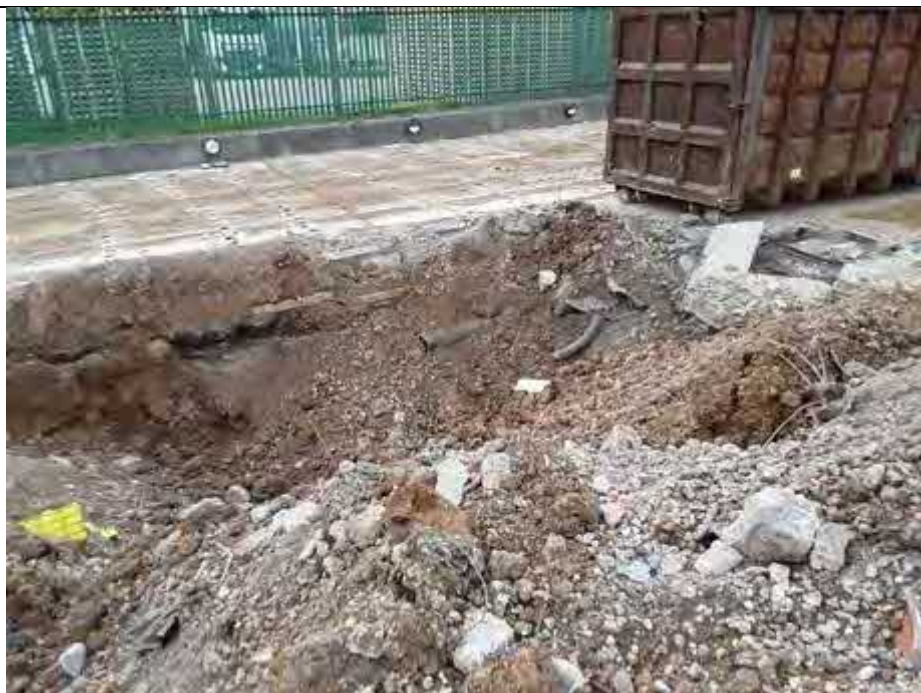
Project Reference:	UK21.5634	
Title:	Remedial Oversight & Material Tracking (Pfizer, Havant)	
Client:	Havant Property LLP	
Date:	02/03/2022	
EPS Contact Details:	7B Caxton House Broad Street Cambourne Cambridge CB23 6JN	T: 01954 710666 F: 01954 710677 E: info@epstrategies.co.uk W: www.epstrategies.co.uk
Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☒ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	K8
Detailed Grid Reference:	50.8586567, -0.9712168
Stockpile Number:	
Top of Excavation:	0.0
Base of Excavation:	1.8

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

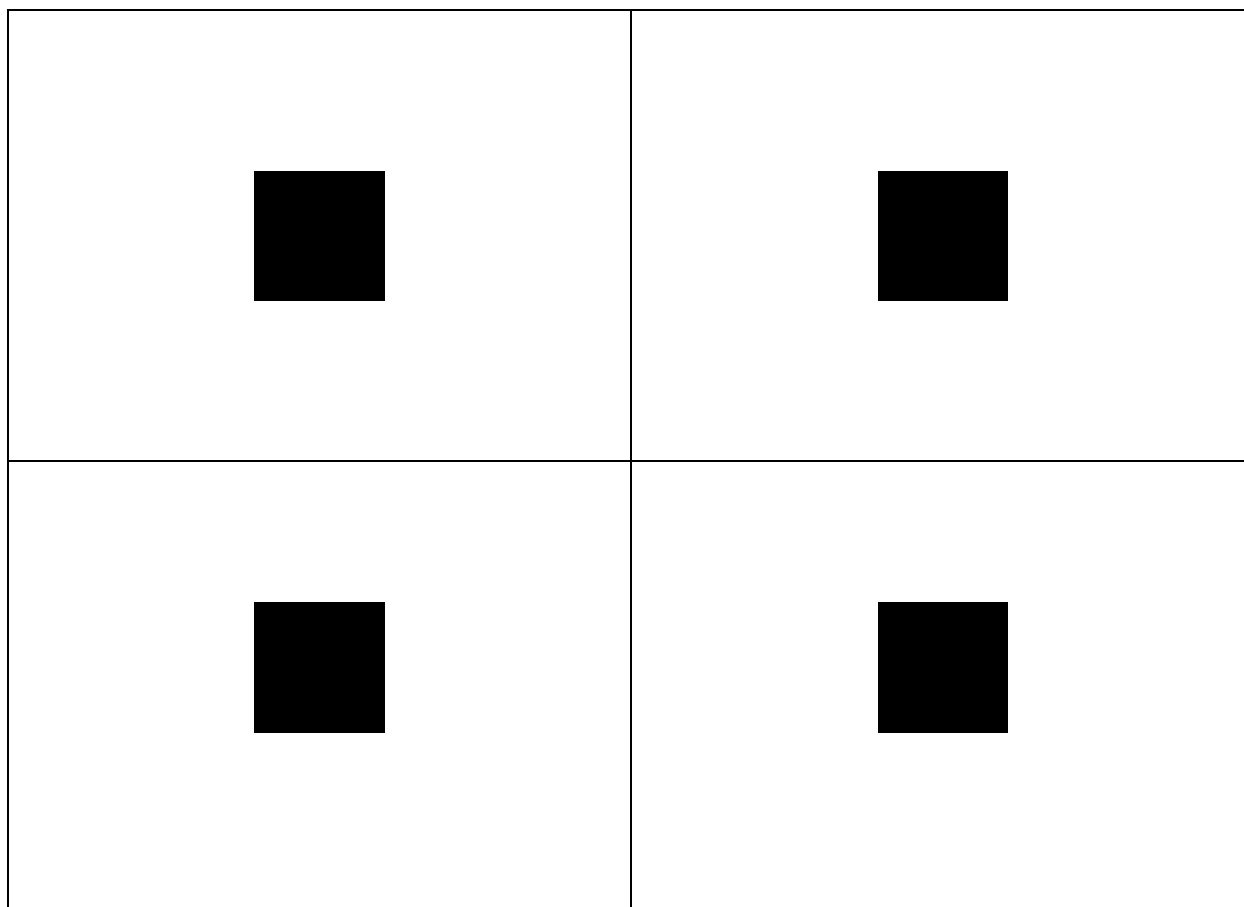
General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	Or K8 1.8
Destination Sample Take	No
Sample Reference:	
Sampling Comments	
General Observations	

Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
Title:	Remedial Oversight & Material Tracking (Pfizer, Havant)	
Client:	Havant Property LLP	
Date:	02/02/2022	
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Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☐ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	
Top of Excavation:	
Base of Excavation:	

General Image
Detailed Image



Destination of Moved Soil

New Soil Location: ☒ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	J11
Detailed Grid Reference:	50.8584986, -0.9702395
Stockpile Number:	

General Image



Detailed Image





Sampling / Comments

Origin Sample Taken:	No
Sample Reference:	
Destination Sample Take	Yes
Sample Reference:	Dt J11 01
Sampling Comments	
General Observations	

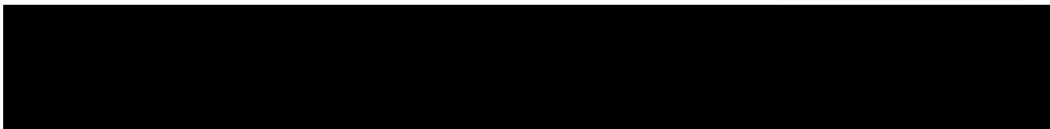
Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
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Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☐ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	
Top of Excavation:	
Base of Excavation:	

General Image
Detailed Image





Destination of Moved Soil

New Soil Location: ☒ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	G11
Detailed Grid Reference:	50.8589866, -0.9699522
Stockpile Number:	

General Image



Detailed Image

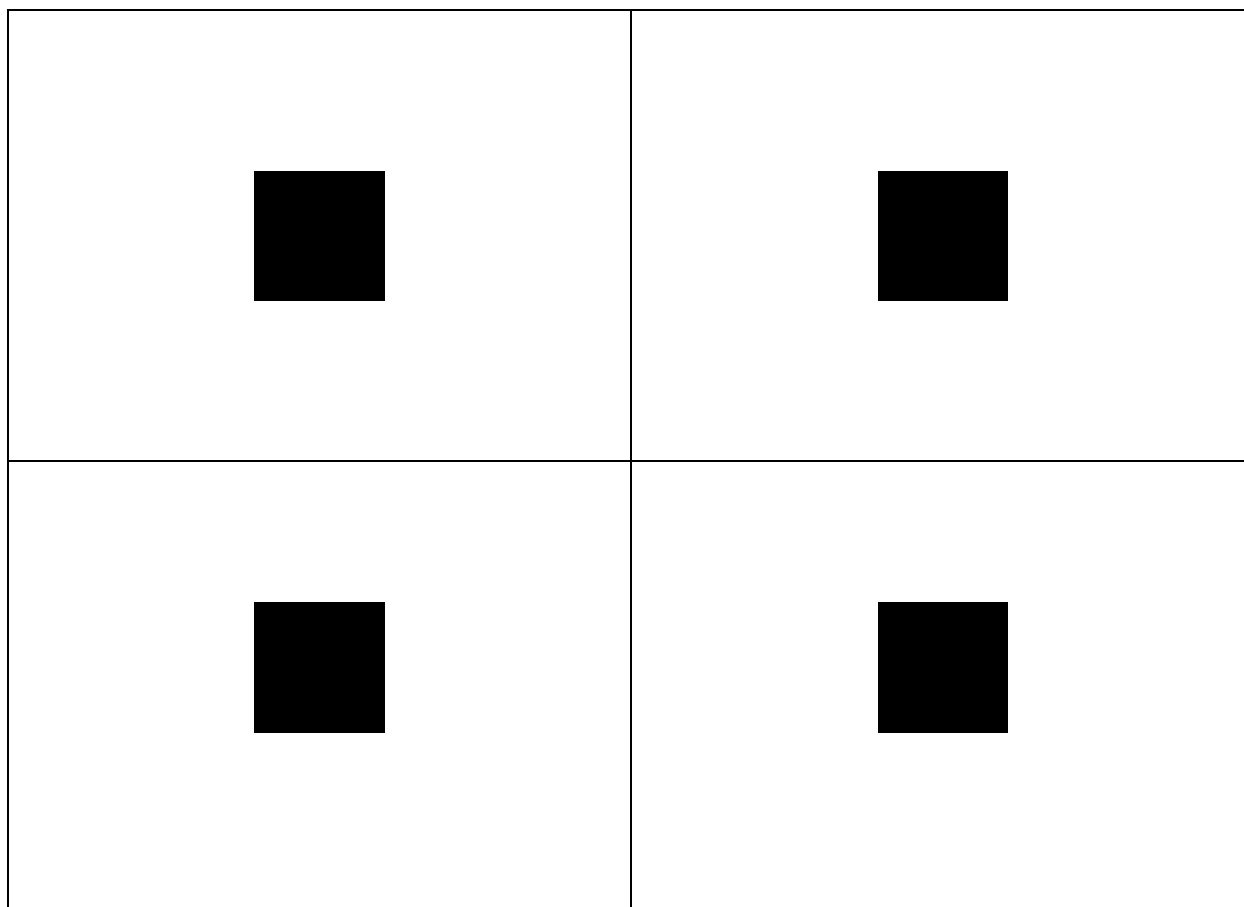




Sampling / Comments

Origin Sample Taken:	No
Sample Reference:	
Destination Sample Taken:	Yes
Sample Reference:	Dt G11 01a
Sampling Comments	
General Observations	

Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
Title:	Remedial Oversight & Material Tracking (Pfizer, Havant)	
Client:	Havant Property LLP	
Date:	02/02/2022	
EPS Contact Details:	7B Caxton House Broad Street Cambourne Cambridge CB23 6JN	T: 01954 710666 F: 01954 710677 E: info@epstrategies.co.uk W: www.epstrategies.co.uk
Status:	Issue 1	

Author:	Reviewed:	Authorised:
A large black rectangular box redacting the signatures of the author, reviewer, and authorised person.		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☐ Soil Excavation ☒ Stockpile	
Soil Grid Reference:	D5
Detailed Grid Reference:	50.8601322, -0.9712205
Stockpile Number:	Sp03
Top of Excavation:	
Base of Excavation:	

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

General Image
Detailed Image

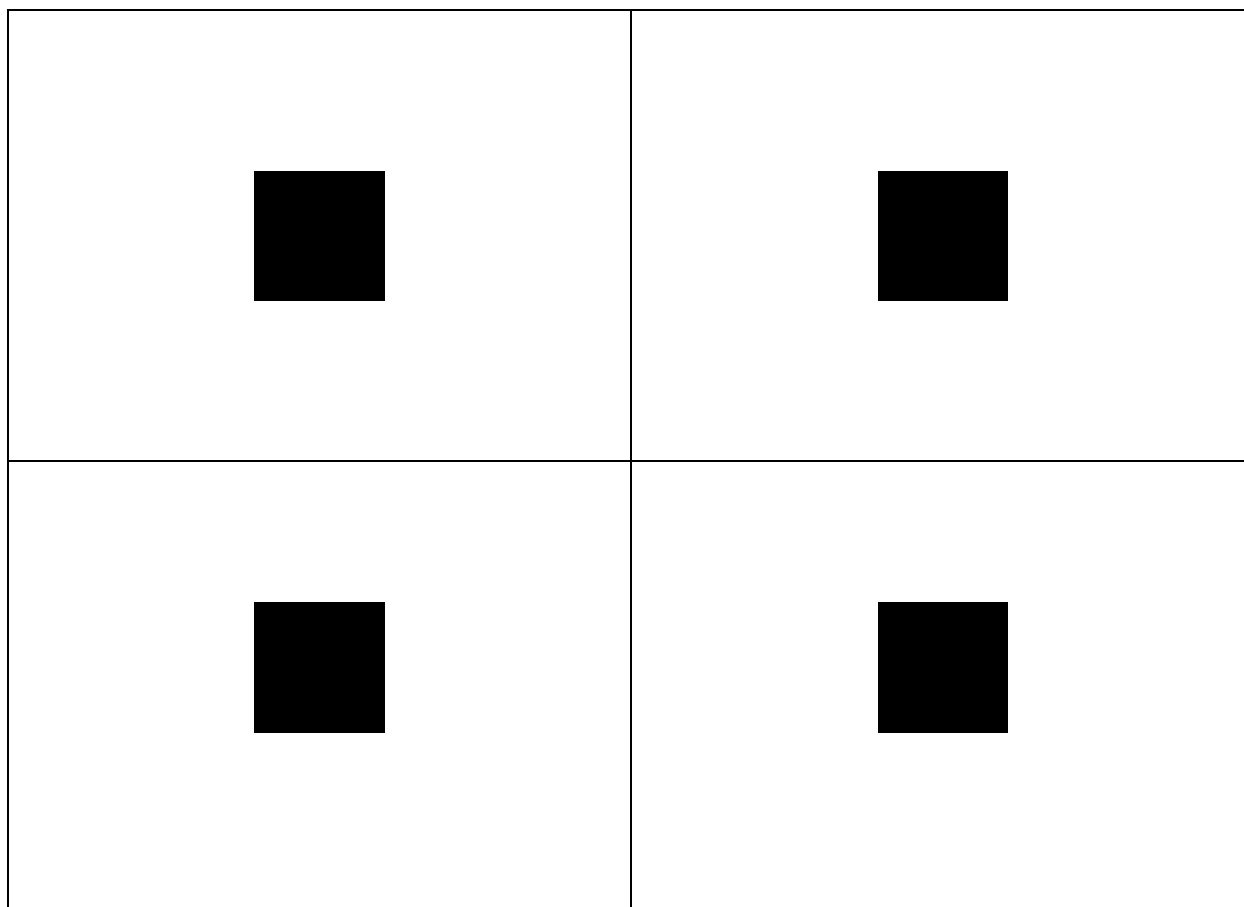




Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	Sp03 D5 13
Destination Sample Take	No
Sample Reference:	
Sampling Comments	
General Observations	

Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634
Title:	Remedial Oversight & Material Tracking (Pfizer, Havant)
Client:	Havant Property LLP
Date:	02/02/2022
EPS Contact Details:	7B Caxton House Broad Street Cambourne Cambridge CB23 6JN T: 01954 710666 F: 01954 710677 E: info@epstrategies.co.uk W: www.epstrategies.co.uk
Status:	Issue 1

Author:	Reviewed:	Authorised:
A large black rectangular box redacting the signatures of the author, reviewer, and authorised person.		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☐ Soil Excavation ☒ Stockpile	
Soil Grid Reference:	E5
Detailed Grid Reference:	50.8600072, -0.9713218
Stockpile Number:	Sp03
Top of Excavation:	
Base of Excavation:	

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

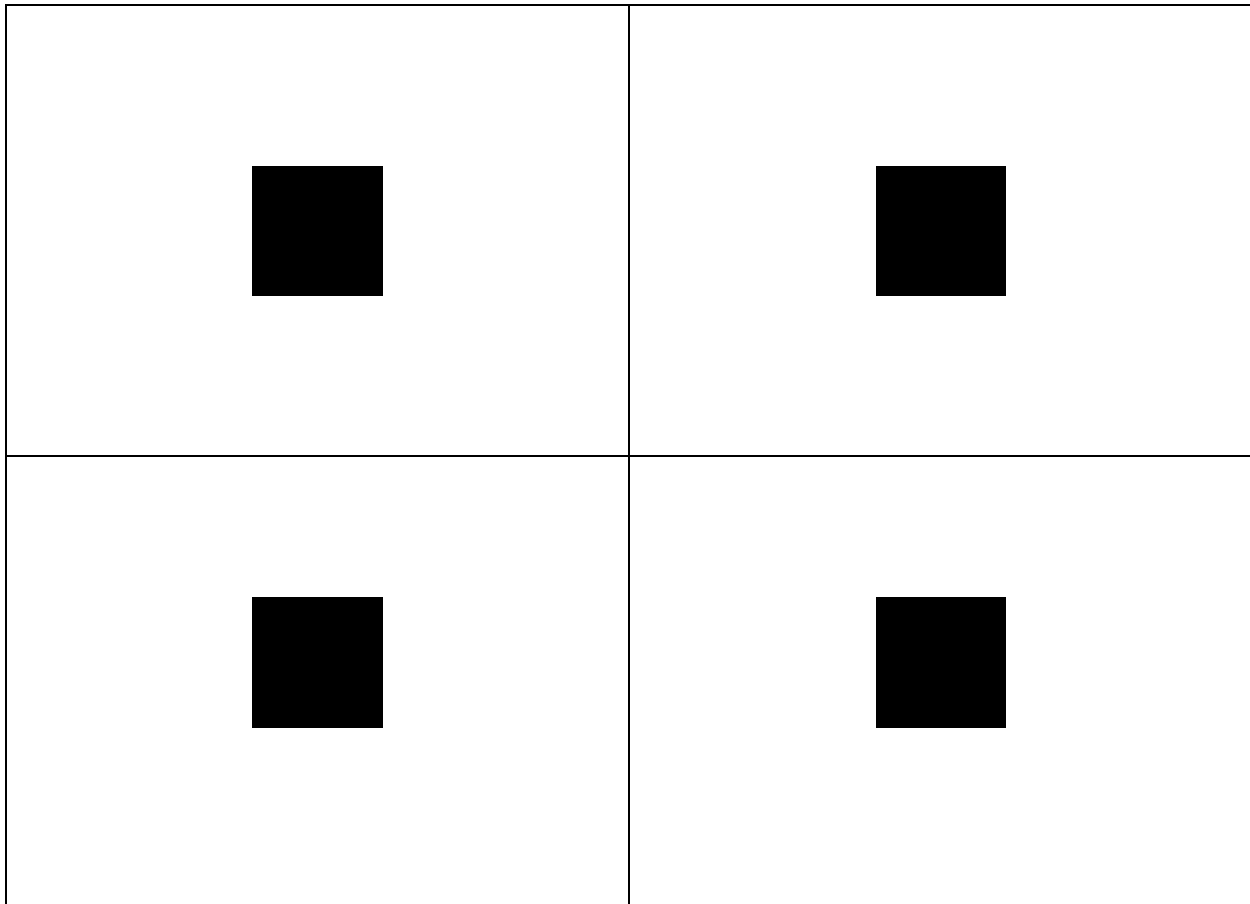
General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	Or E5 14
Destination Sample Take	No
Sample Reference:	
Sampling Comments	
General Observations	

Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
Title:	Remedial Oversight & Material Tracking (Pfizer, Havant)	
Client:	Havant Property LLP	
Date:	02/02/2022	
EPS Contact Details:	7B Caxton House Broad Street Cambourne Cambridge CB23 6JN	T: 01954 710666 F: 01954 710677 E: info@epstrategies.co.uk W: www.epstrategies.co.uk
Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☒ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	J10
Detailed Grid Reference:	50.8586521, -0.9705097
Stockpile Number:	
Top of Excavation:	0.0
Base of Excavation:	2.2

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	Or J10 2.0
Destination Sample Take	
Sample Reference:	
Sampling Comments	
General Observations	

Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

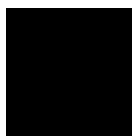
Project Reference:	UK21.5634	
Title:	Remedial Oversight & Material Tracking (Pfizer, Havant)	
Client:	Havant Property LLP	
Date:	02/02/2022	
EPS Contact Details:	7B Caxton House Broad Street Cambourne Cambridge CB23 6JN	T: 01954 710666 F: 01954 710677 E: info@epstrategies.co.uk W: www.epstrategies.co.uk
Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☐ Soil Excavation ☒ Stockpile	
Soil Grid Reference:	J5
Detailed Grid Reference:	50.8592294, -0.9720577
Stockpile Number:	Sp04
Top of Excavation:	
Base of Excavation:	

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

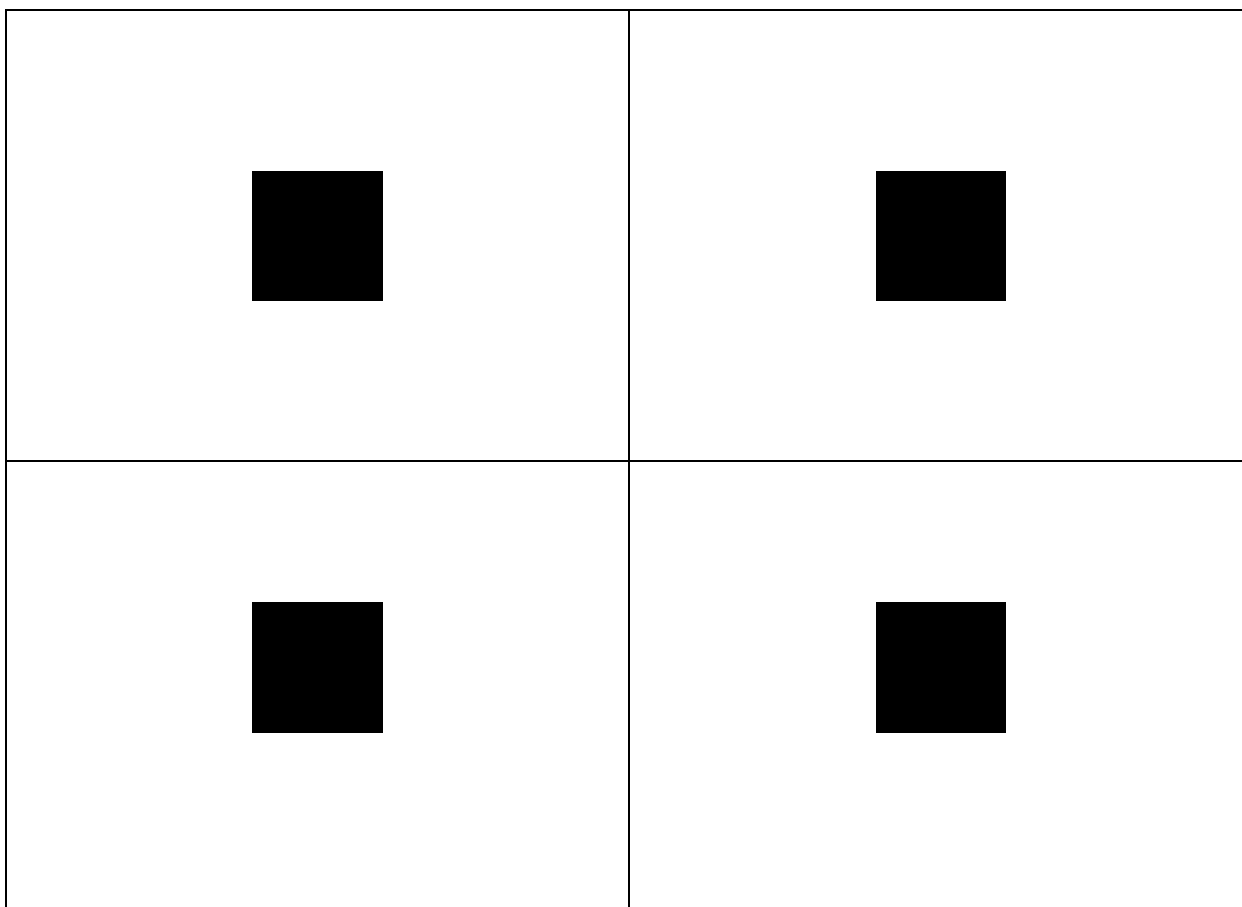
General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	Sp04 J5 02
Destination Sample Take	No
Sample Reference:	
Sampling Comments	
General Observations	

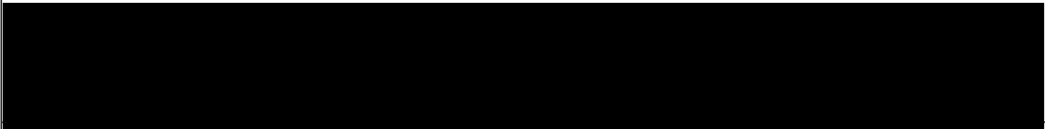
Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
Title:	Remedial Oversight & Material Tracking (Pfizer, Havant)	
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Date:	02/02/2022	
EPS Contact Details:	7B Caxton House Broad Street Cambourne Cambridge CB23 6JN	T: 01954 710666 F: 01954 710677 E: info@epstrategies.co.uk W: www.epstrategies.co.uk
Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☒ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	H10
Detailed Grid Reference:	50.8588154, -0.9703414
Stockpile Number:	
Top of Excavation:	+2
Base of Excavation:	-2

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

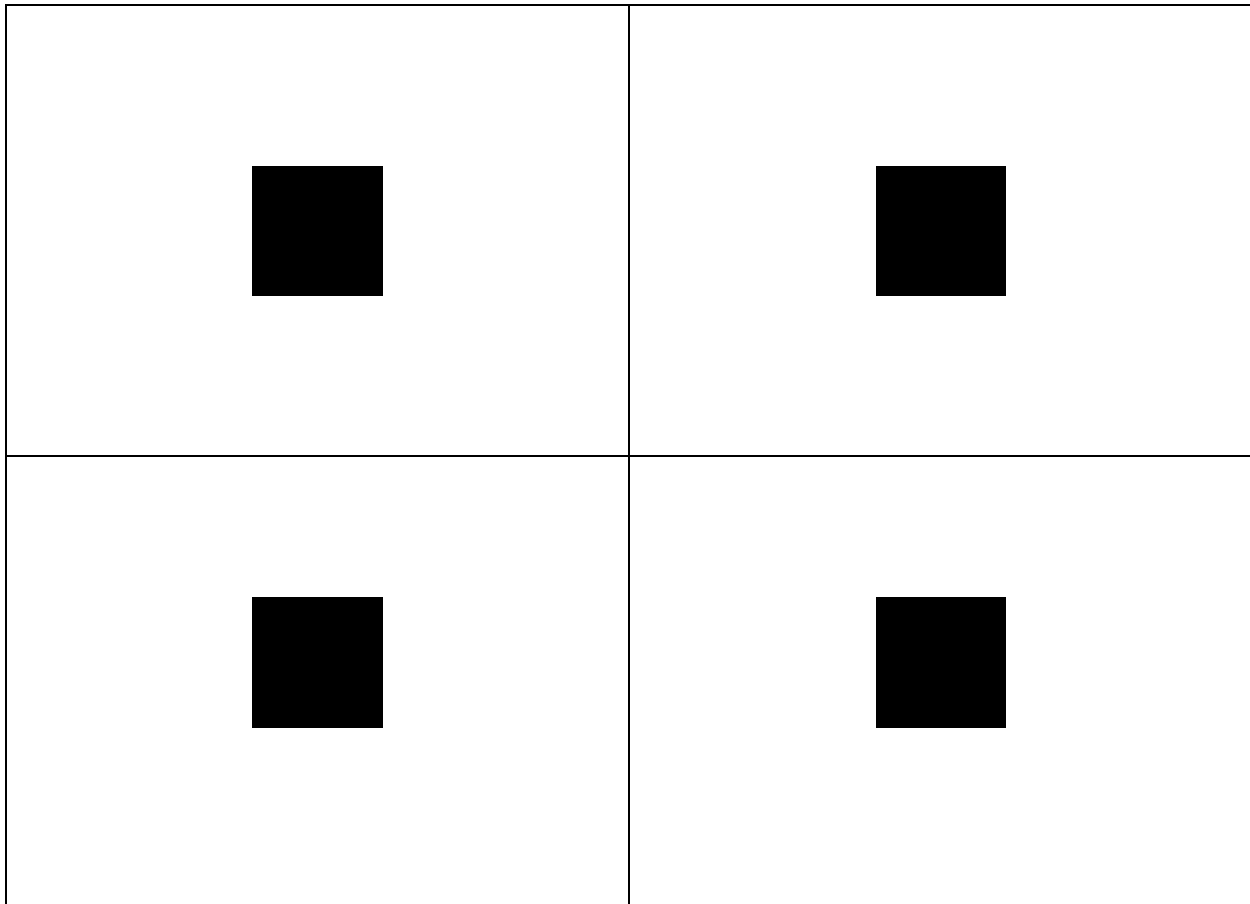
General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	Or H10 +1.5
Destination Sample Take	No
Sample Reference:	
Sampling Comments	
General Observations	

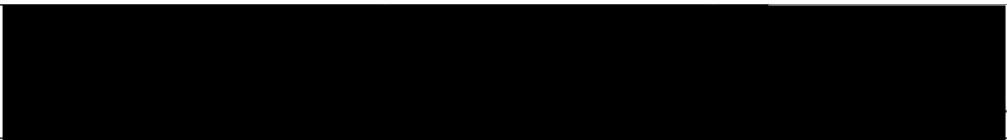
Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
Title:	Remedial Oversight & Material Tracking (Pfizer, Havant)	
Client:	Havant Property LLP	
Date:	01/31/2022	
EPS Contact Details:	7B Caxton House Broad Street Cambourne Cambridge CB23 6JN	T: 01954 710666 F: 01954 710677 E: info@epstrategies.co.uk W: www.epstrategies.co.uk
Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☐ Soil Excavation ☒ Stockpile	
Soil Grid Reference:	K5
Detailed Grid Reference:	50.8588294, -0.9720792
Stockpile Number:	SP Macadam
Top of Excavation:	+1
Base of Excavation:	+1

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

General Image
Detailed Image

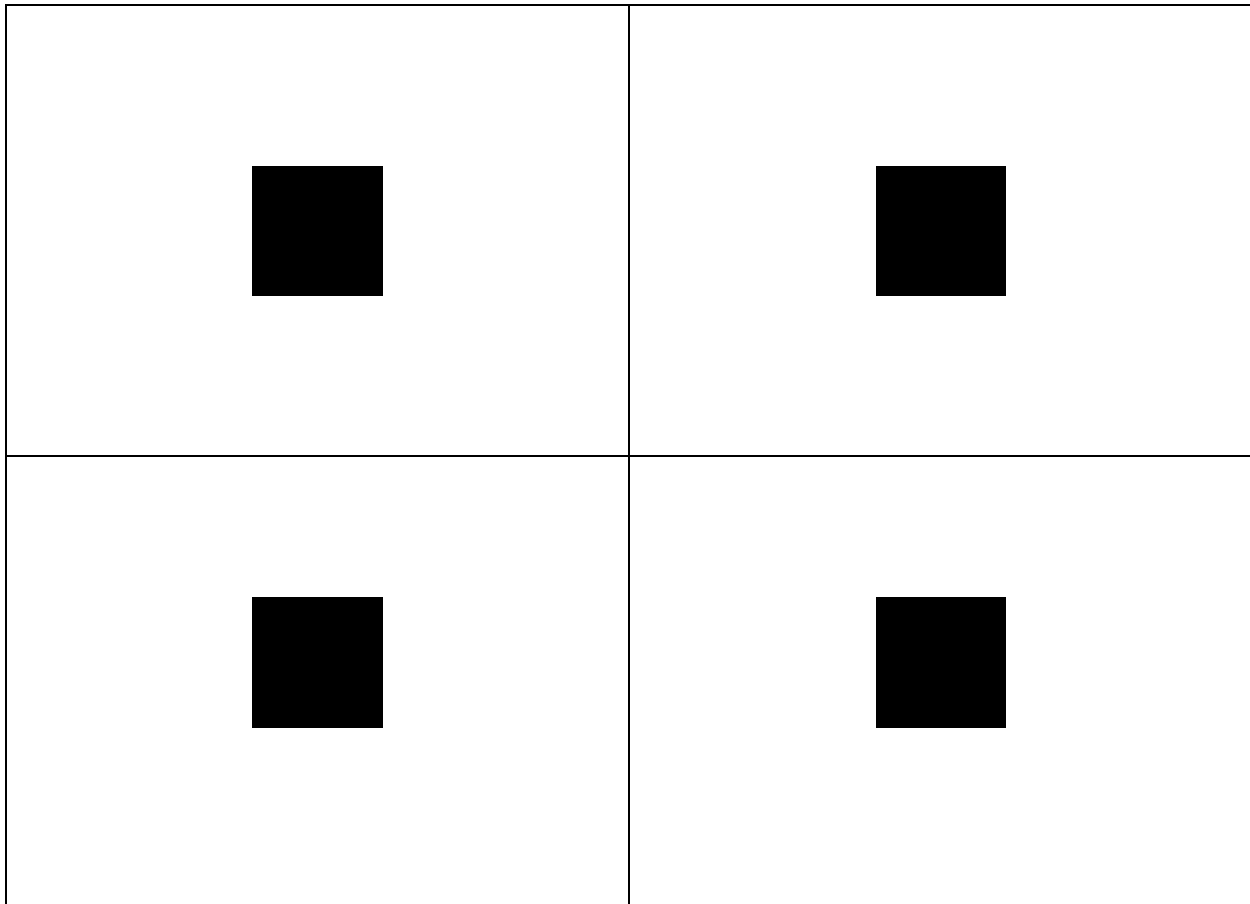




Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	Sp Mac West
Destination Sample Take	No
Sample Reference:	
Sampling Comments	
General Observations	

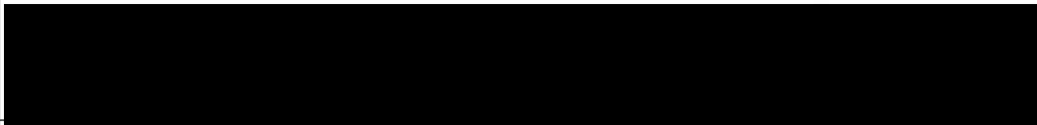
Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
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Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☐ Soil Excavation ☒ Stockpile	
Soil Grid Reference:	K5
Detailed Grid Reference:	50.8588385, -0.9718659
Stockpile Number:	SP Macadam
Top of Excavation:	+1
Base of Excavation:	+1

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

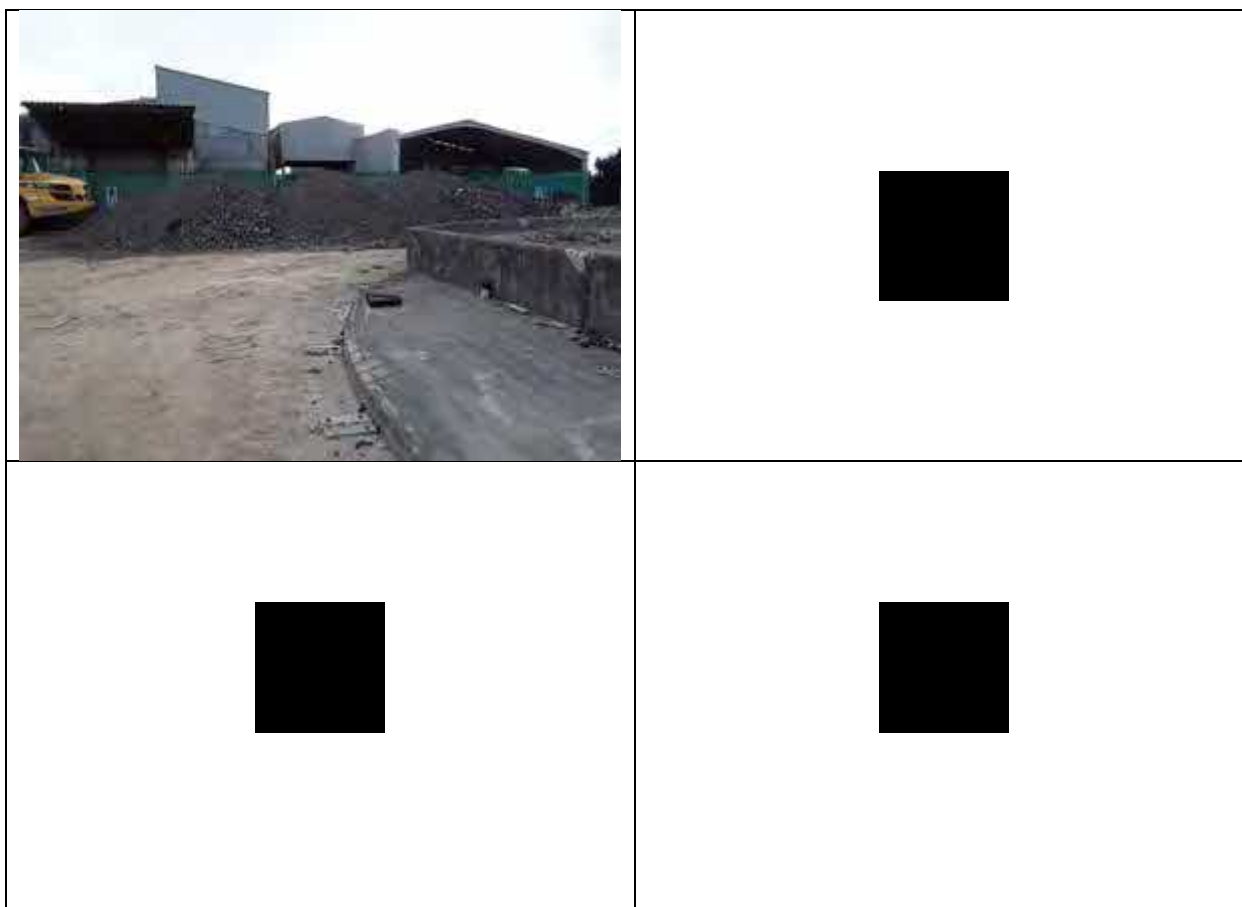
General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	Sp Mac East
Destination Sample Take	No
Sample Reference:	
Sampling Comments	
General Observations	

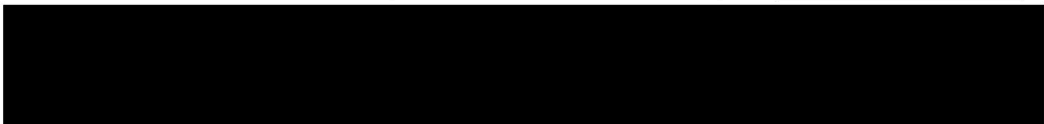
Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

Project Reference:	UK21.5634	
Title:	Remedial Oversight & Material Tracking (Pfizer, Havant)	
Client:	Havant Property LLP	
Date:	01/21/2022	
EPS Contact Details:	7B Caxton House Broad Street Cambourne Cambridge CB23 6JN	T: 01954 710666 F: 01954 710677 E: info@epstrategies.co.uk W: www.epstrategies.co.uk
Status:	Issue 1	

Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☐ Soil Excavation ☒ Stockpile	
Soil Grid Reference:	C5
Detailed Grid Reference:	50.8602829, -0.9709965
Stockpile Number:	SP03
Top of Excavation:	
Base of Excavation:	

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	Sp03 C5 12
Destination Sample Take	
Sample Reference:	
Sampling Comments	
General Observations	

Additional Images





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Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☐ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	
Top of Excavation:	
Base of Excavation:	

General Image
Detailed Image



Destination of Moved Soil

New Soil Location: ☒ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	J13
Detailed Grid Reference:	50.8584726, -0.9695994
Stockpile Number:	

General Image



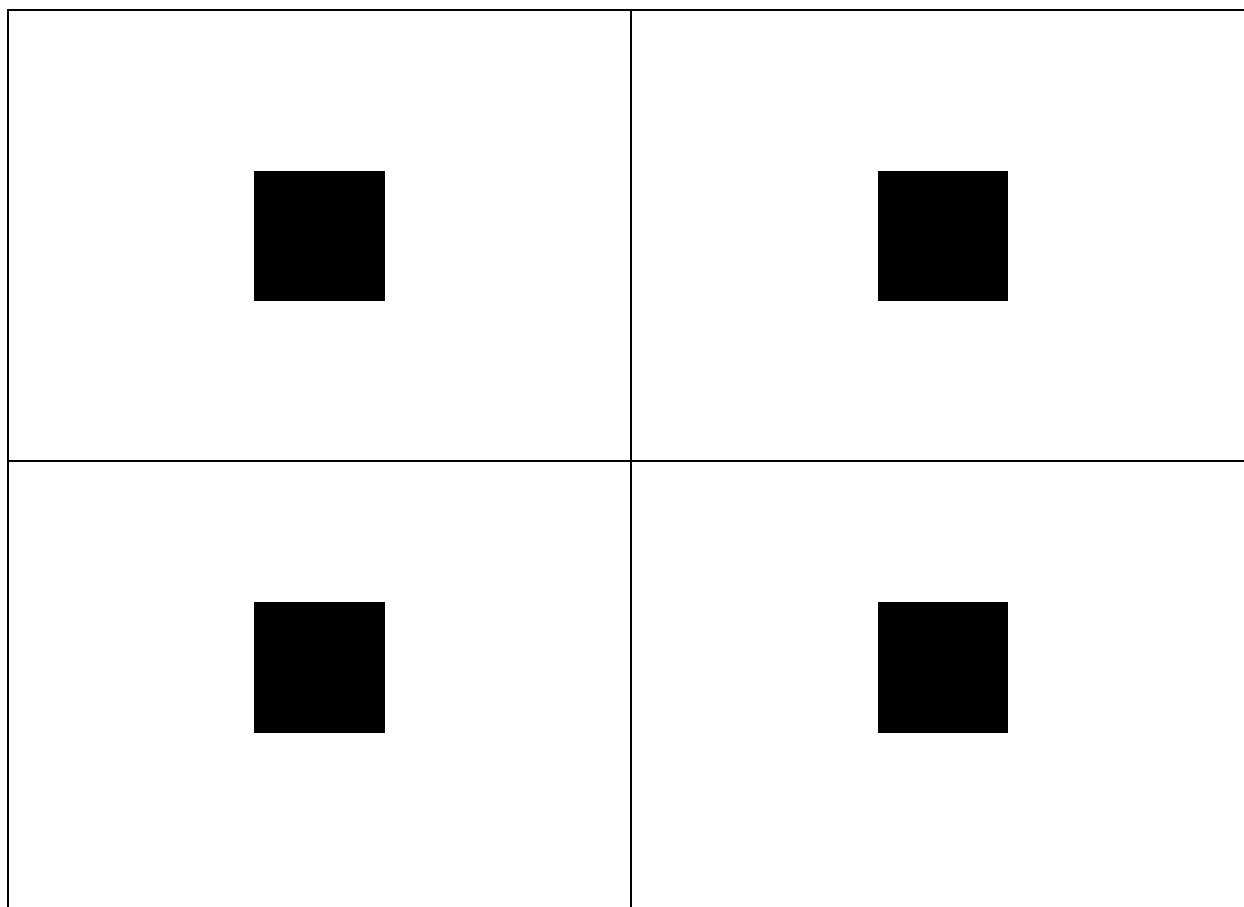
Detailed Image



Sampling / Comments

Origin Sample Taken:	No
Sample Reference:	
Destination Sample Take	Yes
Sample Reference:	Dt J13 01
Sampling Comments	
General Observations	

Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

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Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☒ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	J11
Detailed Grid Reference:	50.8587073, -0.9701449
Stockpile Number:	
Top of Excavation:	0.0
Base of Excavation:	1.4

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

General Image
Detailed Image





Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	Or J11 SF
Destination Sample Take	No
Sample Reference:	
Sampling Comments	
Sample collected from surface representing soils from around foundation excavation ~1.5m d	
General Observations	

Additional Images





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Author:	Reviewed:	Authorised:
		
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☐ Soil Excavation ☒ Stockpile	
Soil Grid Reference:	H4
Detailed Grid Reference:	50.8592903, -0.9721422
Stockpile Number:	SP04
Top of Excavation:	
Base of Excavation:	

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

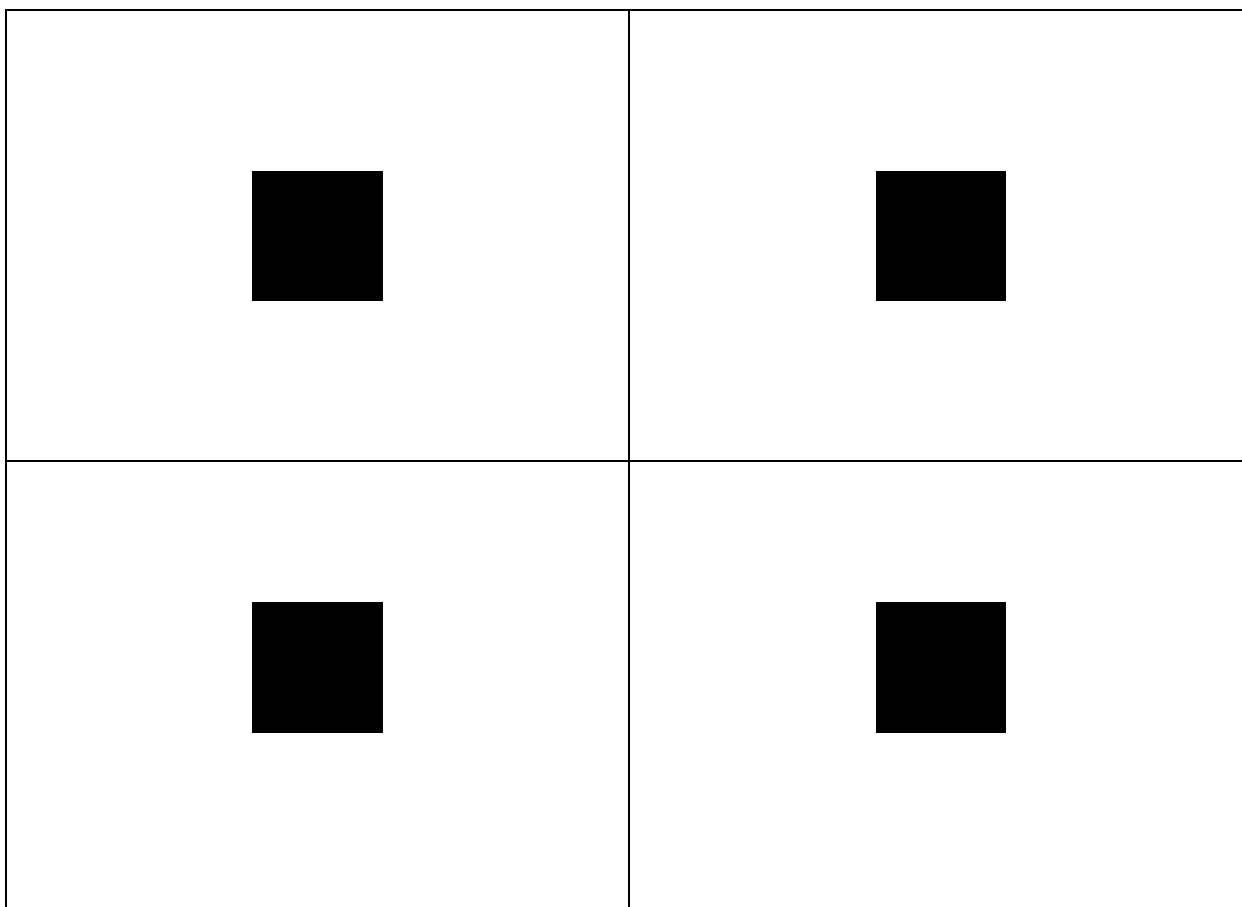
General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	SP04 H4 SF
Destination Sample Taken:	No
Sample Reference:	
Sampling Comments	
General Observations	

Additional Images





REMEDIAL OVERSIGHT & MATERIAL TRACKING (PFIZER, HAVANT)

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Status:	Issue 1	

Author:	Reviewed:	Authorised:
Paul O'Connor	Marcus Bell	Will Evans
Consultant	Associate Director	Director

Excavation of Soil

Soil Location: ☒ Soil Excavation ☐ Stockpile	
Soil Grid Reference:	F3
Detailed Grid Reference:	50.8598709, -0.9721217
Stockpile Number:	
Top of Excavation:	0.0
Base of Excavation:	1.6

General Image



Detailed Image





Destination of Moved Soil

New Soil Location: ☐ Backfilled into Excavation ☐ Stockpile	
Soil Grid Reference:	
Detailed Grid Reference:	
Stockpile Number:	

General Image
Detailed Image



Sampling / Comments

Origin Sample Taken:	Yes
Sample Reference:	Or F3 1.5
Destination Sample Take	No
Sample Reference:	
Sampling Comments	
Distinct layer of made ground possibly top of natural layer	
General Observations	

Additional Images

