

# ENVIRONMENTAL MANAGEMENT SYSTEM

Waste Recovery Permit - Deposit for Recovery Reclamation of the former British Sugar Refinery Site, York

SEPTEMBER 2022







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# **1 INTRODUCTION**

Arcadis UK Ltd (Arcadis) has prepared this written Environmental Management System (EMS) in order to described the procedures to minimise the risk of pollution from the activities covered by the proposed bespoke Waste Recovery Operation in relation to the Former British Sugar Factory, Millfield Lane, York, YO26 6AY (the 'site').

This document has been prepared in accordance with the Department for Environmental, Food and Rural Affairs (Defra) and Environmental Agency (EA) online guidance 'Develop a management system: environmental permits' published February 2016 (last updated December 2019) as well as the EA 'Environmental Management Toolkit, General Version for Waste Handling Industry' (2009).

# 1.1 Report Context

The site is currently subject to an Environmental Permit (EP) (EPR/QP3593NF) which has been in a state of Definitive Closure since October 2009 until EP variation consolidation in October 2015, when the period of aftercare monitoring & maintenance was commenced.

British Sugar now wish to vary the EP in order to enable waste recovery and remediation activities required to create a development platform for a residential development for which planning permission has been granted (ref: 14/02798/FULM, 15/00523/FULM and 15/00524/OUTM).

A summary of the proposed EP variation is provided below.

- 1. **Adding land** to the current EP by extending (and including) the current EP boundary. The current and proposed EP boundaries are shown on Figure 1;
- Addition of a Bespoke Waste Operation specifically a Deposit for Recovery (DfR) waste operation to enable recovery of waste material present within the current EP boundary followed by reuse / deposit of recovered waste across the proposed extended EP boundary as fill to create the development platform;
- 3. Adding a R11 recovery code activity to the permit to allow the 'use of wastes obtained from any of the operations numbered R1 to R10', in this case as fill to create the development platform; and
- 4. Changing the Operating Techniques (Table S1.2) such that aspects of the EP Working Plan (URS, 2015) that were previously excluded and not agreed by the Environment Agency (covering monitoring and permit surrender) are superseded by the testing, monitoring, verification and remediation criteria associated with the waste recovery operation (remediation) and can be agreed.

This EMS report has been prepared to support the application to vary the EP and support the Waste Recovery Plan (WRP) (Arcadis Report Ref: 10024487-AUK-XX-XX-RP-GE-0034-P6-Waste Recovery Plan, September 2022) which has been prepared to support the addition of bespoke (DfR) waste operation (DfR).

# 2 Waste Recovery Operations

# 2.1 Site Infrastructure Plan

A number of site plans have been produced which show the required components of a site Infrastructure Plan (SIP) which cannot be well visualised on a single plan. Therefore, several drawings are refericed below alongside the specific requirements of the SIP.

Figure / Appendix Refence	SIP Requirement	Comment		
Figure 1 – Site Layout and EP Boundary Plan	Location of activities covered by permit	Current and proposed EP Boundary shown on Figure 1 as well as overall site boundary		
	Plan of site drawn to scale	provided		
Figure 2 - Site Layout Plan	buildings, and other main constructions, like treatment plants, incinerators, storage silos and security fences	Current site layout shown on Figure 2. Buildings and infrastructure largely demolished. Only remaining buildings are a security office, electrical substation, meter building, building housing incoming gas supply and small storage building.		
	storage facilities for hazardous materials like oil and fuel tanks, chemical stores, waste materials	There is no storage of hazardous materials on site. Deposited waste within the EP boundary is described within Section 2.3		
	entrances and exits that can be used by emergency services	Shown on Figure 2. Primary site access fo all construction traffic via Millfield Lane. Secondary access via Plantation Drive.		
Figure 3 - Existing Ground Gas and Groundwater Monitoring Well Location Plan				
Figure 4 - Proposed Surface Water Monitoring Locations and Replacement Ground Gas and Groundwater Monitoring Wells	points designed to control pollution, for example inspection or monitoring points	Shown on Figures 3, 4 and 5		
Figure 5 - Dust, Noise and Odour Monitoring Location Plan				
-	trade effluent or sewage effluent treatment plants	Historic settlement lagoons shown on Figure 2. No currently treatment plants on site.		
-	effluent discharge points	No active effluent discharge points on site. Future discharge locations for discharge of perched groundwater and surface water (following treatment as required) to be confirmed by the Principal Contractor once appointed as part of Environmental Permit (Mobile Treatment License) application and in accordance with applicable regulations, guidance and agreed discharge consent limits.		

Figure / Appendix Refence	SIP Requirement	Comment
Figure 6 - Distribution of Sum total Petroleum Hydrocarbons in Soil Figure 7 - Distribution of Sum Polycyclic Aromatic Hydrocarbons in Soil Figure 8 - Exceedances of Soil Pore Water RTV for Ammoniacal Nitrogen and Hotspot Areas Figure 9 - Distribution of NHBC Classification of Ground Gas	land that you believe is contaminated, for example areas of your site that have previously been used for industrial purposes	Full details of contamination identified following previous phases of intrusive site investigation and monitoring provided within the Environmental Sensitivity and Site Design (ESSD) Report (Arcadis Report Ref: 10024487-AUK-XX-XX-RP- GE-0058-02, November 2021).
Figure 10 – Vulnerable Locations Plan	<ul> <li>Areas particularly vulnerable to pollution for example:</li> <li>rivers or streams</li> <li>groundwater used for drinking water</li> <li>residential, commercial or industrial premises</li> <li>areas where wildlife is vulnerable or protected</li> </ul>	Shown on Figure 10
	Foul and combined drainage facilities	Shown on page 47/93 in Appendix A. Site largely clear of any foul or combined drainage
Appendix A – Site Drainage and Utility Plans	location of mains water, gas and electricity supplies	<ul> <li>Water Supply shown on page 46/93 in Appendix A. Site largely clear of water supply infrastructure</li> <li>Gas Supply shown on page 41/93 in Appendix A. Site largely clear of gas supply infrastructure except small receiver building near Plantation Drive.</li> <li>Electricity Supply shown on pages 1-40/93 in Appendix A. Site largely clear of electrical supply infrastructure except MV cable along northern boundary (pg 25/93), disused cut off 6.6kV cable from Plantation Drive (pg 28/93) and abandoned 11kV cable along southern site boundary (pg 28, 33 and 40/93).</li> </ul>

The proposed DfR waste recovery operation does not relate to a standalone water discharge activity or a point source standalone groundwater activity, including involving land spreading.

# 2.2 Site Operations

The waste recovery activities proposed within the WRP are to be undertaken in accordance with the Remediation and Reclamation Strategy (RRS) (URS, 2015) which has been reviewed and accepted by the EA GWCL (Groundwater Contaminated Land) Team and is an Approved Plan within the full planning permission granted in relation to the construction of the development platform (see Section 1.1). An addendum to the RRS (RRSA, Arcadis, 2020) has been produced to incorporate recent site data. The following sections provide a summary of the RRS and, where applicable, the RRSA.

### 2.2.1 Remediation & Reclamation Objectives

The overall objective of the RRS (URS, 2015) and the RRSA (Arcadis, 2020) is to excavate the deposited waste material and to undertake remediation such that potential risks to future site users and the water environment from contaminants in soil, soil pore water and soil gas are mitigated to an acceptable level.

The objectives of the remediation and reclamation are:

- To reduce the concentrations of hydrocarbon substances in the Made Ground to acceptable levels that do not present an unacceptable risk to the receptors listed above; in particular to mitigate the risks associated with inhalation, ingestion, direct contact, plant uptake and ground gas generation
- To reduce the concentrations of ammoniacal nitrogen, representative of the substances ammonia and ammonium, in the Made Ground pore water; in particular to reduce the contaminant source and mitigate and minimise any potential migration into groundwater of solutes containing ammonia and ammonium;
- To reduce ground gas concentrations and flow to a level compliant with the Amber 1 level of the NHBC traffic light system, with the proviso that conditions following remediation and reclamation will be no greater than Amber 2.
- To reduce the concentrations of organic matter in the Made Ground such that future generation of the ground gases carbon dioxide and methane from the engineered Made Ground is within acceptable levels;
- To improve the engineering competence (strength and stiffness / compressibility) of materials comprising the Made Ground so as to allow it to be used to form the development platform suitable for building roads, houses and related engineered structures and facilities such as drainage;
- To engineer and use the remediated Made Ground on the site as material for the proposed development platform.

Remediation of diffuse metal contamination in the Made Ground is not an objective of the RRS as the concentrations of metals in the Made Ground are below the levels at which remediation is necessary. However, as a secondary benefit of the remediation and reclamation, immobilisation of diffuse metal contamination in the Made Ground is anticipated. This will limit further any potential for the generation and migration into groundwater of leachable metals in Made Ground soil pore waters.

A further requirement is that of protecting the surrounding environment from the potential transient short term adverse effects of the remediation and reclamation works in respect of noise, dust and vapour emission, odour, ground vibration and migration of substances in the Made Ground to surface waters and groundwater.

### 2.2.2 Remediation & Reclamation Works

The following key elements will be undertaken as part of the site wide remediation and reclamation works;

Baseline monitoring of the environment prior to commencement of the works to establish benchmarks
against which to monitor and control the risk of short-term adverse effects on the surrounding
environment. This to be followed by ongoing monitoring throughout and for a period following the
completion of the works;

- Laboratory bench scale trials of the proposed remediation processes to confirm the applicability of the processes for remediating Made Ground soils. The completed laboratory bench scale trials have confirmed that the proposed methods of remediation are suitable for the objectives set out.
- Where applicable site based pilot trials of the proposed remediation processes to confirm their suitability at site scale;
- Drainage of the existing ponds / lagoons;
- Excavation, crushing and screening of hard materials such as concrete and brick and set aside for use in the development platform;
- Bulk excavation of the whole of the Made Ground (both within and outside the EP boundary) to allow further inspection, testing, classification and selection, as necessary, for one or more of the chosen remediation processes;
- Collection, treatment as necessary and discharge of any perched water from the Made Ground in order to protect the surrounding environment from the potential effects of short term migration during the works;
- Selection and remediation of soils contaminated by volatile hydrocarbons (as defined by the 2015 RRS) and Organic Rich Material present within Historic Pond 7 by means of aerobic bioremediation. This to be achieved by static biopiles or turned windrows;
- Selection and remediation of soils contaminated by non volatile hydrocarbons (as defined by the 2015 RRS) by means of placement below the top 1m of the development platform to break direct contact and plant uptake exposure pathways;
- Selection and remediation of soils contaminated by ammoniacal nitrogen (representative of ammonia and ammonium) by means of stabilisation to reduce contaminant leachability;
- Selection and remediation of soils showing low engineering competence (high moisture content, relatively low strength and relatively high compressibility), by means of stabilisation using the chosen stabilisation mixture. The chosen design mixture has been informed from laboratory testing and is envisaged to be confirmed by site pilot trials. It is likely to contain a mixture of cement and lime with possible other stabilising additives. A secondary benefit of stabilisation is anticipated to be achieved in that diffuse metal contamination in soil pore water will be immobilised, although diffuse metal contamination is at levels not considered to warrant remediation;
- Reinstatement of remediated materials and validated soils that have achieved the appropriate compliance / reuse criteria into the development platform;
- Compaction of the remediated soils and other site won soils in engineered layers using conventional earthworks plant;
- Monitoring of ground gas in the development platform and of groundwater as the level of the development platform is raised to confirm that risk-based compliance criteria are being met;
- Monitoring of the compacted material to establish that its competence has been improved and that it will
  not be subject to undue settlement;
- Validation testing of the soils in the remediated and reclaimed land to confirm that compliance criteria have been met.

# 2.3 Types of Waste

The types of waste deposited within the EP boundary identified during previous site investigations and to be recovered during the reclamation works are listed in the table below which provides a general soil description used within the reclamation strategy, the List of Wastes (LOW) / European Waste Catalogue (EWC) waste code and the EWC description (Guidance on the Classification and Assessment of Waste (1st edition 2015) Technical Guidance WM3'). All wastes listed below are generated entirely from within the site.

General Description	EWC Waste Code	EWC Description	Comments
Granular Made Ground	47.05 (02 / 04)	Soil and stones	Asbestos has been identified in 3
Cohesive Made Ground	17 05 (03 / 04)	Soll and stones	samples within the EP boundary
Organic Rich Material	02 04 01	Soil from cleaning and washing beet	Includes current and historic lagoon sediments. Plant remains observed historically in some locations.
Sugar Factory Lime Material	02 04 02	Off-specification calcium carbonate	
Oversized Material	17 01 07	mixtures of, or separate fractions of concrete, bricks, tiles and ceramics	
Recovered Material	19 13 02	solid wastes from soil remediation	soils subject to a remediation process, meeting risk-based criteria and then suitable for re- use in the works, and generated entirely from within the site

# 2.4 Minimising Risks to the Environment

The overall objective of the RRS (URS, 2015) and the RRSA (Arcadis, 2020) is to excavate the deposited waste material and to undertake remediation such that potential risks to future site users and the water environment from contaminants in soil, soil pore water and soil gas are mitigated to an acceptable level.

An Outline Construction and Environmental Management Plan (CEMP) Version 1.2 (2017) has been produced in relation to the proposed works which detail all the steps that will be taken to prevent or minimise risks to the environment from the waste recovery activity. This is provided as Appendix B.

# 3 Waste Storage and Handling Plan

This section details the procedures and measures that shall be taken to classify, track, store, use and dispose of the materials that will be encountered during the remediation and reclamation works and is intended to inform the production of a Materials Management Plan (MMP) which will be produced prior to commencing works.

### 3.1 Volumes and Tonnage of Waste

The total quantity of the waste located within the EP boundary requiring excavation and recovery has been modelled and calculated using Geographic Information System (GIS) software based on the 2019 topographical survey and previous site investigation data. This volume is estimated at **746,800m**<sup>3</sup> based on the excavation to the base of the Made Ground (i.e. excavation of the entire thickness of waste).

The bulk density of the waste in situ, i.e. including entrained moisture, is variable broadly ranging from about 1.7 - 2.1 tonnes per cubic metre. Using an average of 2.0 tonnes per cubic metre gives an estimated total tonnage of 1,493,600 tonnes.

The reclamation works and WRP rely on a cut-fill balance as a sustainable approach to providing the development platform needed to enable residential redevelopment. Therefore, GIS modelling software has also been used to determine the volume of material required to construction the development platform within the EP Boundary and across the entire site using the elevations and contours defined within 'Proposed Contours -DR-CE-00602 P5' Approved Plan 14/02798/FULM. The volume of material required to construct the development platform within the current EP boundary is estimated to be 513,500m<sup>3</sup> with 446,100m<sup>3</sup> required to construct the development platform outside the current EP boundary.

Therefore, in order to construct the required development platform across the site, it is proposed to permanently deposit **513,500m**<sup>3</sup> of recovered waste within the current EP boundary with the remaining **233,300m**<sup>3</sup> of recovered waste proposed to be permanently deposited on-site across the proposed extended EP boundary. Made Ground soils located outside the current EP boundary are proposed to be reused under the CL:AiRE DoWCOP framework to make up the remaining volume of required construction fill outside the current EP boundary (212,800m<sup>3</sup>).

GIS modelling has also been used to approximate the volumes of other key material types present within the EP boundary which are shown in the Table below. These volume estimates represent the maximum amount of each waste type that may be temporarily stored on site prior to recovery and permanent deposition across the site.

	Location	Total Excavated Volume (m <sup>3</sup> )	Organic Rich Material (ORM) (m <sup>3</sup> )	Ammoniacal Nitrogen Contaminate d Material (m3)	Overlap Between ORM & Ammoniacal Nitrogen Contaminated Material* (m <sup>3</sup> )	Potential Topsoil Type Material (m <sup>3</sup> )	Sugar Factory Lime (SFL) (m <sup>3</sup> )	Granular and Cohesive Made Ground (m <sup>3</sup> )	Sediment (m <sup>3</sup> )	Total Petroleum Hydrocarbon (TPH) Contaminated Material (m <sup>3</sup> )
	Central Tank Bund	16,800	-	-	-	-	-	10,900	-	5,900
	NWWTP Lagoon Bunds	140,550	6,500	18,300	-	900	2,100	109,650	3,000	-
	Limex Pond	5,800	-	-	-	-	-	1,500 4,300		-
	Historic Pond 7	6,200	1,400	3,100	1,300	-	-	2,800	300	-
	Historic Pond 4	39,300	5,400	3,300	1,100	200	100	31,200	100	-
EP	Historic Pond 5	46,500	7,000	7,500	3,100	300	400	34,200	200	-
Boundary	Limex Pond Bund	85,400	5,400	17,100	-	0	100	62,500	-	-
Boundary	Weigh Bridge Area	74,900	5,000	10,700	900	100	100	59,800	100	-
	Soil Conditioning Area	188,600	53,800	45,800	21,800	3,500	13,400	94,000	-	-
	Tank Farm Bund	100,400	28,600	24,400	11,600	1,800	7,100	50,000	-	-
	Ponds and Lagoons	42,350	-	-	-	-	-	-	35,250	-
	Inside EP Boundary Total	746,800	113,100	130,200	39,800	6,800	23,300	456,550	43,250	5,900

### 3.2 Materials Classification

All excavated materials and waste will be segregated based on visual assessment and classified into the following material types detailed in the table below.

Material Type	Classification	Anticipated Final Destination of Material
Granular Made Ground	GMG (W)	Use as general fill (in accordance with acceptability criteria)
Cohesive Made Ground	CMG (W)	Use as general fill (in accordance with acceptability criteria)
Organic Rich Material	ORM (W)	Use primarily within green infrastructure and Public Open Space (POS). Additional stabilisation required if used as general fill
Sugar Factory Lime (SFL)	SFL (W)	Use as general fill (in accordance with acceptability criteria)
Lagoon Sediment	LS (W)	Use as general fill (in accordance with acceptability criteria)
Cohesive Natural Ground	CNG (W)	Use as general fill (in accordance with acceptability criteria)
Plant Growth Media	PGM (W)	Use primarily within green infrastructure and Public Open Space (POS). Limited imported topsoil may be required.
Concrete & Aggregate	CA (W)	Use primarily as secondary aggregate in e.g. founding layer for roads and hard standings and as general fill (in accordance with acceptability criteria).

These material types have been selected to support appropriate materials processing, remediation, soil stabilisation and end use.

The material classification system shall enable the identification of different sources of the same type of material. This shall be achieved by designating each source with a unique number. Excavated waste from within the EP boundary will be further classified denoted by (W) as shown in the table above and segregated from soils excavated from outside the EP boundary throughout the entire material handling process.

Where a particular material is not suitable for its proposed end-use destination then the material will be used at an alternative location on-site in accordance with the appropriate geochemical and geotechnical acceptability criteria.

### 3.3 Materials Tracking and Storage

An MMP will be produced to detail provisions outlined below including materials segregation and data management as well as to provide lines of evidence regarding material quantities, suitability and certainty of use to support waste recovery.

The first stage of the tracking process is the identification and classification of the various separate works materials. This shall be undertaken according to material types listed the table provided in Section 3.2

A soil audit or tracking system will be put in place to identify and track all excavated waste movements including waste within temporary storage stockpiles, undergoing on-site remediation / recovery and if waste is sentenced for off-site disposal. This will include the creation of a site-specific coordinate grid-system or end-use area system to geographically locate the areas of waste excavation and use within the development area.

The tracking system will include the facility to identify the excavated materials that are to be temporarily stored separately on-site in the designated stockpiling area whilst awaiting the results of testing, waiting to be used on site or if waiting for any off-site disposal. The system will be maintained utilising an electronic database (e.g. excel, access) and key material movements will be tracked by a combination of GPS and database collation, allowing temporary stockpiles to be easily located and referenced to the applicable testing data for the material. The tracking system will be a dynamic system that will be updated daily.

Any areas of the site where soils containing asbestos have been permanently placed should have this clearly indicated on the soil audit and also be included on a marked up site plan indicating location, depth and extent of any asbestos containing soils.

In order to track material movements around the site efficiently a site-specific material transfer pro-forma will be implemented for the use of on-site personnel responsible for moving materials. An example of this proforma is shown in the Waste Acceptance Procedures (Arcadis Report Ref: 10024487-AUK-XX-XX-RP-GE-0059-03 September 2022) provided as part of permit application form B4.

As part of this database management system it would be prudent to have one person appointed as responsible for record keeping on site. This resident "land quality engineer" would be responsible for acquiring and collating all material movement and site testing data throughout the works.

The records of all materials movements on-site and off-site will be kept in paper and electronic format for a minimum period of 2 years (for non hazardous and inert waste) or 3 years (for hazardous wastes) following completion of the works and production of the Validation / Verification Report.

Any imported material, such as clean topsoil, will also be tracked within the system established. No waste is to be imported to the site.

A Materials Management Flowchart has been produced and is shown in Figure 11.

#### 3.3.1 Waste Storage

The Remediation and Reclamation stage of the development during which time waste recovery operations will be undertaken is anticipated to be completed within approximately 12-18 months. It is not anticipated that any waste material will be stored on site for longer than 12 months (and likely to be much less). If it is envisaged that the storage of waste will occur in excess of 12 months from being stockpiled/stored, a time limit will be agreed with the Environment Agency. The decision relating to the length of storage would be made within the context of the extant planning permission or agreed programme of works as well as emissions controls in place. Any supporting information requested by the Environment Agency will be provided.

Potential emissions from stockpiles and control measures to manage these emissions is described within the Section 7 of the Outline Construction Environmental Management Plan (CEMP) Version 1.2 (2017) provided as Appendix B.

The maximum amount of each type of waste that will be stored is shown in the table in Section 3.1. It is noted that as waste excavation, recovery and permanent deposition will be undertaken in phases it is highly unlikely that these maximum volumes will be stored at any given time. Different waste types will be segregated and stored separately, as described in Section 3.3, with and the spacing between stockpiles should be at least equal to the height of the stockpile or adequate for plant / vehicle access, whichever is the greater.

Stockpiles will be managed in a manner to reduce potential dust and odour impacts, through the control of stockpile dimensions (height and surface area) and the angle of slope. The maximum height of stockpiles will be

The maximum permissible height for waste stockpiles should not generally exceed 5 m in height. However, if waste to be stockpiled is dry (below the plastic limit) formation of higher stockpiles may be permissible, if required, as the soil is likely to remain dry in the core of the stockpile for the entire storage period. However, the appropriateness of higher stockpiles will need to be established on a location-by-location basis based on the potential for emissions and visual impacts.

#### 3.3.2 Fire Prevention Plans

No combustible waste will be stored as part of the works and therefore no fire prevention plan is conserved required as part of this Waste Recovery Permit application.

### 3.4 Site Equipment & Maintenance Plan

Site equipment, infrastructure and machinery associated with the proposed waste recovery operations are envisaged to include the following:

- Excavators, trucks and similar plant required to excavate, handle and store waste within the site boundary as well as deposit recovered waste across the site to form the development platform;
- Specialised plant, such as windrow turners and soil mixing equipment, required to undertake recovery operations (bioremediation and stabilisation);
- Excavation and lagoon dewatering equipment, such as water and sludge pumps, as well as fines removal and water treatment plant as required to meet any discharge consent conditions;
- Compaction equipment for static (kneading or pressure) and/or vibratory (vibration or impact) compaction as required based on the recovered waste type and optimum moisture content;
- Temporary fuel (diesel) storage for site plant and electricity generators;
- Electricity generators assumed to be diesel and/or solar powered;
- Temporary containerised welfare units and site offices;
- Site security infrastructure such as fences, gates and lighting;
- Stockpile equipment such as basal liners, leachate collection and treatment systems and sheeted cover systems as required;
- Secure and suitable storage facilities for site equipment and waste recovery amendments (e.g. lime and soil nutrients); and
- Hand held and fixed nuisance monitoring equipment.

Once appointed, the Principal Contractor will be responsible for confirming the specific equipment to be employed during the recovery works and for preparing a site and Equipment Maintenance Plan detailing how all equipment and infrastructure will be maintained with machinery maintained in accordance with the manufacturer's or supplier's recommendations. The Principal Contractor must also record each time maintenance is carried out to check the calibration of equipment.

The Site and Equipment Maintenance Plan will be provided to support the Environmental Permit (Mobile Treatment License) application which will be required in connection with carrying out site-wide activities relating to both waste recovery and soil reuse. Application for deployment and operation of the requisite mobile treatment plant will be made in accordance with applicable legislative requirements.

# 4 Environmental Impacts and Controls Plan

An Outline Construction Environmental Management Plan (CEMP) Versions 1.2 (2017) has been produced in relation to the proposed waste recovery activities (as well as soil remediation and reuse works outside the scope of the Waste Recovery Permit application) which is presented as Appendix B.

It is envisaged that the Outline CEMP will be finalised by the Principal Contractor, once appointed, with a finalised CEMP submitted as part of the Environmental Permit (Mobile Treatment License) application.

The Outline CEMP has been used to inform the Environmental Impacts and Control Plan presented in Appendix C in accordance with the EA 'Environmental Management Toolkit, General Version for Waste Handling Industry' (2009).

# **5 Contingency Plans**

# 5.1 Key Site and Emergency Contacts

This table contains information and contacts to be used in an emergency

Site Details							
Address:	Fo	rmer British Sugar Factory, Millfield L	ane, York				
Postcode:	YC	YO26 6AY					
National Grid Reference:	SE	E575531 (approximate central point)					
Site Contacts							
Contacts		Office Hours	Out of Office Hours				
Site General Manager:		tbc	-				
Emergency Services							
Contacts		Office Hours	Out of Office Hours				
Medical:		999 or 112 on mobile phones	999 or 112 on mobile phones				
Police:		999 or 112 on mobile phones	999 or 112 on mobile phones				
Fire:		999 or 112 on mobile phones	999 or 112 on mobile phones				
Regulators							
Contacts		Office Hours	Out of Office Hours				
Local Authority (City of York Council):		01904 551525	-				
Environment Agency (EA):		08708 506 506	-				
EA 24hr Emergency Hotline:		0800 80 70 60	0800 80 70 60				
Principal Contractor							
Contacts		Office Hours	Out of Office Hours				
tbc		-	-				

# 5.2 Contact Information for the Public

A notice board will be displayed at or near the entrance of the site detailing the following information.

- the permit holder's name (British Sugar Plc);
- an emergency contact name and telephone number;
- a statement that the site is permitted by the Environment Agency;
- the permit number;

• Environment Agency telephone number 03708 506506 and the incident hotline 0800 807060 (unless informed of an alternative number)

## 5.3 Accident Prevention & Contingency Management Plan

An Outline Accident Prevention and Contingency Management Plan is presented as Appendix D. It is envisaged that this outline plan will be updated and finalised by the Principal Contractor as part of the Environmental Permit (Mobile Treatment License) application.

In the event an accident or near-miss occurs an investigation will be immediately undertaken to verify the events surrounding the incident and to obtain learning to prevent a reoccurrence, with all accidents or nearmiss recorded promptly including all the relevant details. Any further actions deemed necessary as a result of the investigation will be fully documented and their implementation verified.

An Accident Reporting Form is provided as Appendix E.

### 5.4 Substances

The substances to be employed within the proposed waste recovery works will be confirmed by the Principal Contractor following appointment who will undertake Control of Substances Hazardous to Health (COSHH) assessments associated with the use, storage and emergency response procedures for each substance. Currently, it is envisaged that the following substances are likely to be employed:

- Diesel used to fuel excavators, trucks, generators and other plant and equipment;
- Lime (calcium oxide) used as a soil stabilisation / modification amendment to reduce moisture and facilitate compaction; and
- Soil nutrient amendments such as inorganic potassium and magnesium salts to enable reuse of suitable material as plant growth media in landscaped areas.

### 5.5 Spill Response Plan

The Principal Contractor will ensure personnel working at the site will be familiar with the actions required in the event of spill response being required. A plan showing vulnerable receptors including watercourse is provided as Figure 10 and the Principal Contractor will update this plan to show the location of accident and emergency response items; such as fire extinguishers, spill kits *etc*. which must also be displayed at the site within the remediation compound. The updated Figure 10 site will be provided in support of Environmental Permit (Mobile Treatment License) application.

Response Actions in Case of a Spill:

- 1. If possible, shut off the source of the spill immediately.
- 2. Notify the Site Manager of spill occurring.
- 3. Use absorbent materials, such as absorbent pads to contain spills that are relatively small in nature and where the spilled chemical and its hazardous properties have been properly identified and assessed. Collect these absorbent materials and treat as hazardous waste.
- 4. Use appropriate Personal Protective Equipment (PPE) depending on the spill material.
- 5. Cover/ block any drains in the area of the spill to prevent material from entering into the drainage system.
- 6. If the spill is large or otherwise uncontrollable, or poses a potential immediate hazard to human health and safety, call Emergency Response Agencies listed in Section 5.1.

### 5.6 Nuisance Monitoring

Dust, odour, noise and vibration monitoring procedures and action limits are detailed within the Monitoring Report (Arcadis Report Ref: 10024487-AUK-XX-RP-GE-0060-03) provided as a supporting document to application form B4 (Appendix 4) as well as in the Outline CEMP Version 1.2 provided as Appendix B.

# 5.7 Unexpected Contamination Response

In the event that contamination is encountered at any time when carrying out the waste recovery works that was not previously identified, an investigation and a risk assessment will be undertaken and where remediation is considered necessary a remediation scheme will be prepared and agreed with the relevant authorities.

Where unanticipated areas of contamination, similar to that encountered elsewhere within the site, are identified then the process set out here will be followed:

- excavation of waste materials;
- sampling for, and undertaking chemical analysis;
- assessment of chemical data; and,
- sentencing for remediation, as necessary.

The location of any such unanticipated contamination encountered will be recorded, including the results of chemical testing, the volumes sentenced for treatment by remediation, the validation data showing compliance with the relevant criteria and the location of the area of use of the remediated material within the development platform.

# 5.8 Fire Emergency Procedures

- If you discover a fire you should notify the site manager and activate the nearest alarm;
- You should only fight a fire if the fire brigade has been notified; if the fire is small and confined to its point of origin; if you have an escape route available and can fight the fire with your back to the exit;
- Be sure you have a proper, fully functioning fire extinguisher, and are trained to use it;
- Leave your work area if you hear a fire alarm, making your work area safe, if possible; and,
- Remain off-site until a competent authority says it is safe to re-enter the work area.

## 5.9 Climate Change

The duration of the Waste Recovery activities at the site are anticipated to be completed within 12-18 months and therefore it is not considered that operations will be significantly affected by a changing climate and on this basis a Climate Change Risk assessment is not necessary in relation to the proposed works.

# 6 Complaints Procedure

The Principal Contractor will ensure personnel working at the site will be familiar with the actions required in the event of a complaint being received. A complaint is considered to be any expression of dissatisfaction, whether justified or not, about any aspects of the Waste Recovery works at the site. Complaints may be raised by Client or members of the local community and can be received verbally, by phone, by email or in writing.

All complaint information will be handled sensitively, telling only those who need to know and following any relevant Data Protection requirements.

### 6.1 Receiving Complaints

The contact telephone number for the site shall be permanently displayed at the site entrance.

Should a complaint be received either directly or via the Environmental Health Officer/Planning Authority, pertaining to the site, then the following actions will be taken:

- Details of the complaint will be logged on a 'Complaints Log Sheet' (an example is provided as Appendix F), and will include the name, address, contact details of the complainant, the method of communication (e.g. in person, telephone, email or letter), and the specific details of the complaint;
- The complaint will be investigated and details logged will include prevailing weather conditions (e.g. dry, wind, etc.) and operational plant details, including maintenance and complaint related history;
- All complaints will be brought to the attention of the site manager who is responsible for reviewing the complaints log, investigations and remedial action effectiveness;
- If a complaint is found to be as a result of an activity carried out at the site, appropriate remedial action will be taken, and details will be recorded within the complaints log;
- Any remedial action will be logged and all corrective actions relating to the complaint will be signed off and dated as concluded.
- The results and outcome of the investigation will be reported back to the complainant.

All complaints will be investigated within 1 working day of receipt. In the case of serious or persistent complaints the need for fully independent professional advice will be considered.

Problems concerning nuisance from site activities can sometimes be avoided by taking a considerate and neighbourly approach to relations with the local residents and other sensitive receptors. For example, if works outside of normal working hours is required, due to an emergency, then the residents will be notified accordingly.

# 7 Staff Competence and Training Records

The Principal Contractor will ensure the competency of all staff undertaking Waste Recovery activities and ensure there is enough staff and resources to make sure the site is run effectively in order to comply with the permit.

As a minimum, all staff would receive an environmental briefing as part of their site induction. Supervisors would support information provided at induction through completing briefings and 'toolbox talks' prior to specific activities commencing.

A Technically Competent Manager (TCM) will be appointed by the permit holder (British Sugar Plc) to ensure compliance with the permit requirements whose competence will be demonstrated via the ESA/EU or CIWM/WAMITAB Schemes in accordance with the requirements of 3b 'Technical Ability' Section of application form B4.

## 7.1 Roles and Responsibilities

The Project Manager (appointed by the Principal Contractor) will have overall responsibility for the project and will be responsible for the development and implementation of the EMS. Other members of the project team would also be assigned specific roles and would be responsible for the correct application of the EMS. Individual specialists may also be appointed to provide expert advice. Suggested specific roles are described below:

#### **Project Manager**

The Project Manager would have overall responsibility for environmental performance throughout the Waste Recovery works and would ensure that appropriate resources are made available and environmental control and any agreed or appropriate protection measures are implemented.

- Monitor construction activities and performance to ensure compliance with the EMS and that identified and appropriate control measures are being effective.
- Act as a main point of contact between the regulatory authorities (if required), Client and the project on environmental issues.

#### Site Manager

A full-time site manager would be responsible for recording the progress of the Waste Recovery works. The site manager would carry out the following duties:

- Support the Project Manager in delivering the environmental component of the project
- Monitor Waste Recovery activities and performance to ensure control measures are effective
- Maintain full records of the progress of the Waste Recovery Works
- Implement an auditable environment record filing system
- Carry out audits as required by the EMS
- Ensure compliance with Duty of Care at all times
- Implement and monitor measures to ensure correct waste minimisation, segregation and disposal

# 8 Document Control and Record Keeping

All records made in relation to the Waste Recovery works in order to demonstrate compliance with the EMS, in accordance with the requirements of the EA online guidance 'Develop a management system: environmental permits' published February 2016, will be maintained on site.

Following completion of the works, records will be returned to the Project Manager and will be maintained and kept secure from loss and/or damage for a minimum of 6 years.

## 8.1 Waste Records

Waste currently deposited at the site will be recovered for use as engineering fill. No waste is to be delivered to the site as part of the works.

The records of all waste movements on-site and off-site waste disposal (demonstrating Duty of Care and requirements for hazardous waste) will be kept in paper and electronic format for a minimum period of 2 years (for non hazardous and inert waste) or 3 years (for hazardous wastes) following completion of the works.

### 8.2 Management System Review

The Principal Contractor will undertake checks that works are being undertaken in compliance with the permit, procedures and EMS and update the management system as requited in accordance with the requirements of the EA online guidance 'Develop a management system: environmental permits' published February 2016. Any changes to the EMS will be recorded.

### 8.3 Site Closure and Site Condition Report

The current environmental condition of the land and groundwater at the site has been assessed following multiple previous phases of intrusive investigation, historic data review, monitoring and risk assessment as described within the Environmental Sensitivity and Site Design Report (ESSD) (Arcadis Report Ref: 10024487-AUK-XX-RP-GE-0058-03) and the Updated Hydrogeological Risk Assessment (Arcadis Report Ref: 10024487-AUK-XX-XX-RP-GE-0020-01).

The Waste Recovery (Deposit for Recovery) operation proposed constitutes measures taken to protect and improve land (i.e. recovery of the Waste Deposits currently present) and groundwater (by reducing leaching of contaminants from waste following recovery). Additional measures to protect the environment during the works including record keeping requirements are detailed within this EMS.

As described in the WRP (Arcadis Report Ref: 10024487-AUK-XX-XX-RP-GE-0034-P6-Waste Recovery Plan, September 2022), Compliance Criteria have been established for soil, soil pore water and ground gas in order to demonstrate that the recovered and deposited waste is in a satisfactory state; i.e. it will not cause an unacceptable risk of pollution or harm to human health or the environment.

In accordance with section 5 of the EA guidance document RGN9, a completion and validation report will be provided in line with the requirements of the reclamation strategy and guidance given in Land Contamination: Risk Management guidance (EA 2019), to confirm that risk-based compliance criteria have been achieved for the recovered and deposited waste.

The EA Template: Conceptual Site Model, Environmental Setting and Site Design Report (Version 1, 14/10/2016 ESSD) states a Site Condition Report (SCR) is not necessary for parts of a permitted activity where you permanently deposit waste. The proposed operation involves the permanent deposit of recovered waste across the proposed extended EP boundary in order to construct the required residential development platform.

Therefore, a Site Condition Report is not considered required as part of the proposed Waste Recovery (Deposit for Recovery) operation, however, parts 1-3 of the SCR have been prepared for additional land proposed to be added to the EP (10024487-AUK-XX-RP-GE-0072-P3-Site Condition Report, September 2022). In

accordance with the SCR guidance (EA/DEFRA 2020), alongside application to surrender the permit, Sections 8 to 10 of this SCR will be completed (in relation to the Additional Land) and a Site Closure Plan produced.

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British Sugar, York

Arcadis House 34 York Way, London N1 9AB

Registered office: Co-Ordinating office:

1 Whitehall Riverside Leeds LS1 4BN United Kingdom T: +44 (0)113 284 5300

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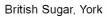
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Arcadis House 34 York Way, London N1 9AB

Registered office: Co-Ordinating office:

1 Whitehall Riverside Leeds LS1 4BN United Kingdom T: +44 (0)113 284 5300

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British Sugar, York

Dust, Noise, Vibration and Odour Monitoring Location Plan

Arcadis House 34 York Way, London N1 9AB

Registered office: Co-Ordinating office:

1 Whitehall Riverside Leeds LS1 4BN United Kingdom T: +44 (0)113 284 5300

Drawing Number: 10024487-AUK-XXXX-DR-ZZ-0066-P1-Proposed Dust, Noise, Vibration and Odour Monitoring Locations







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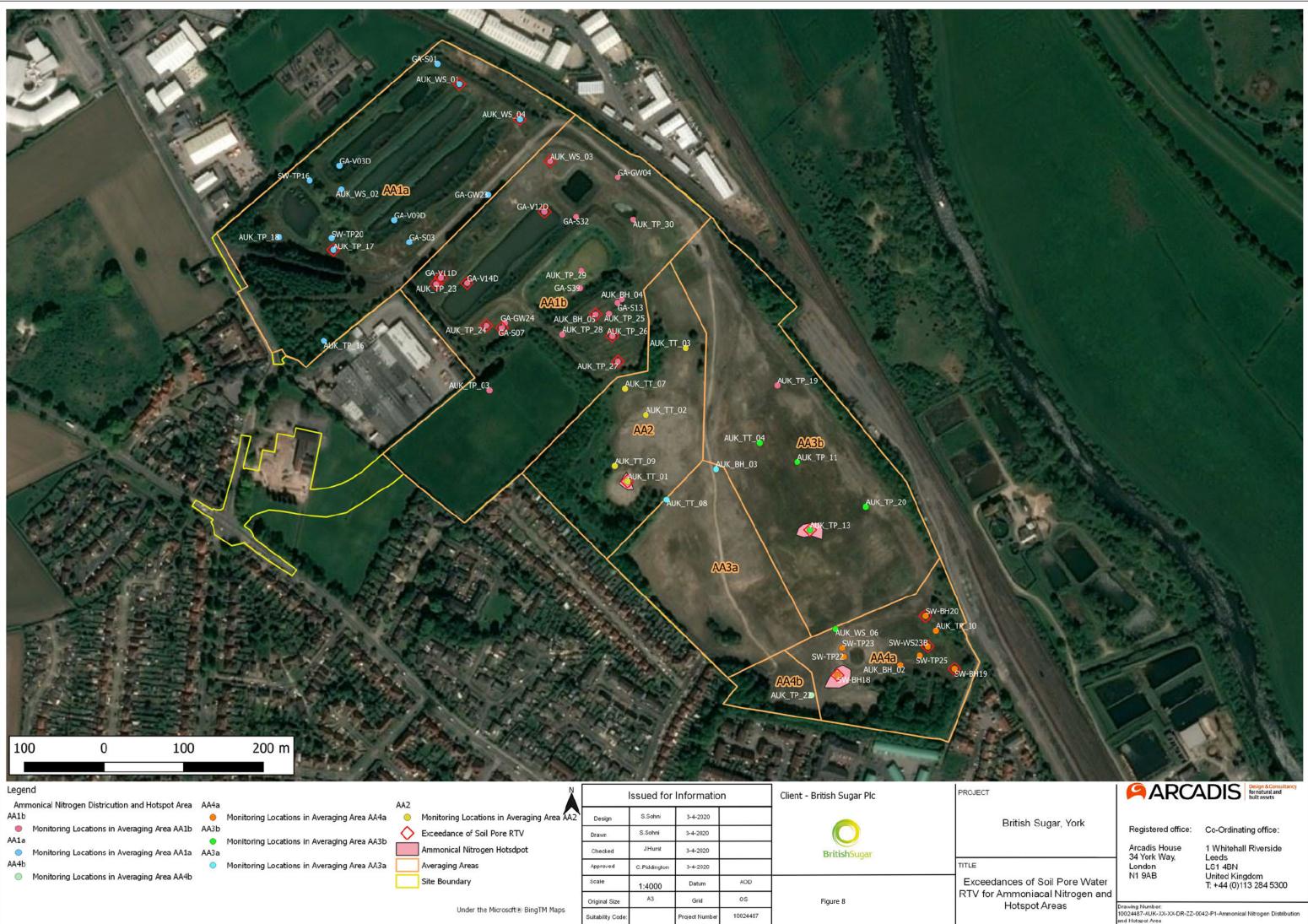
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Figure 7

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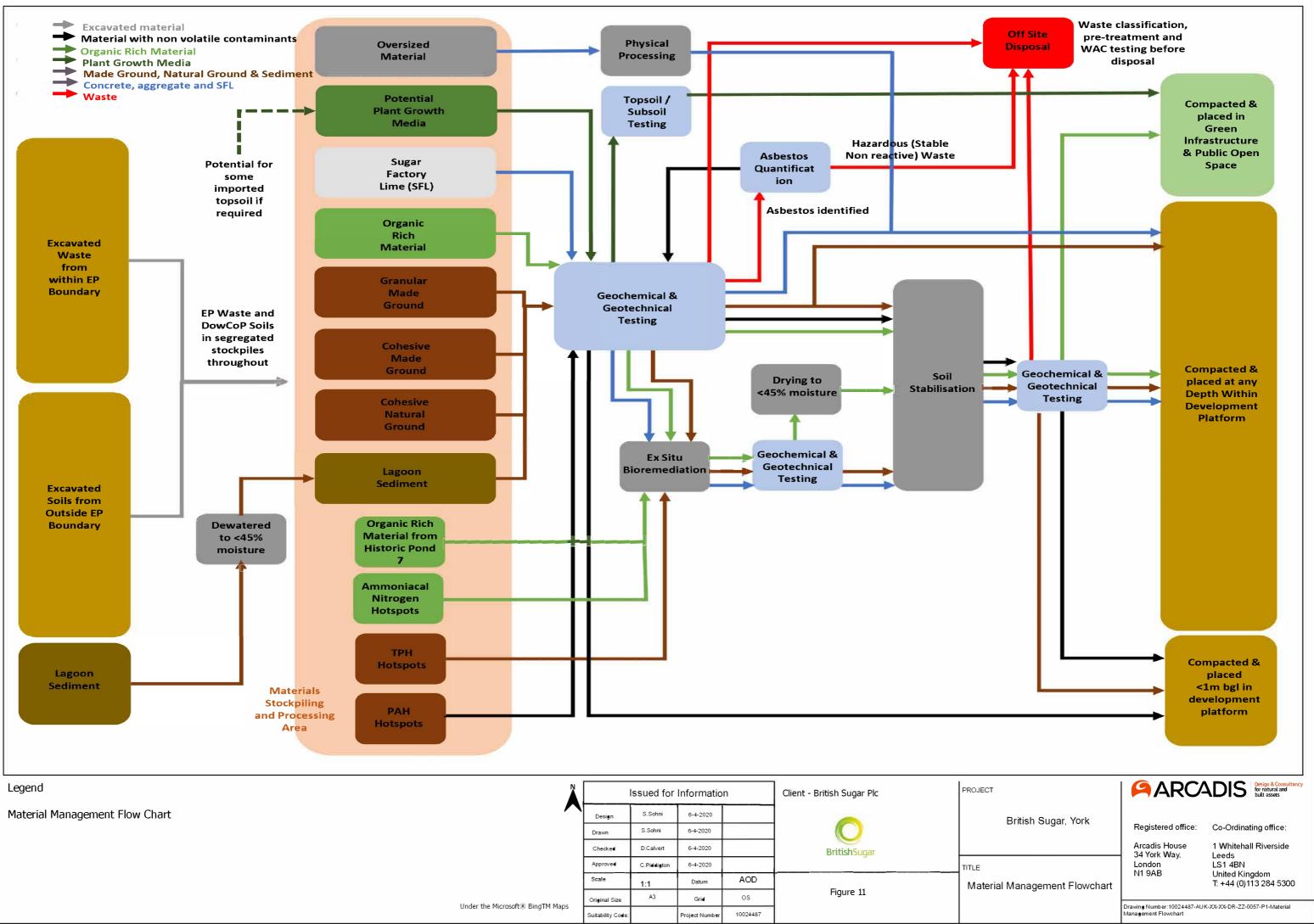
Arcadis House 34 York Way, London N1 9AB Co-Ordinating office:

1 Whitehall Riverside Leeds LS1 4BN United Kingdom T: +44 (0)113 284 5300

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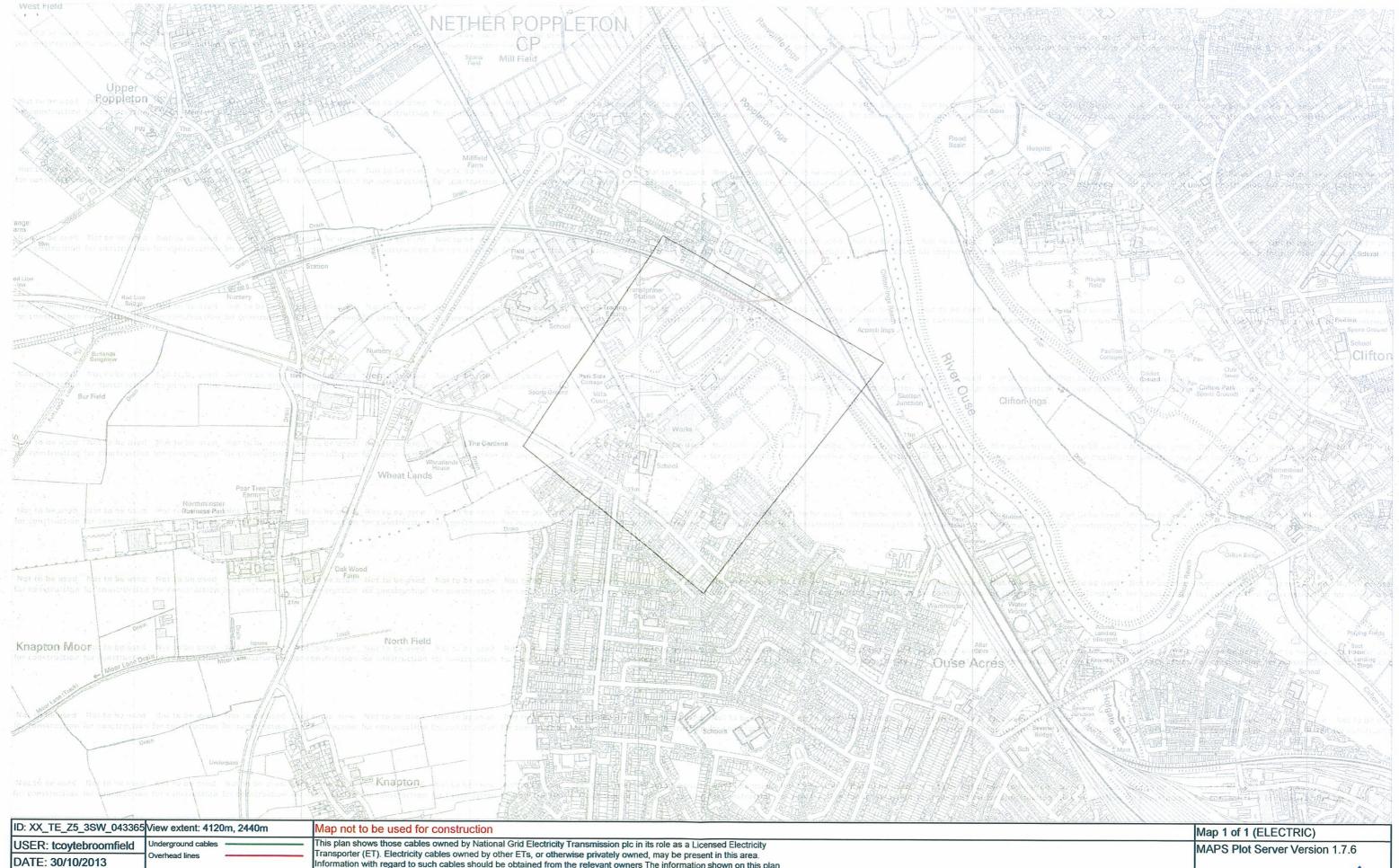






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# APPENDIX A Site Drainage and Utility Plans

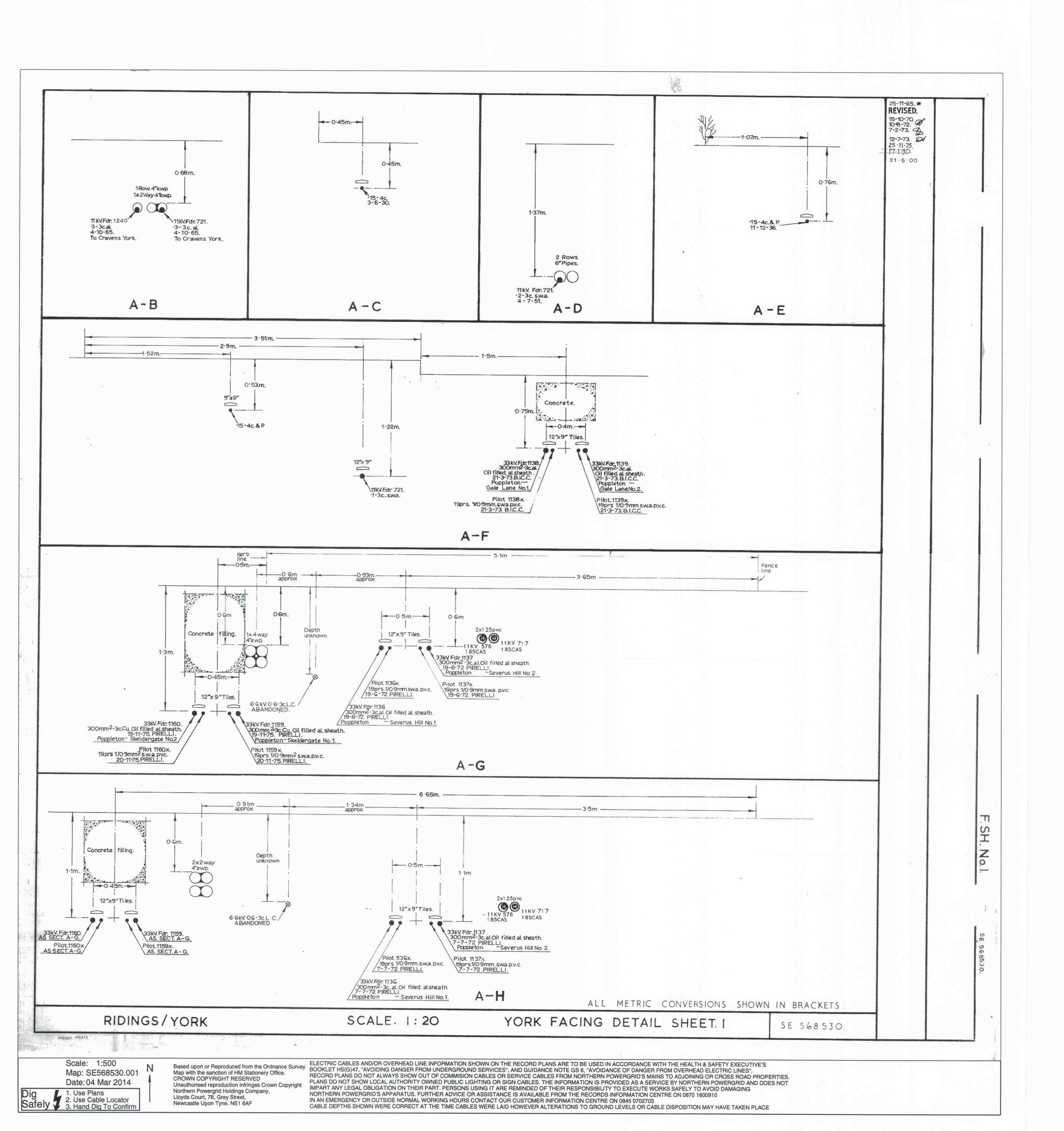


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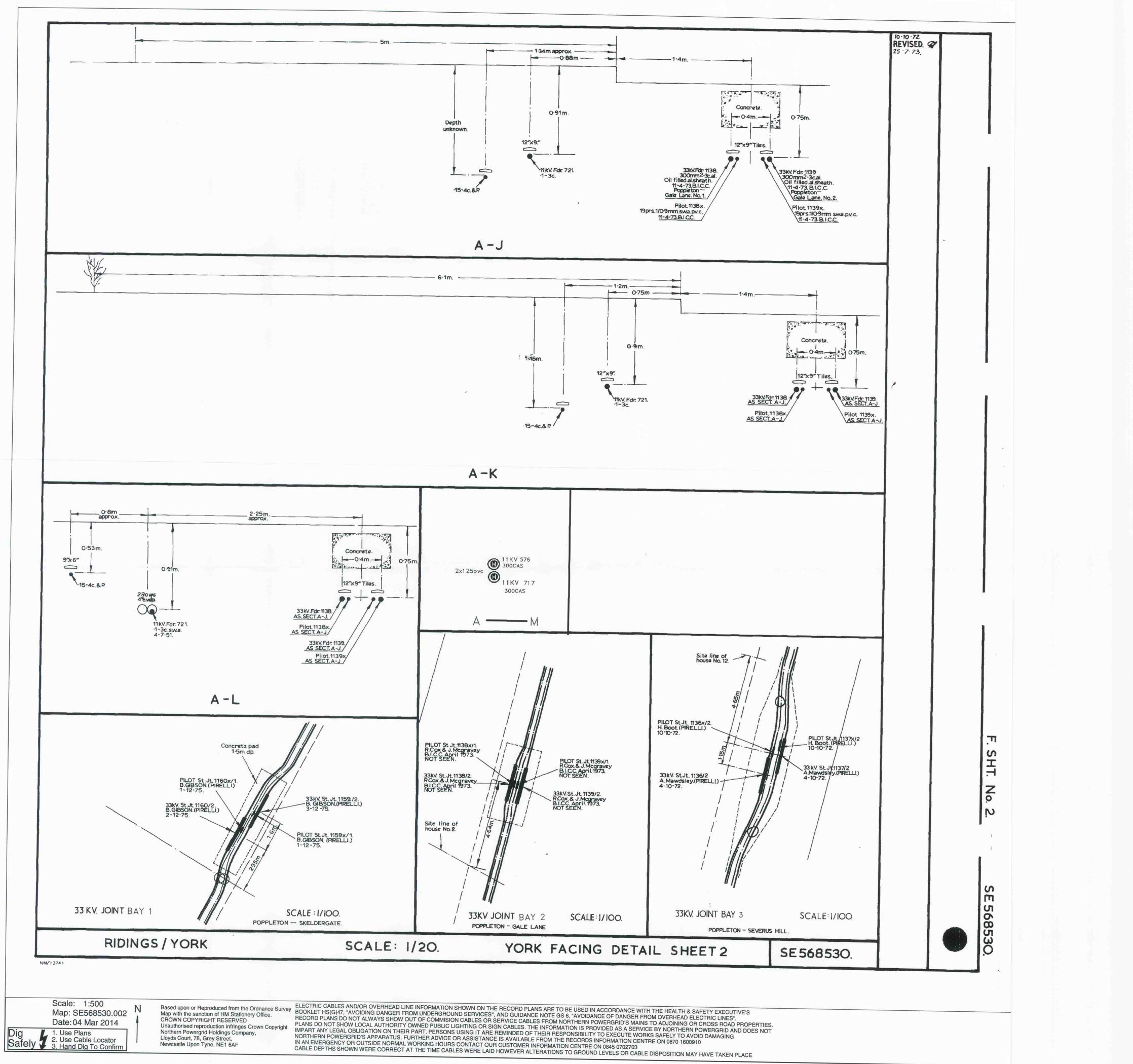
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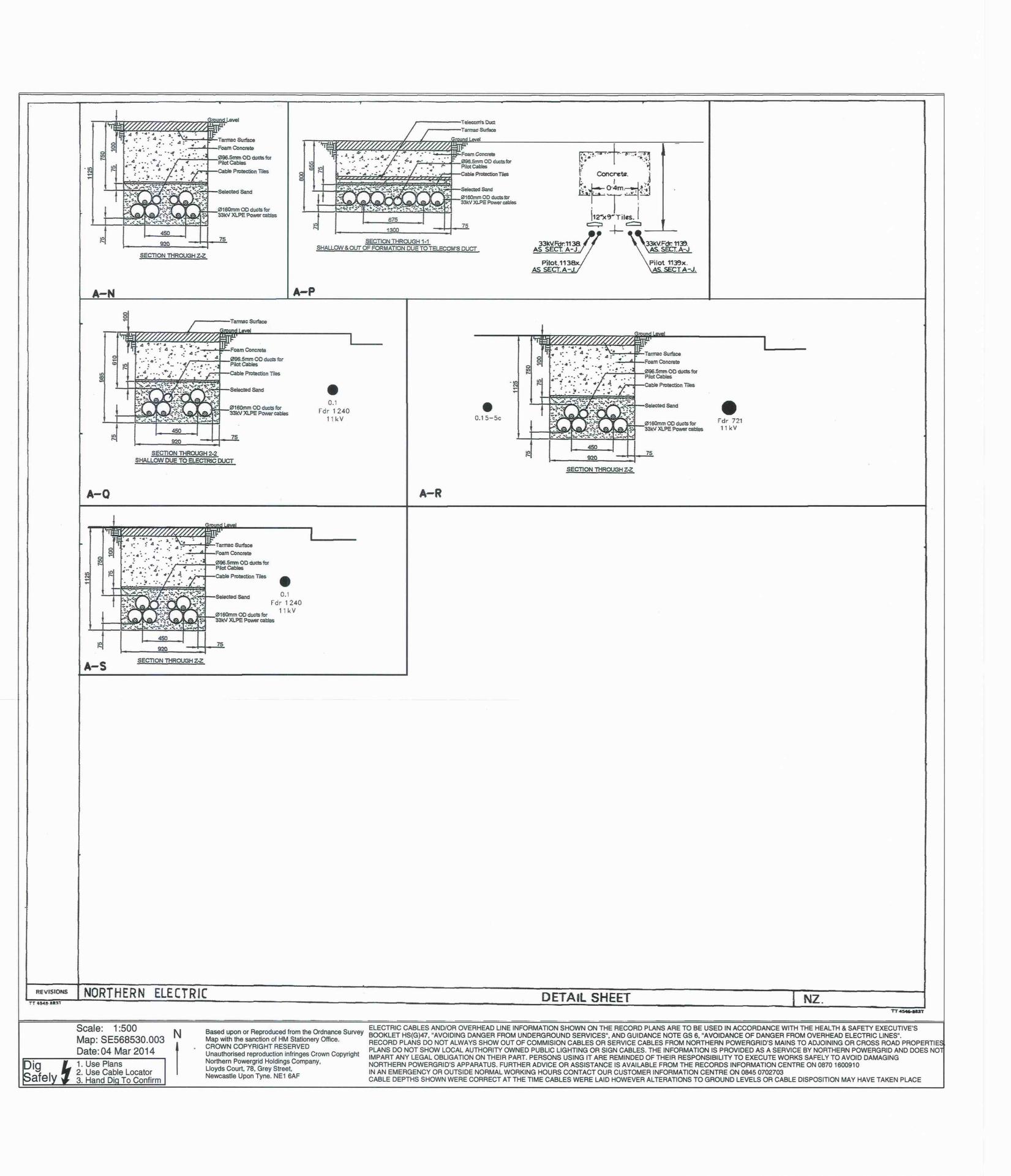
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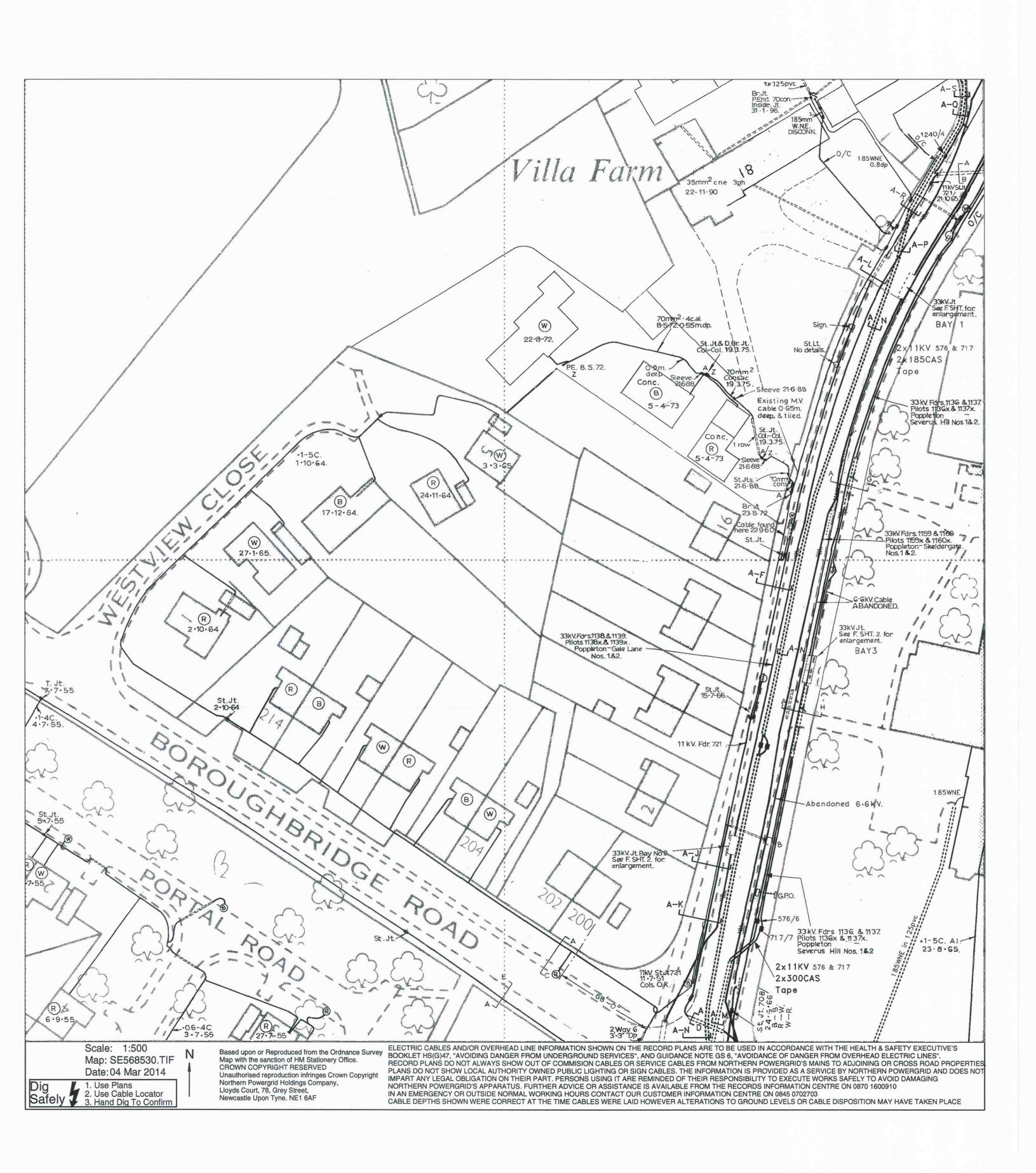


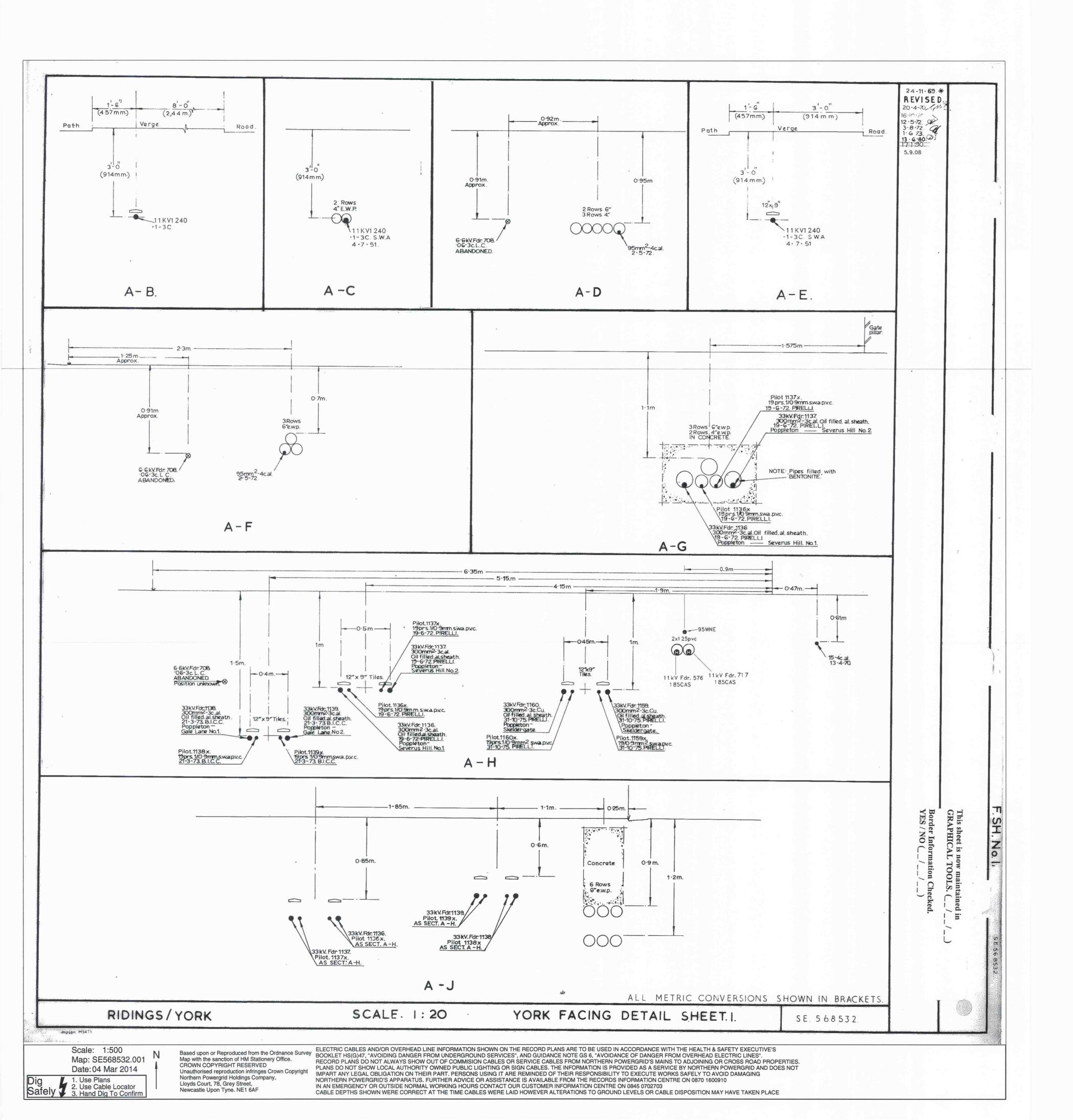


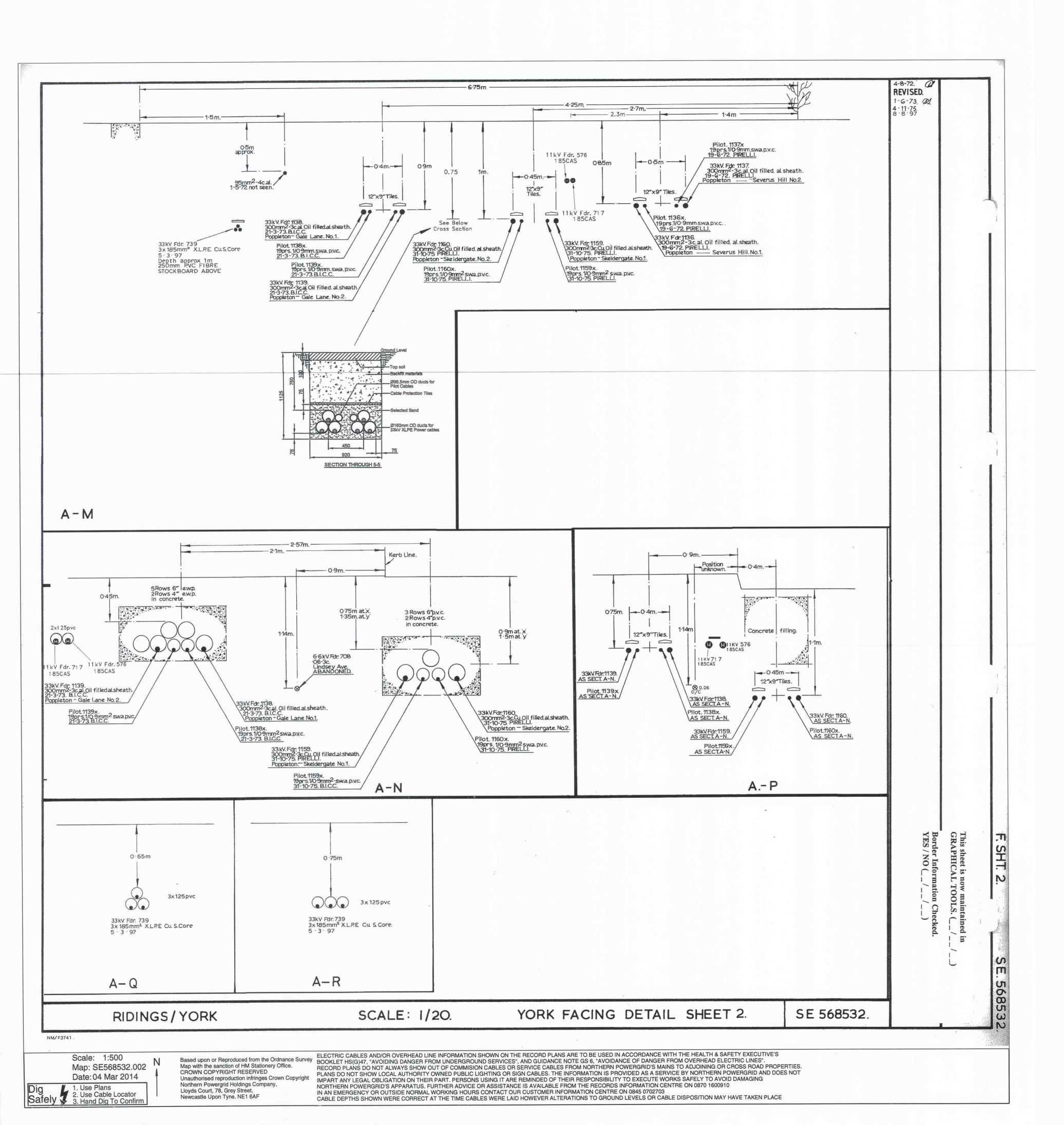


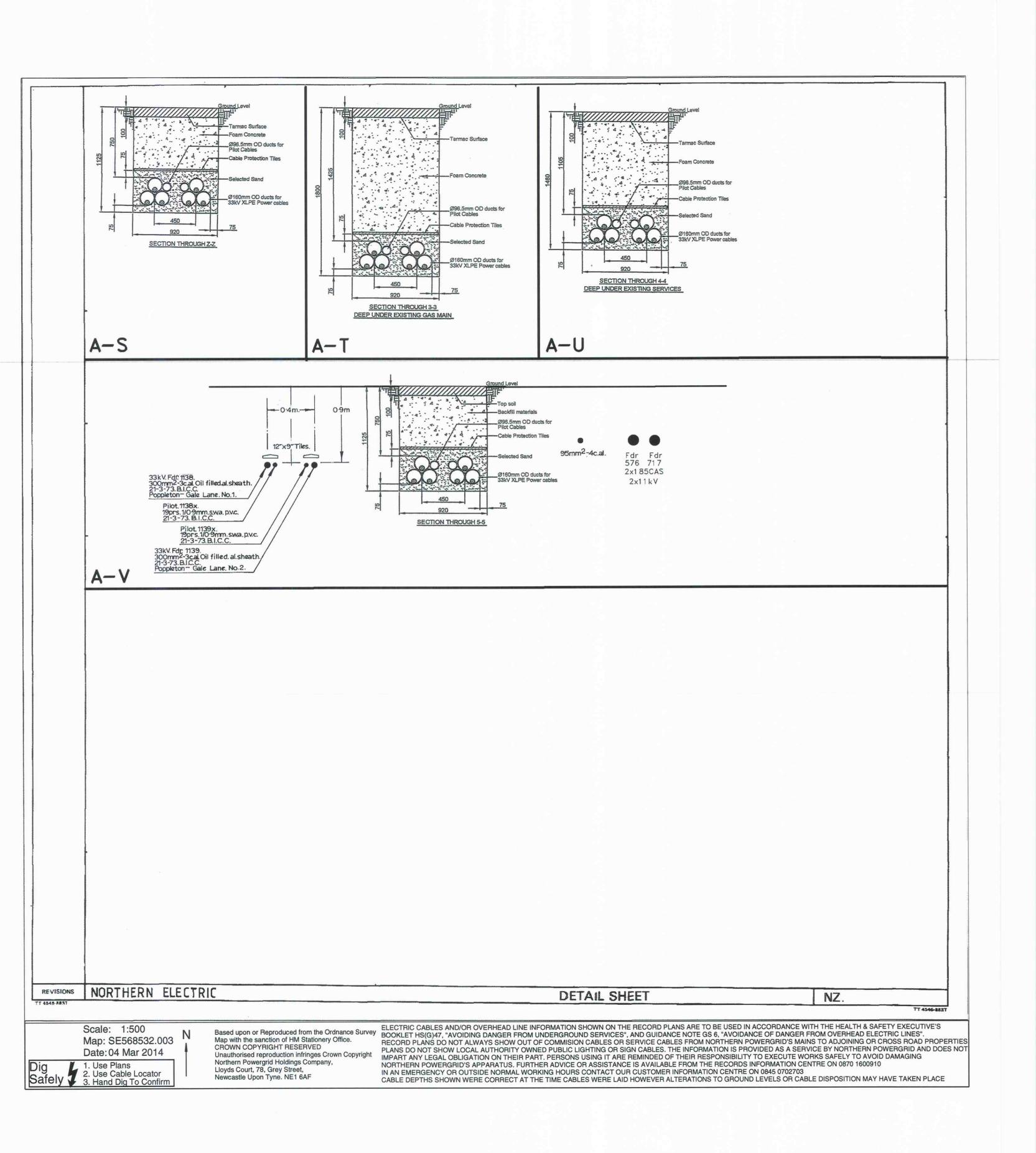


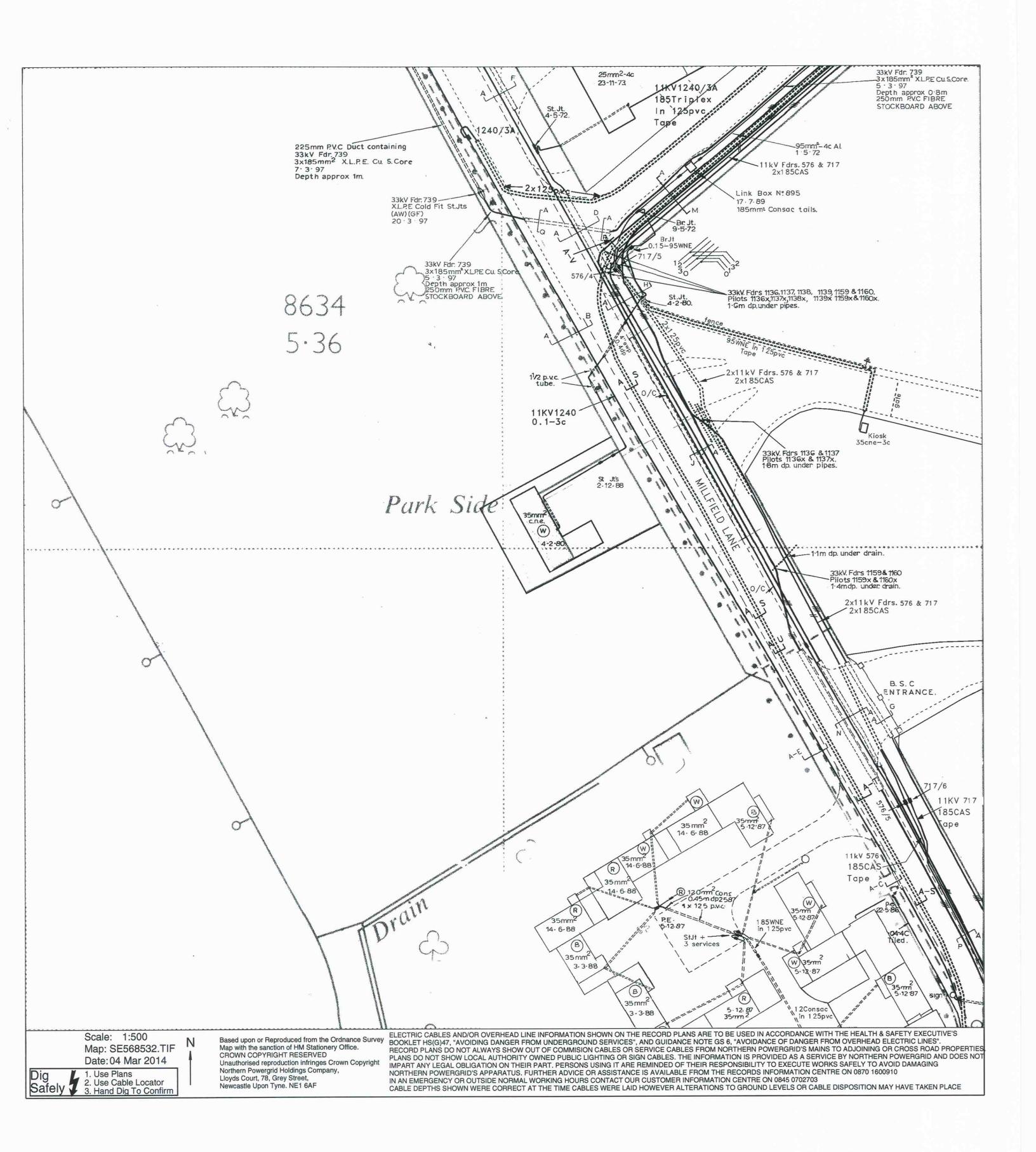




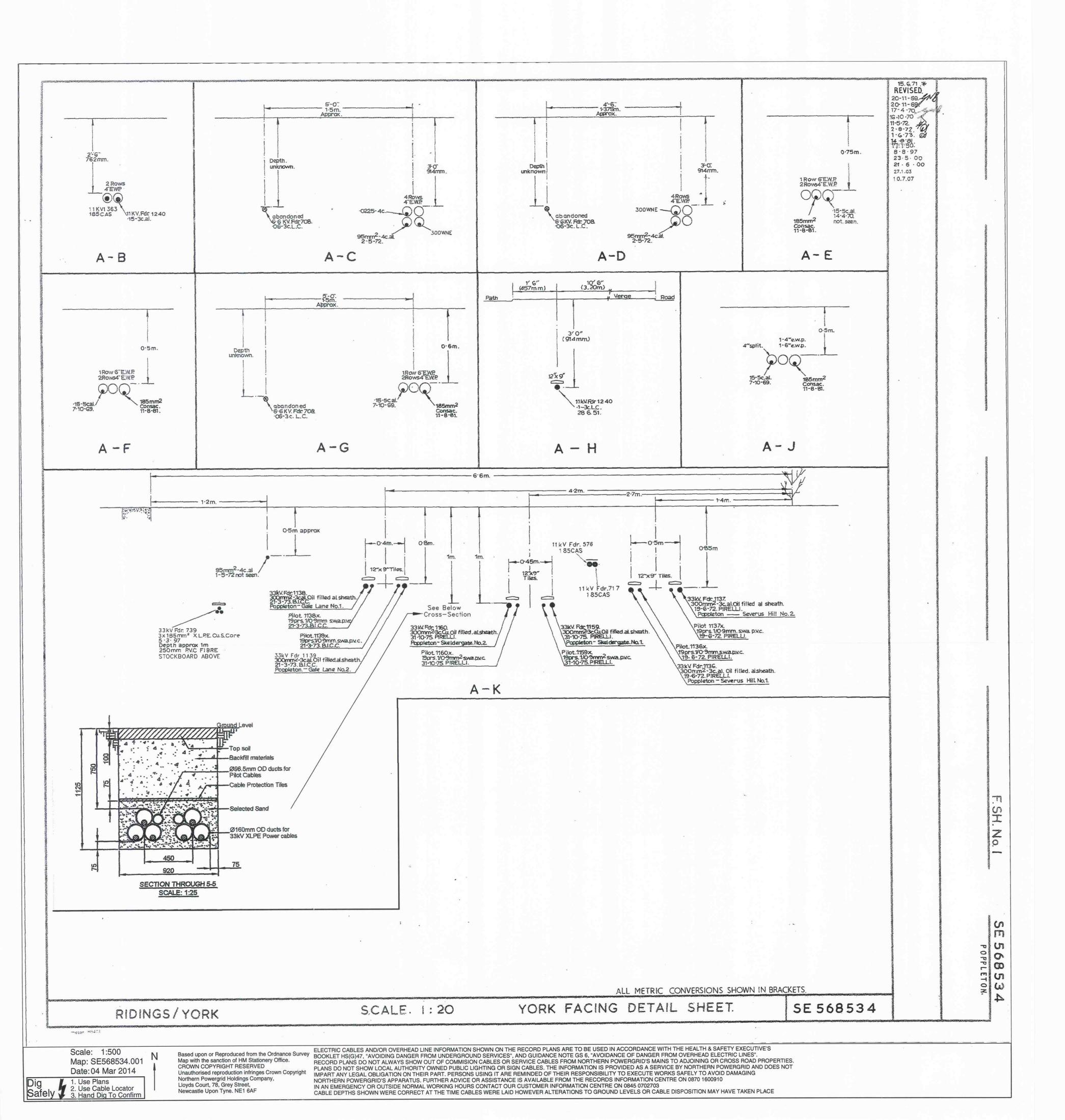


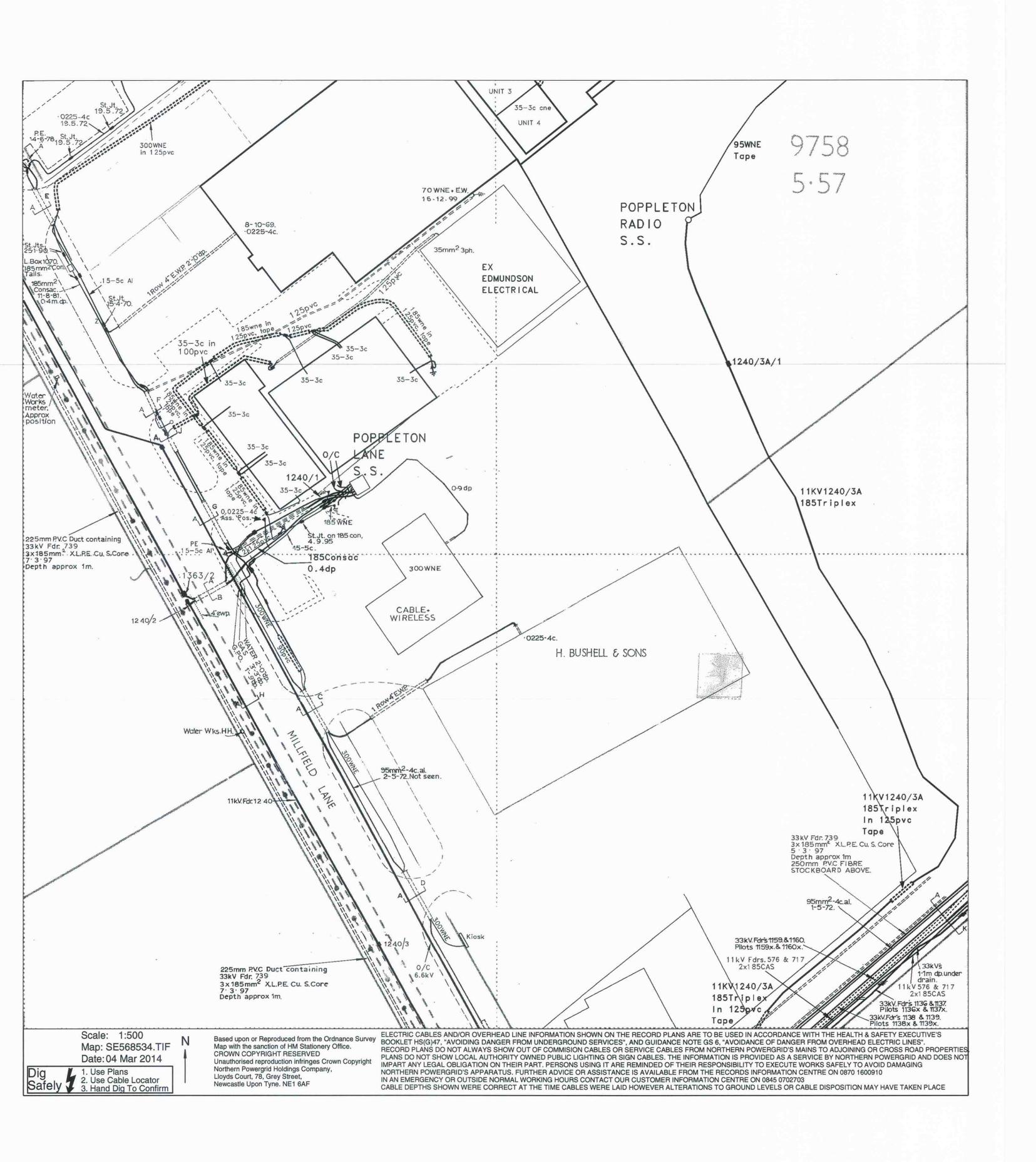


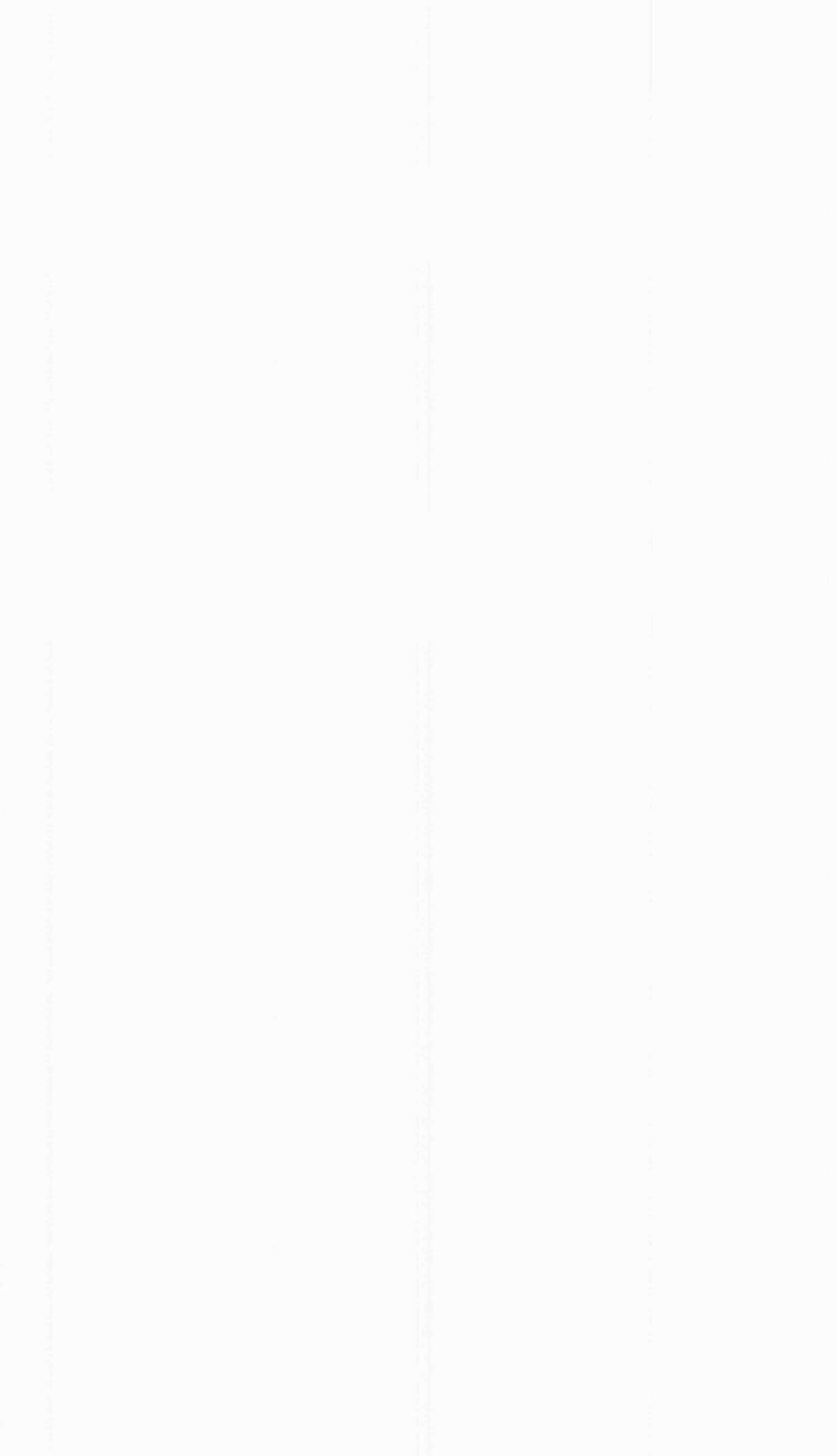


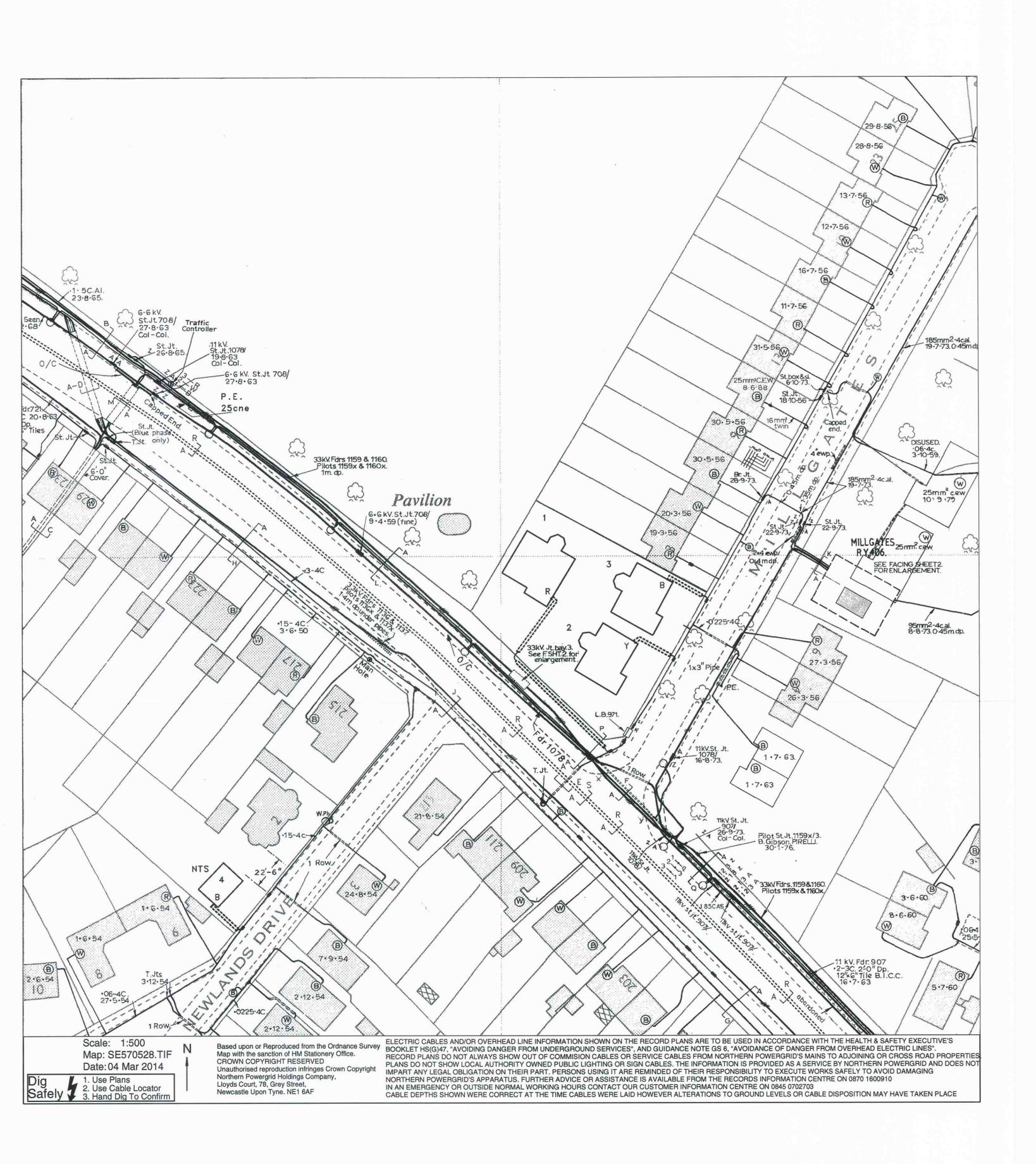




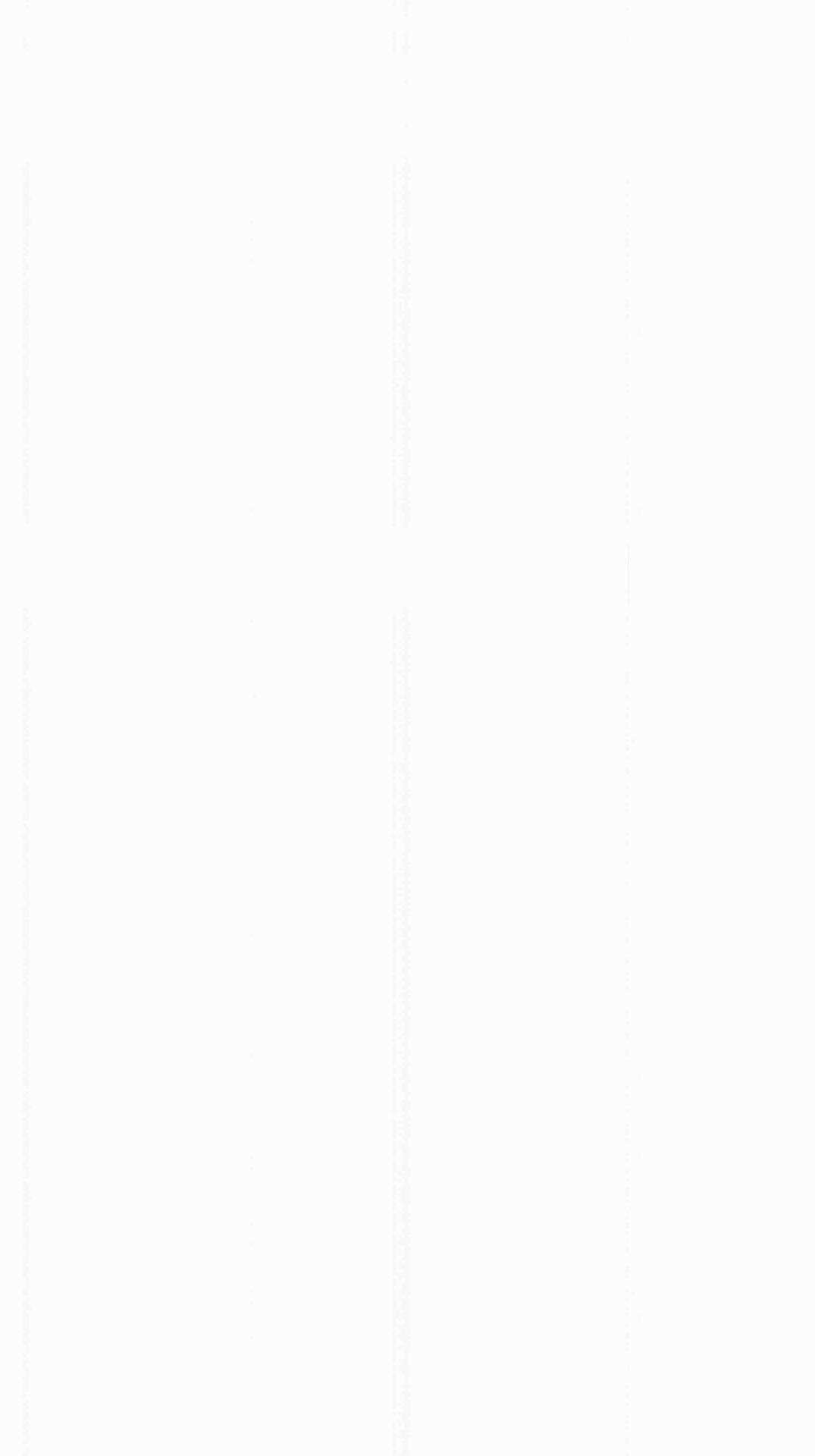


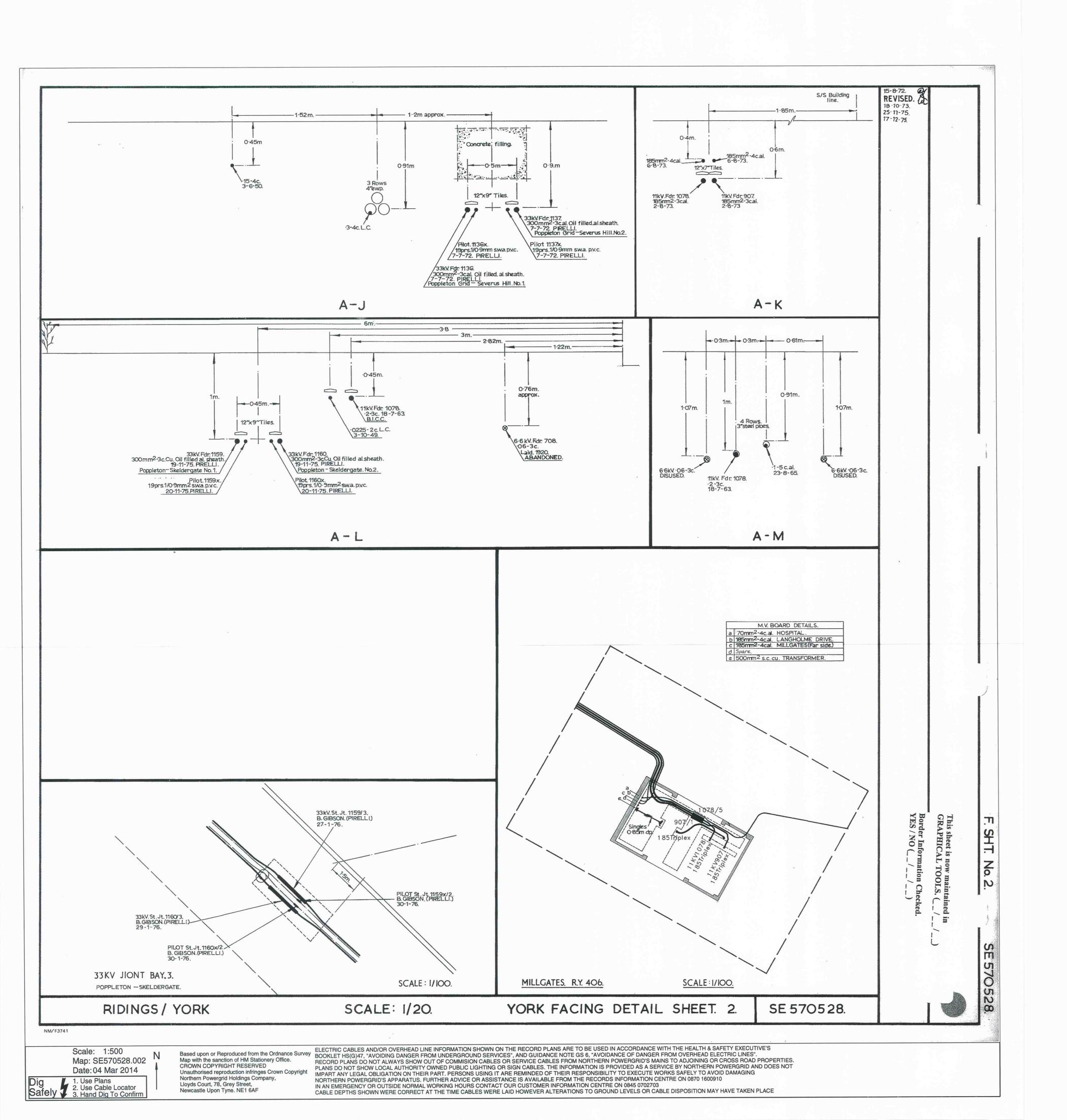




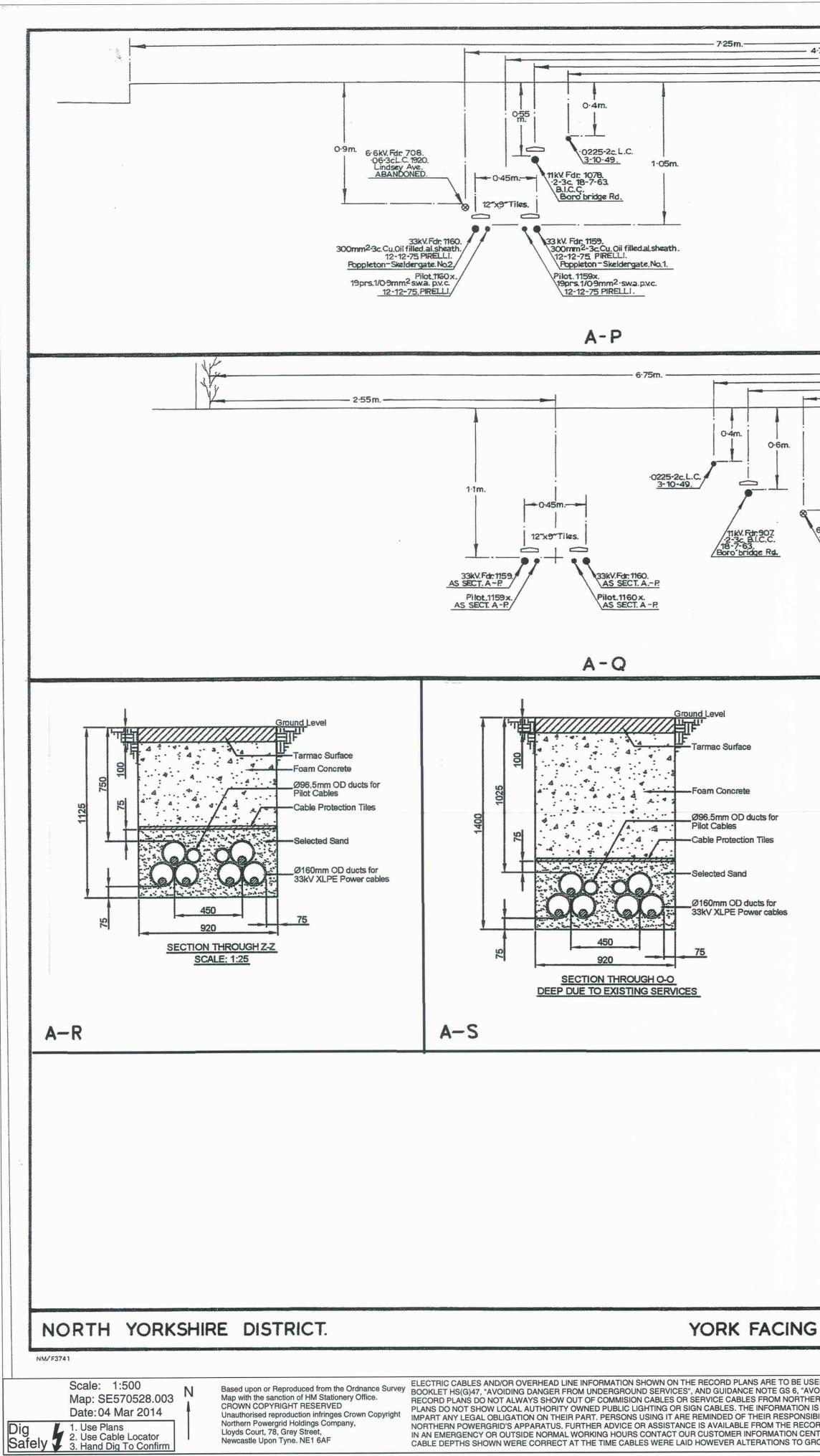




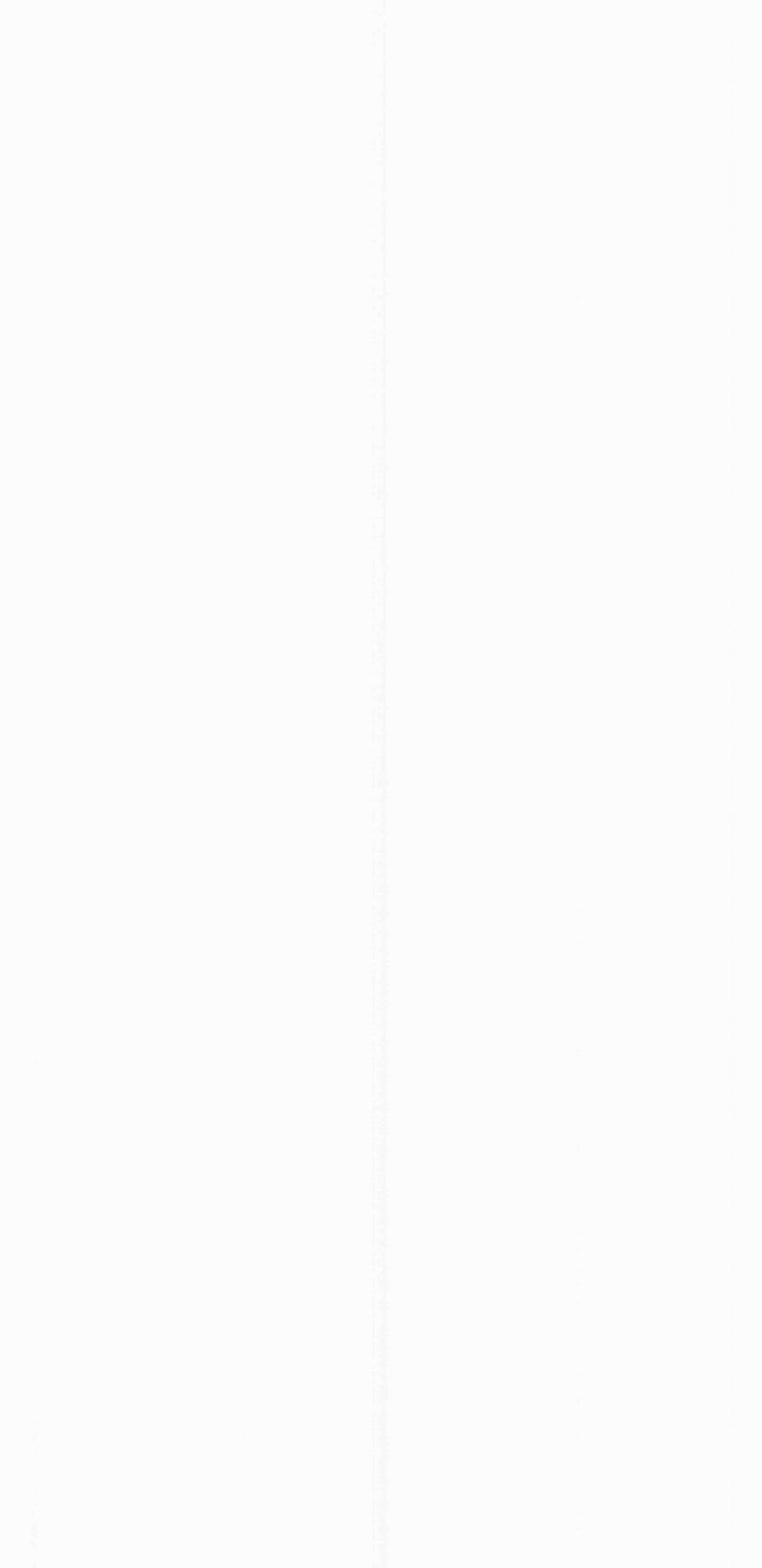


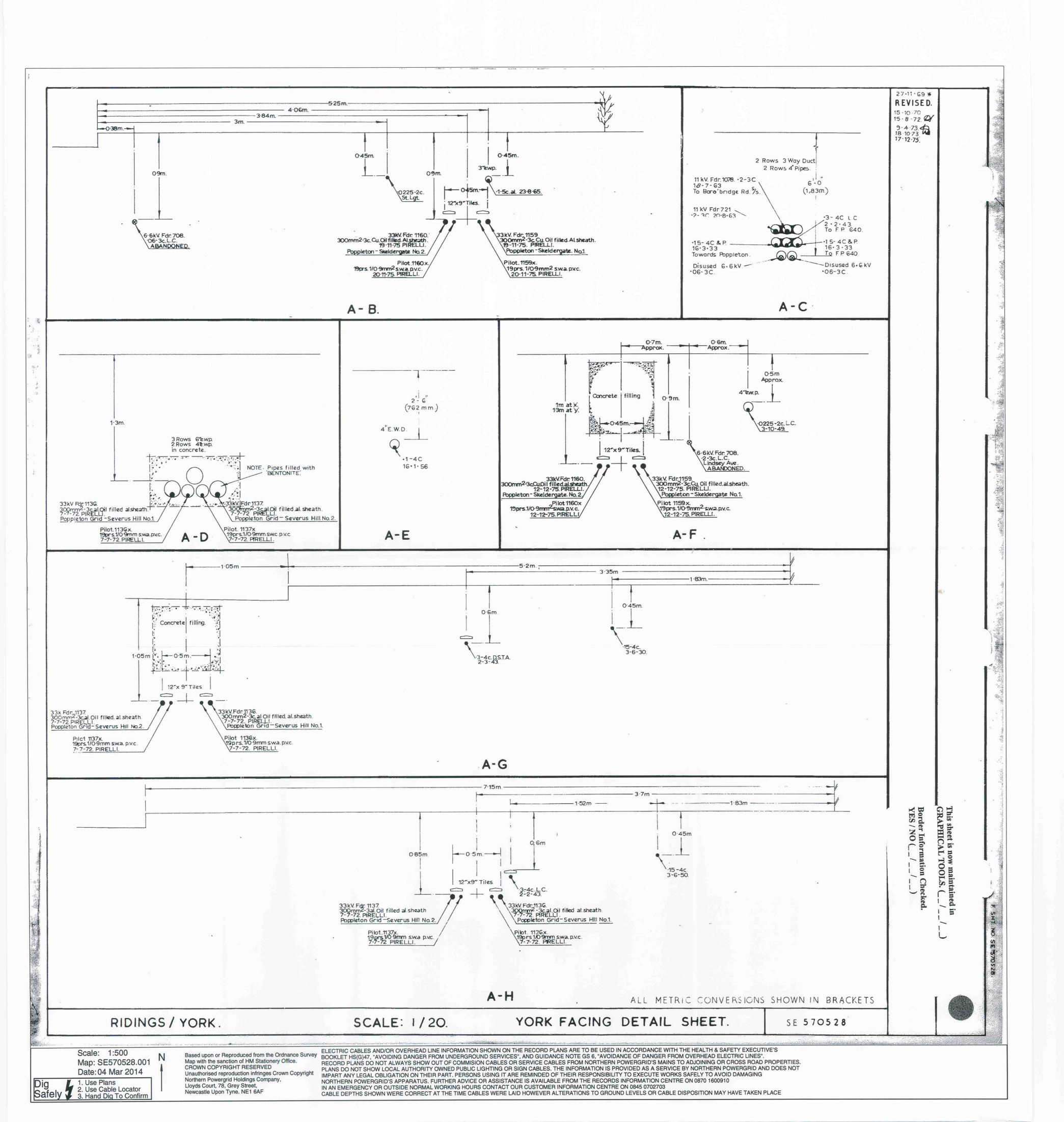




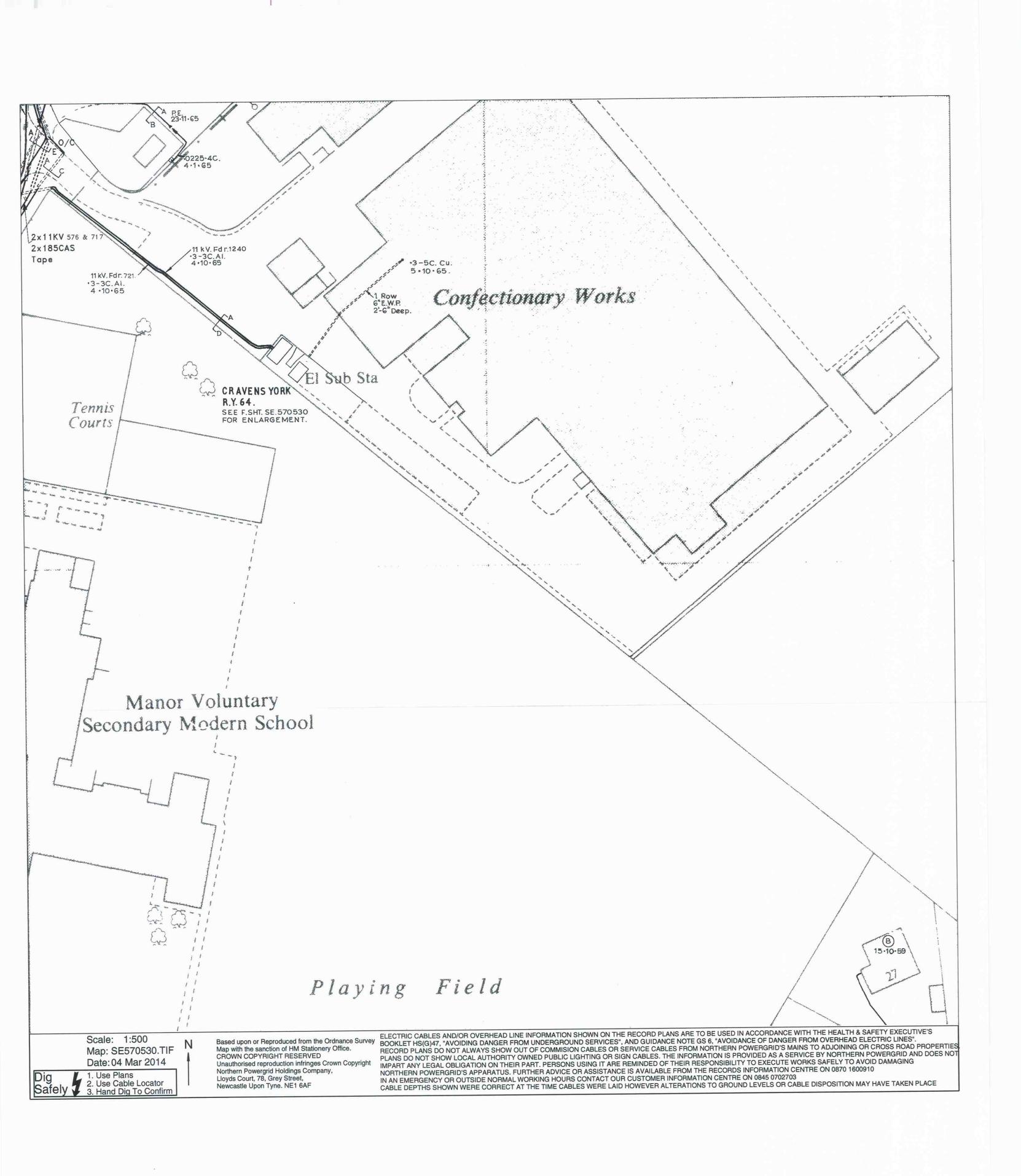


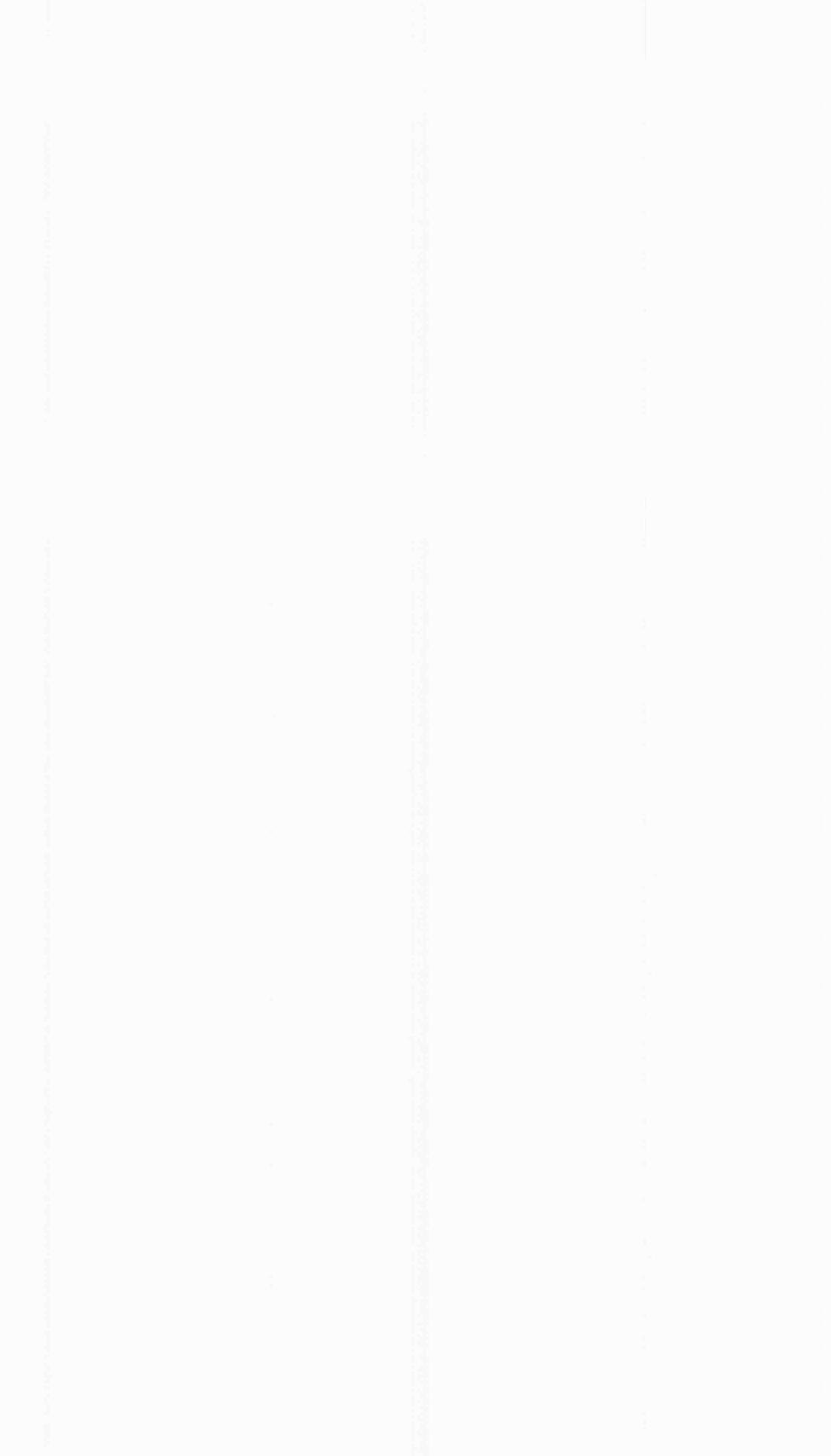
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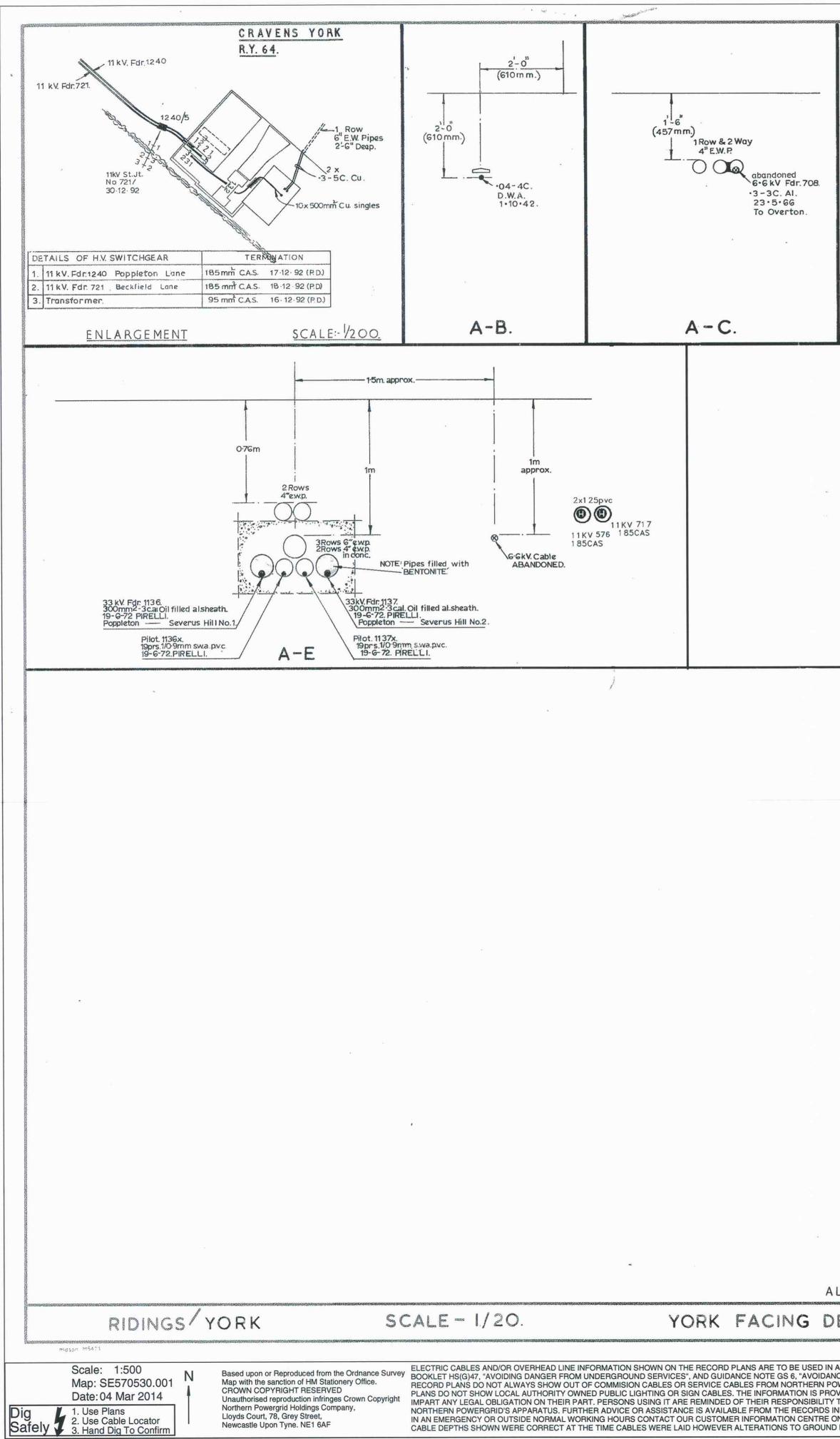




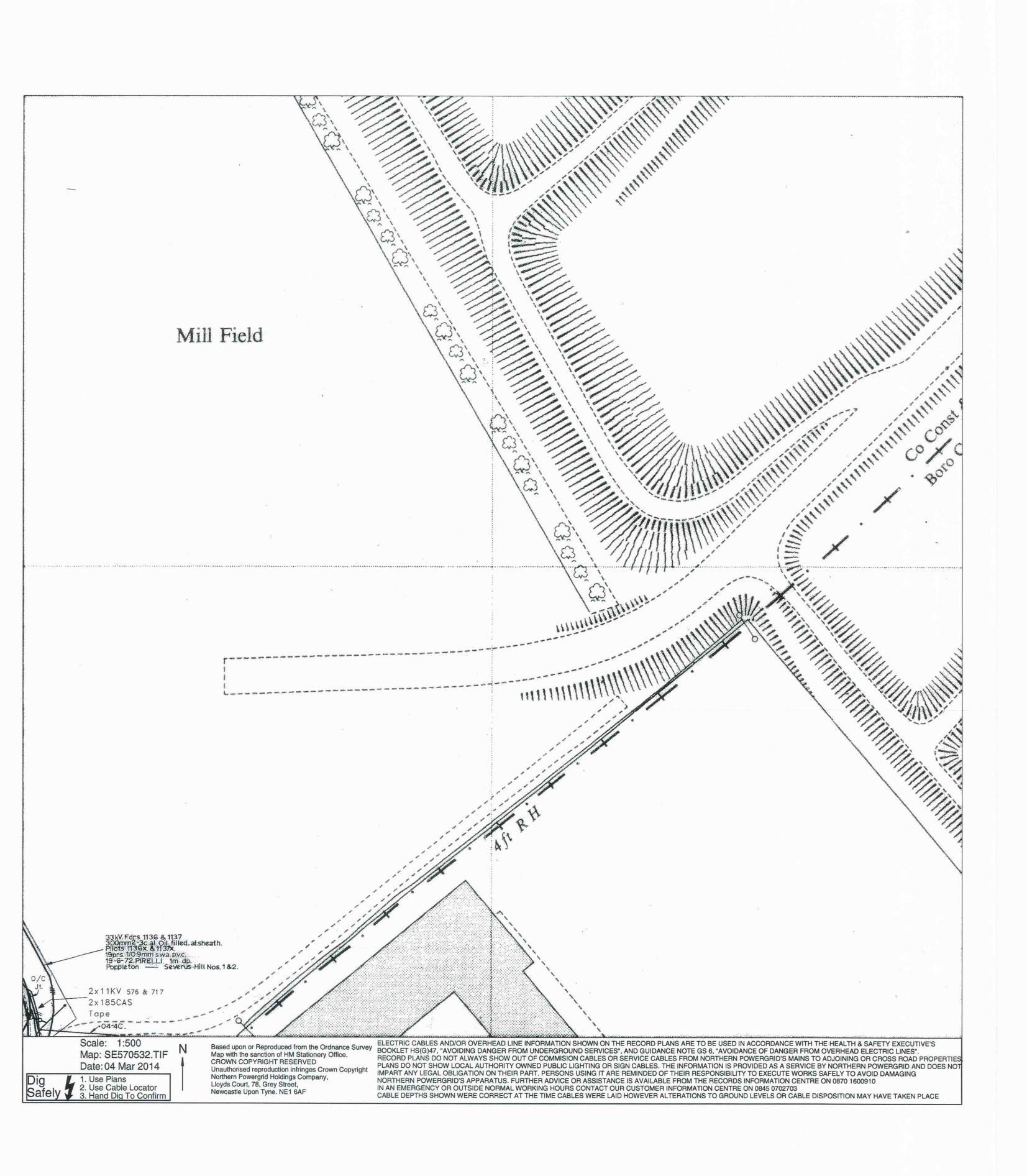


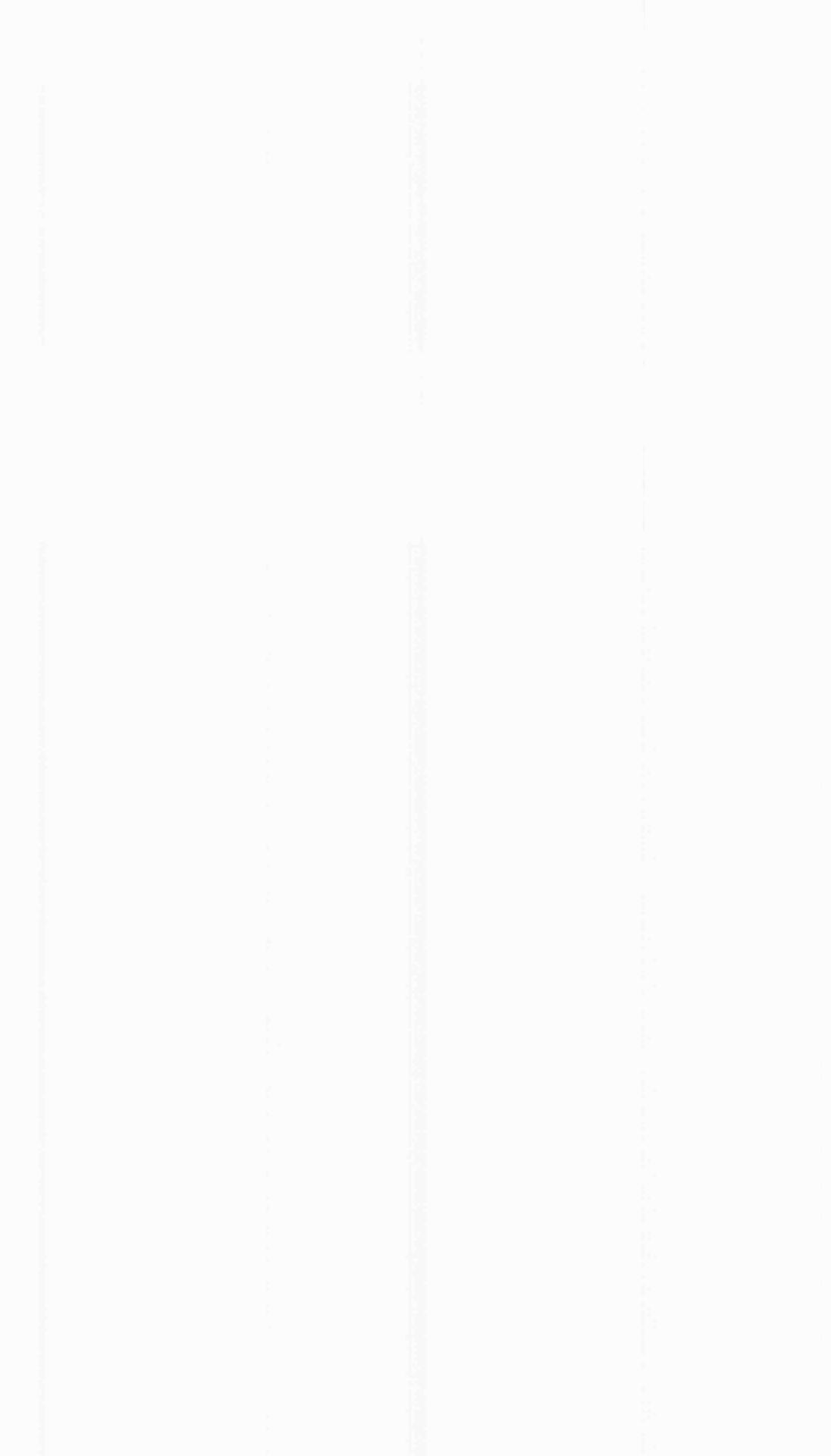


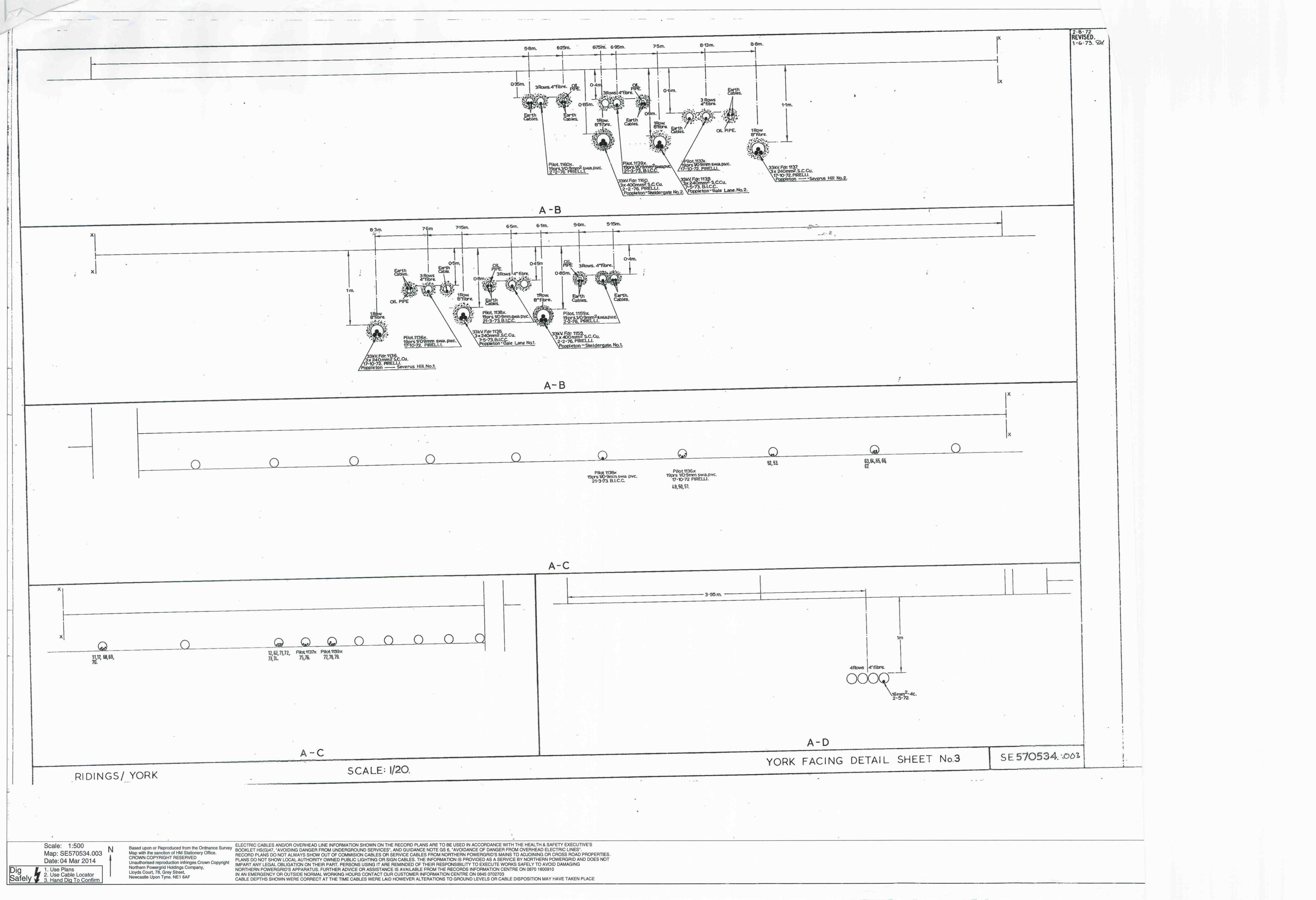


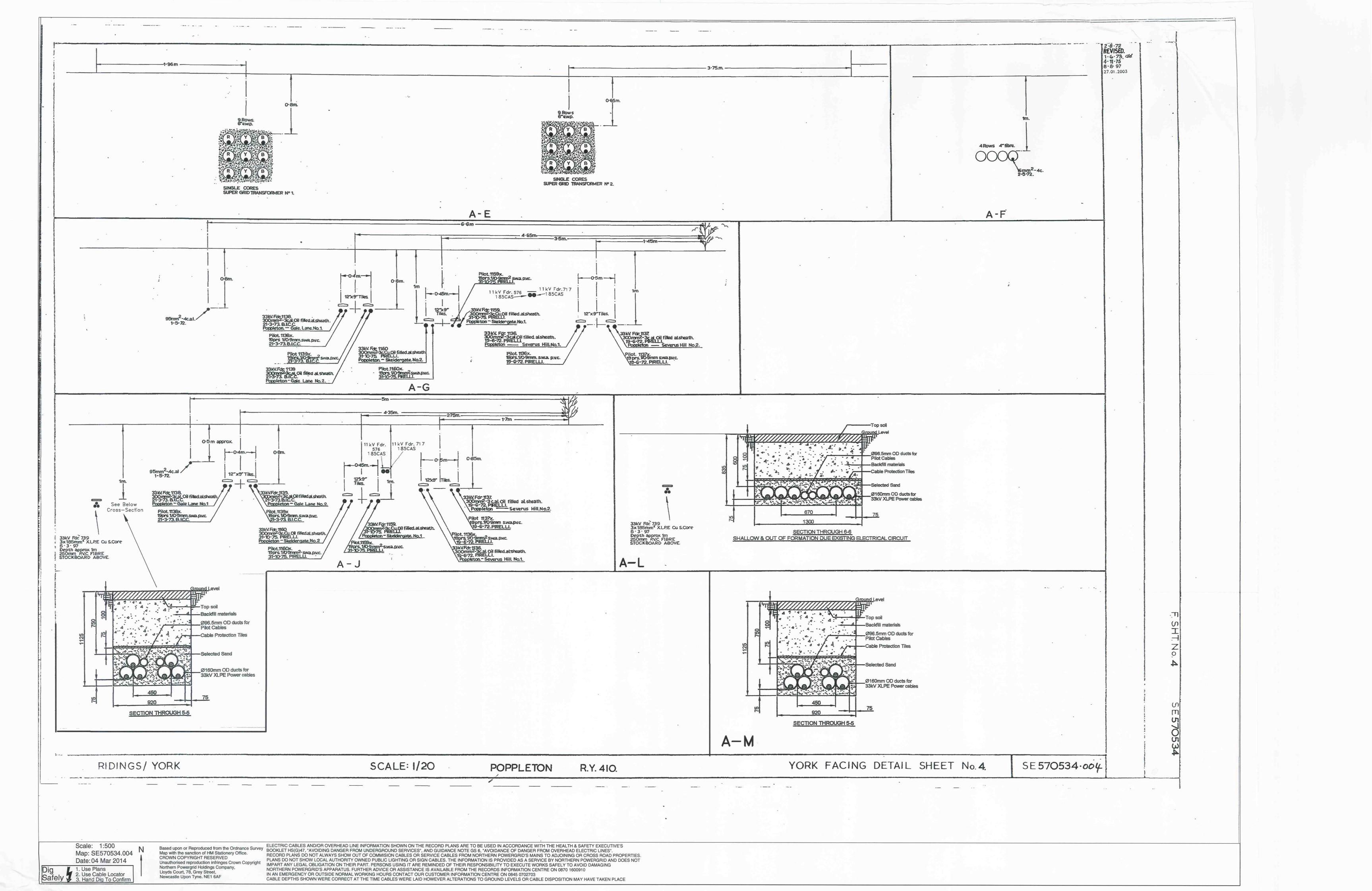


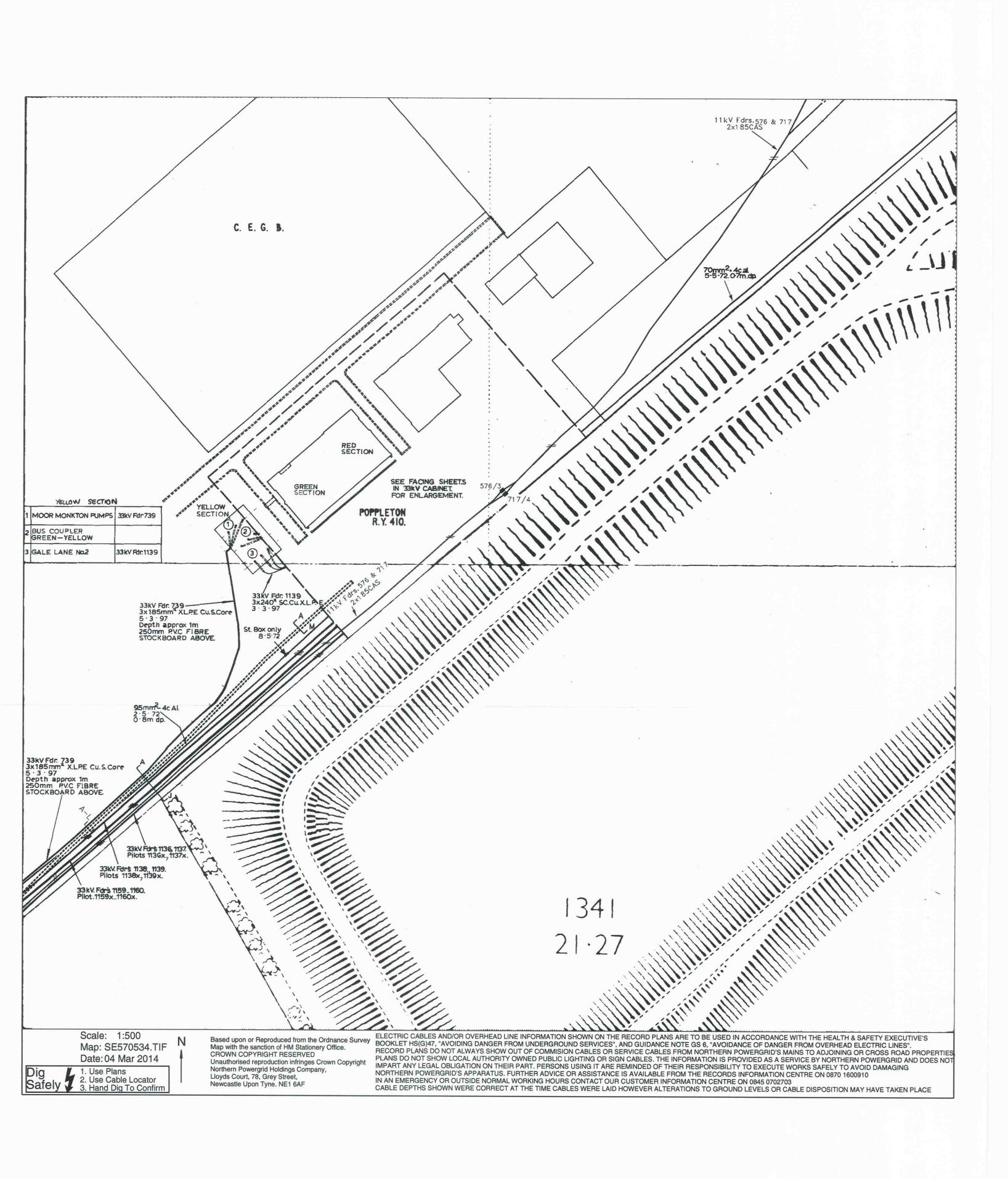
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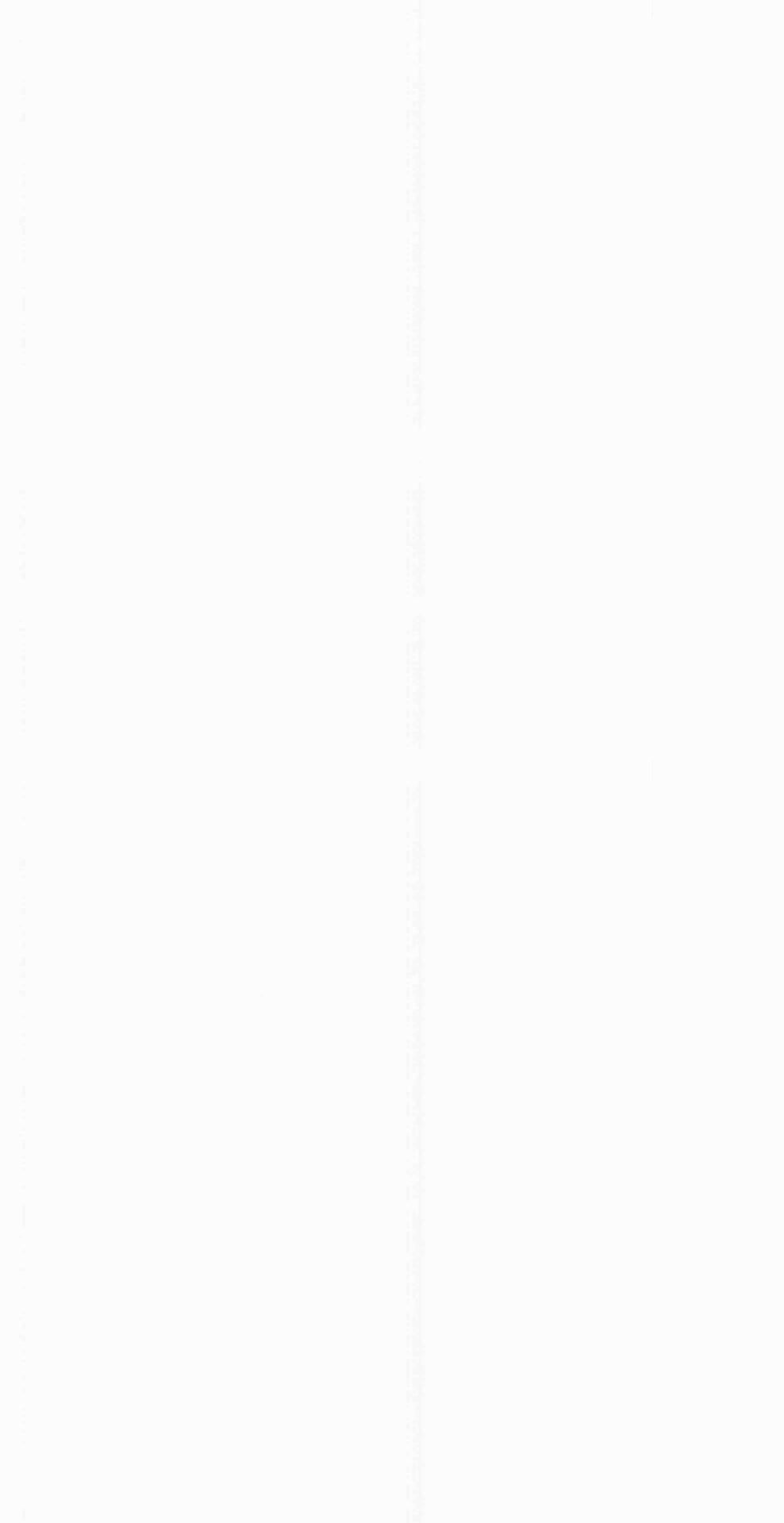


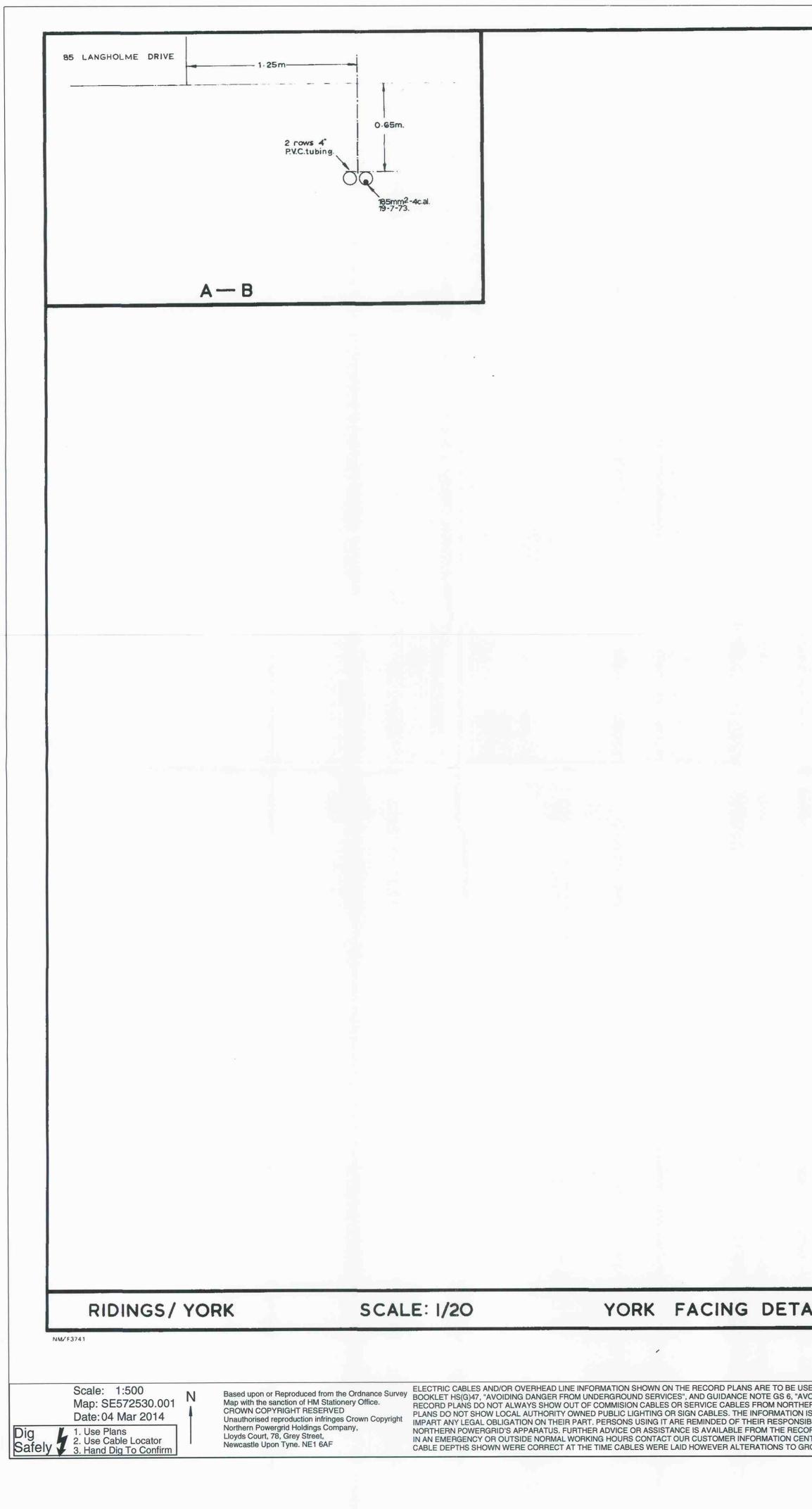






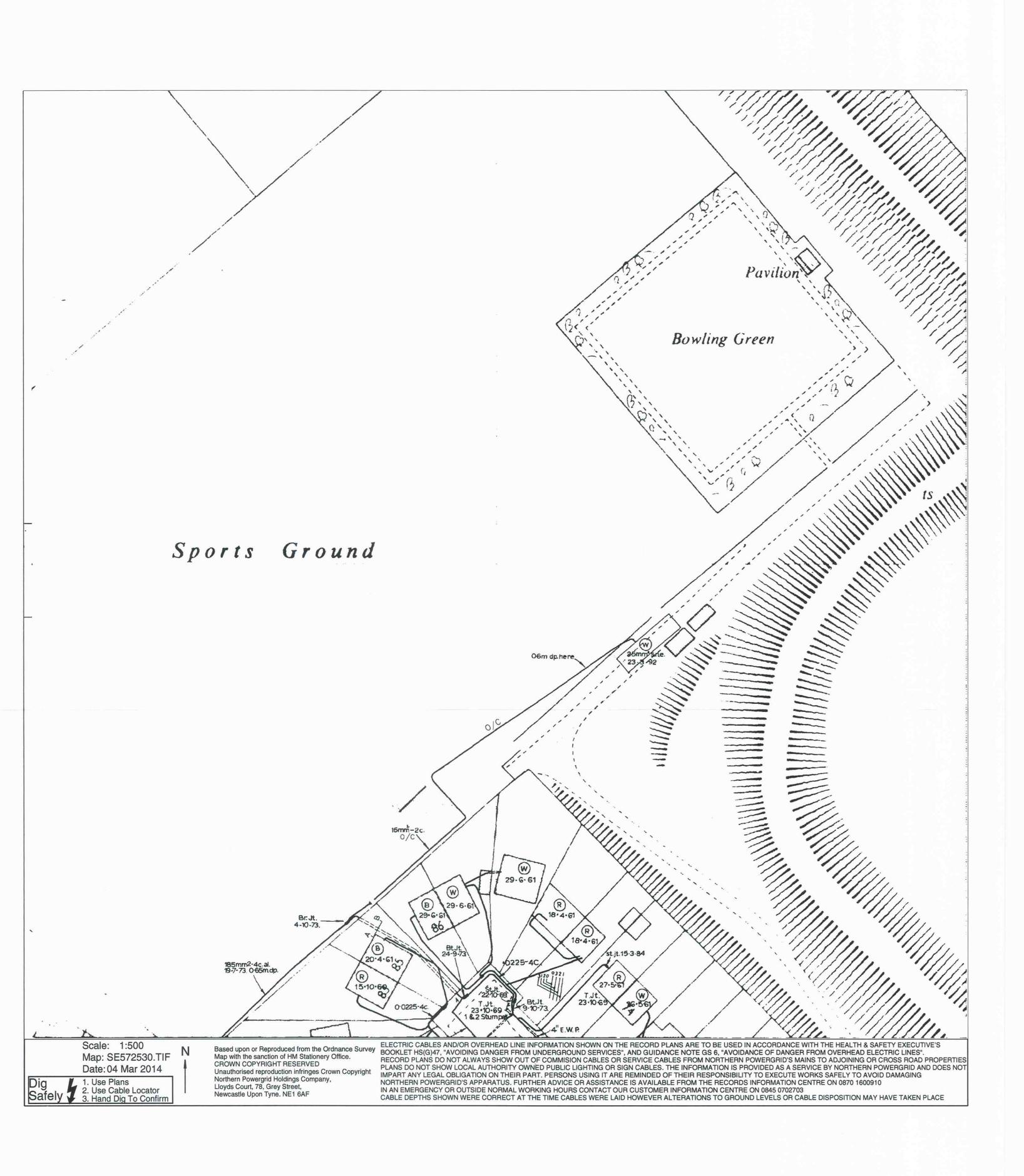


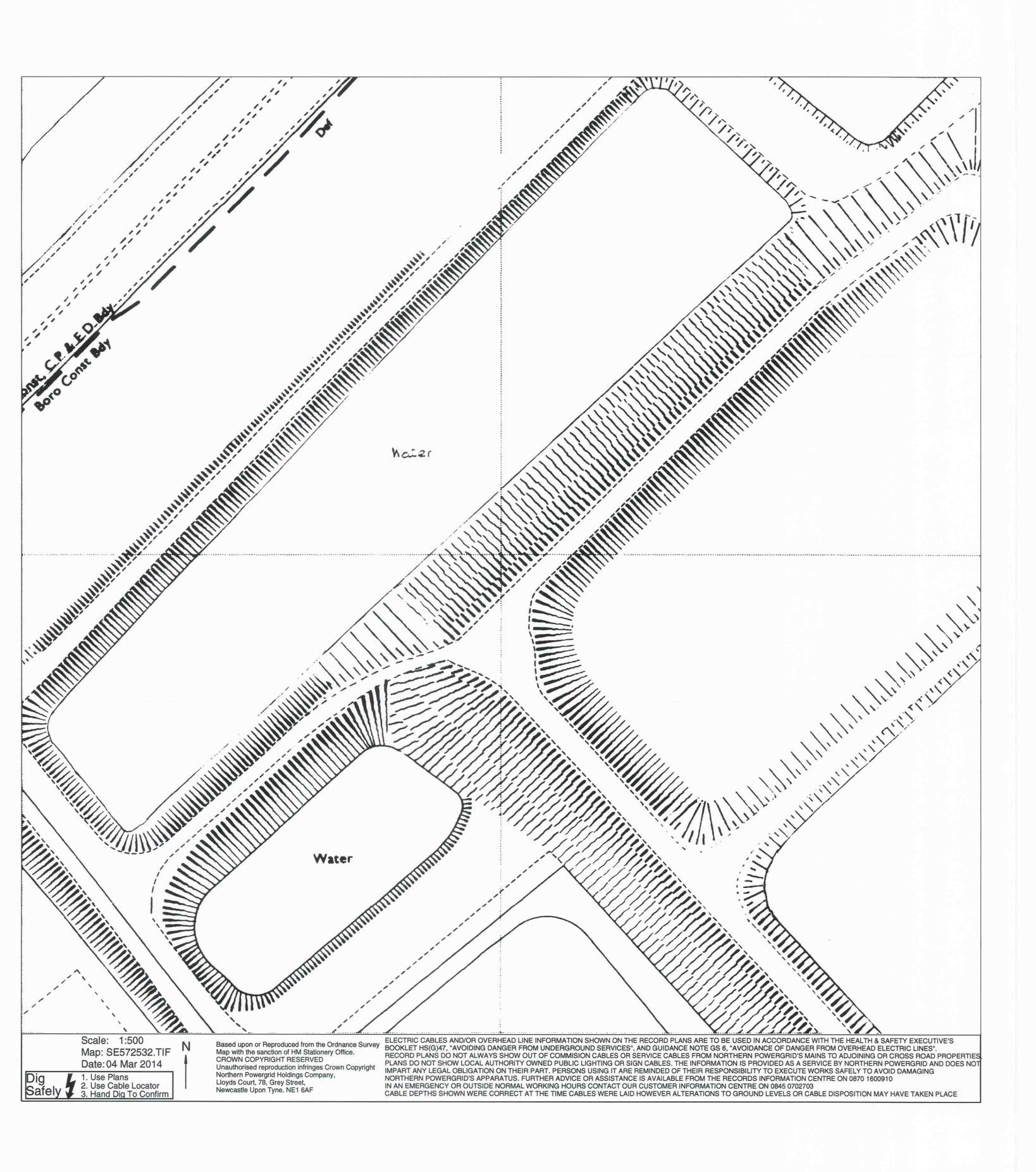


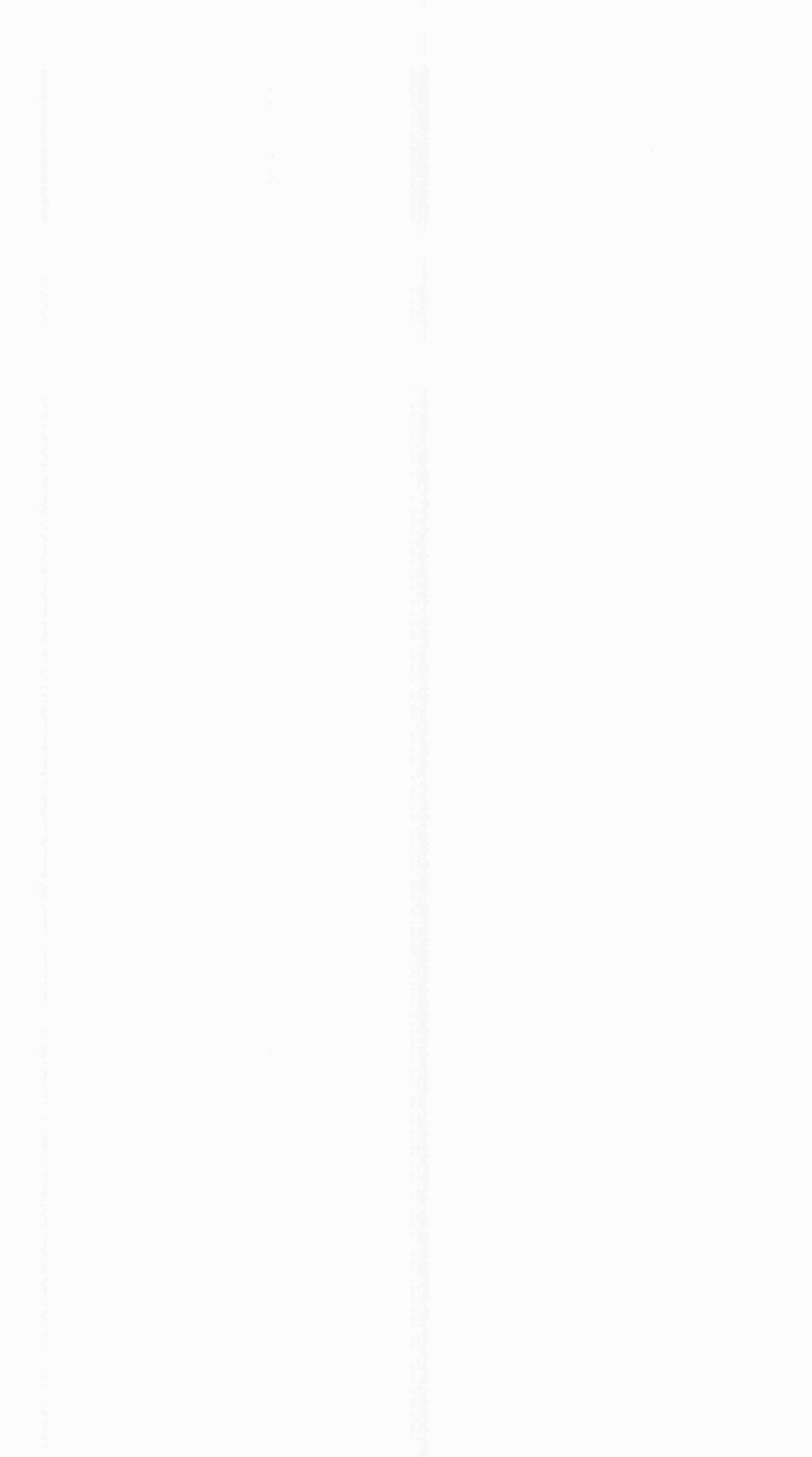


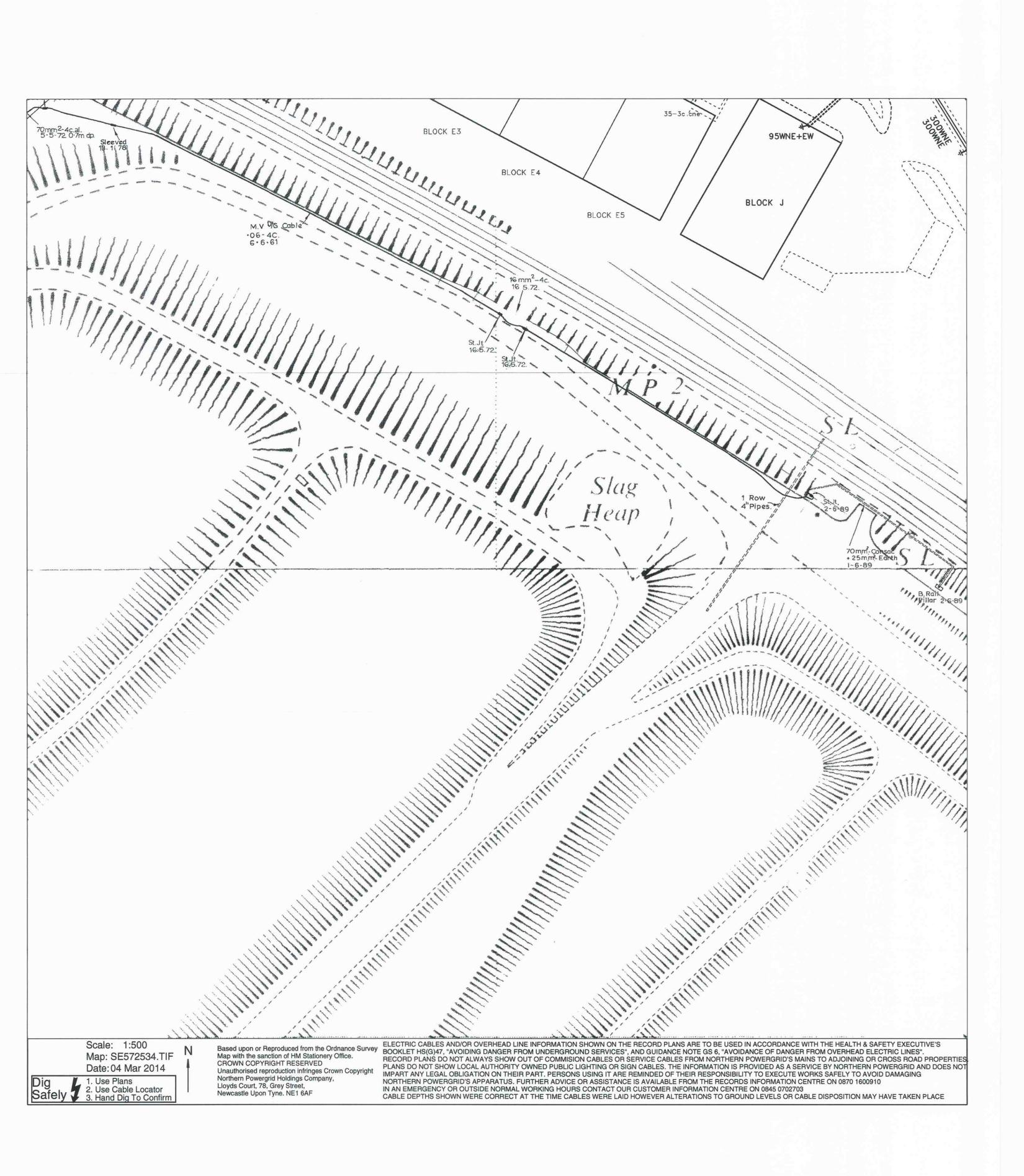
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ND LEVELS OR CABLE DISPOSITION M	AY HAVE TAKEN PLACE			





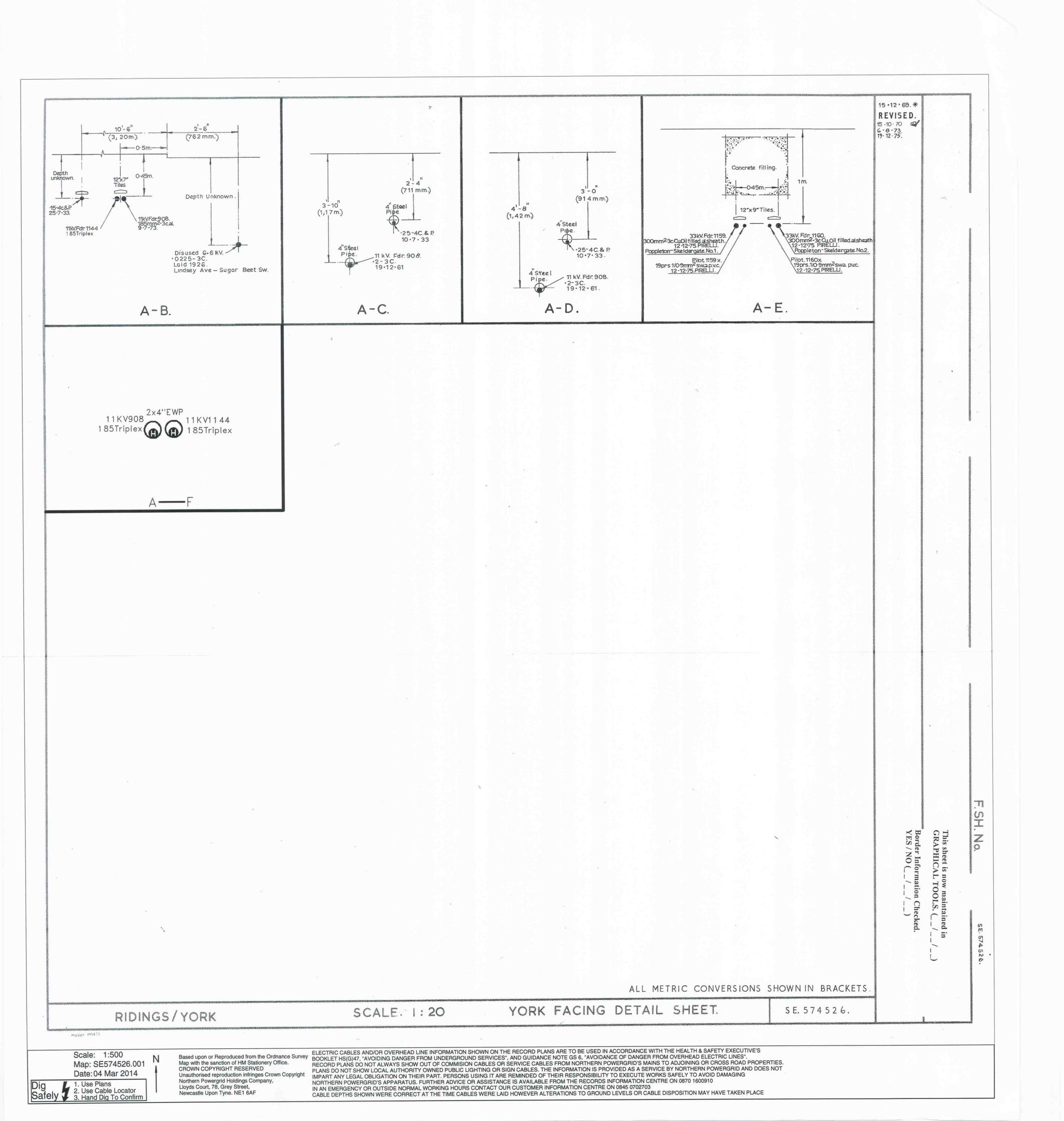


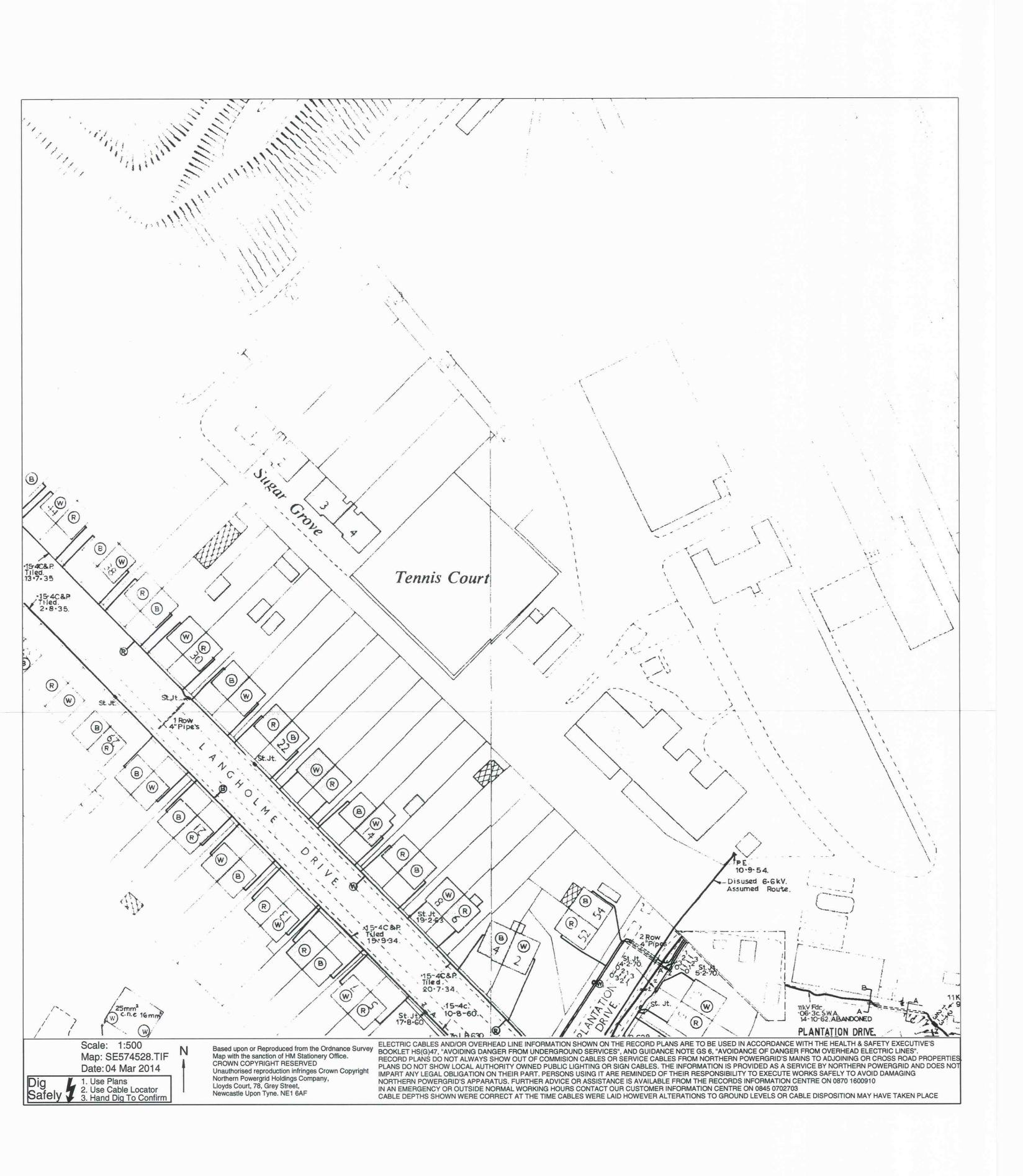


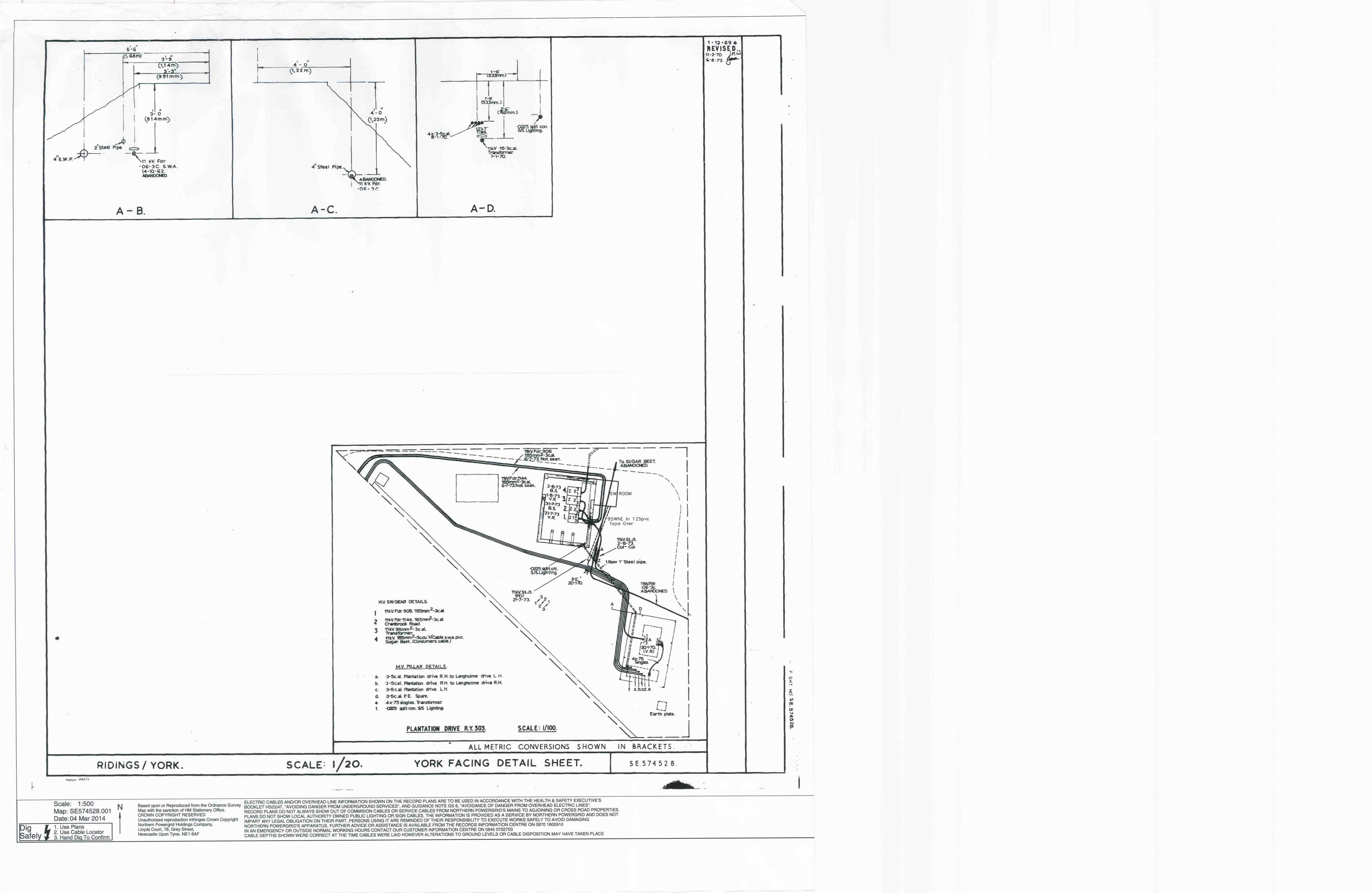


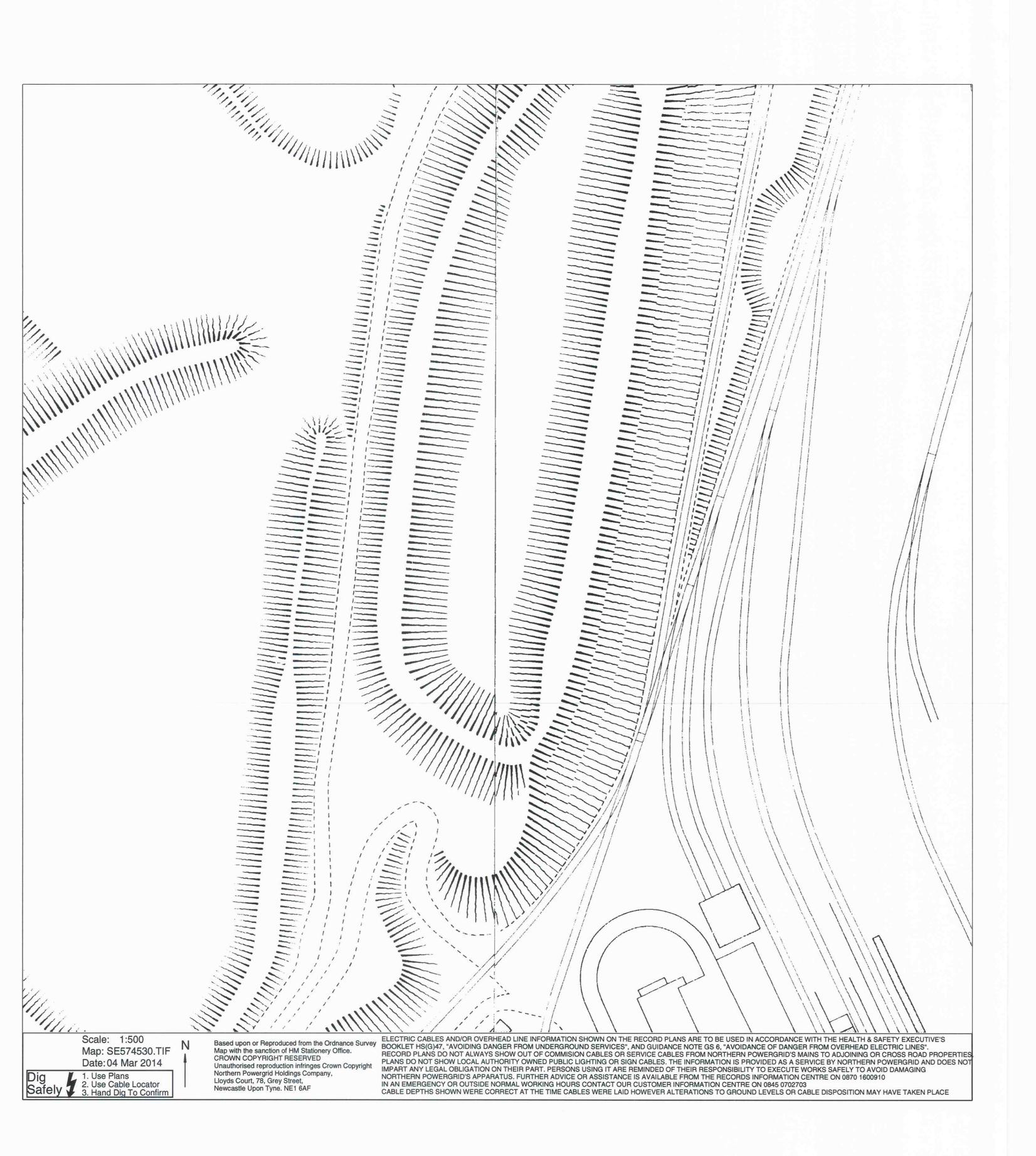






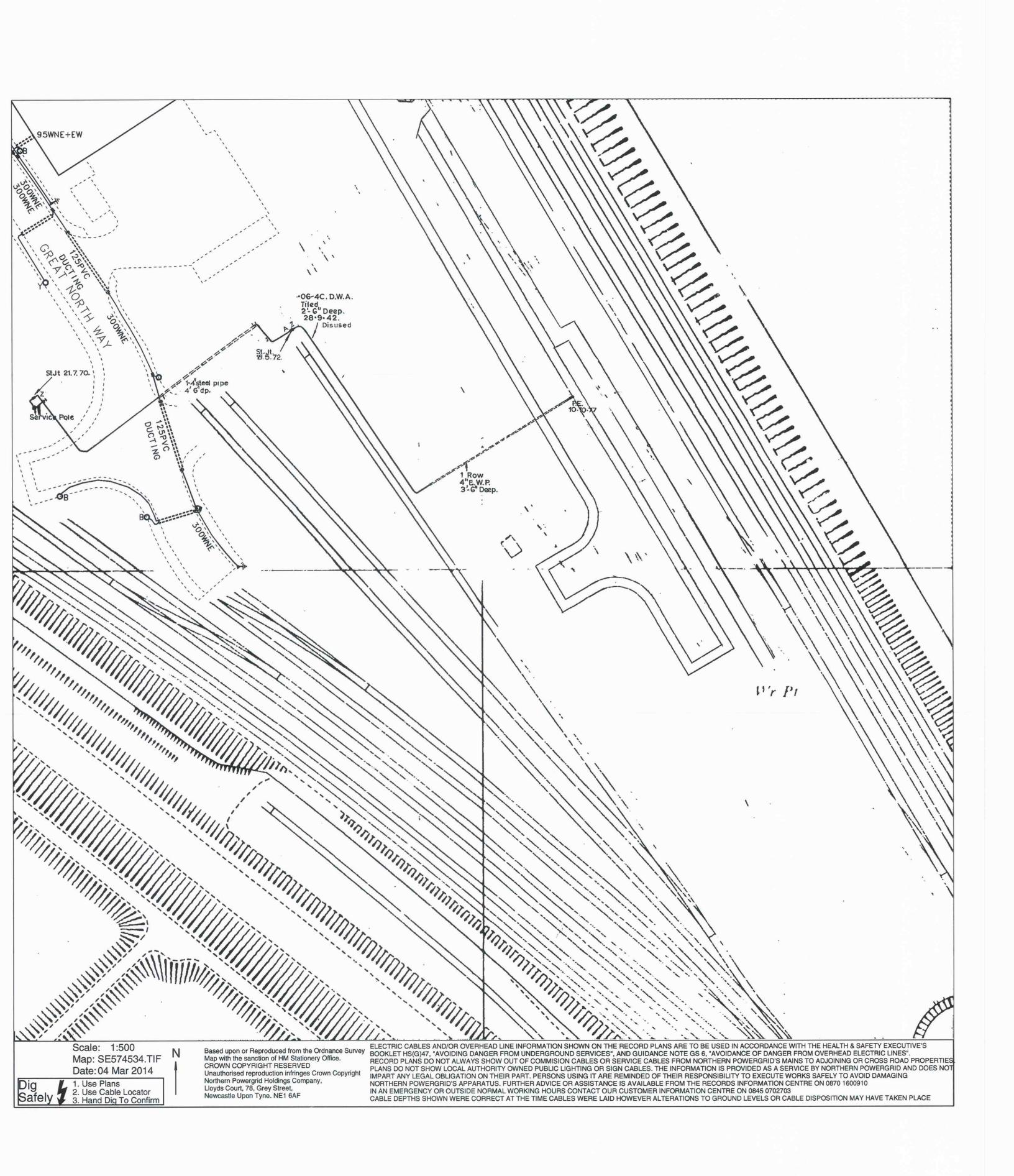






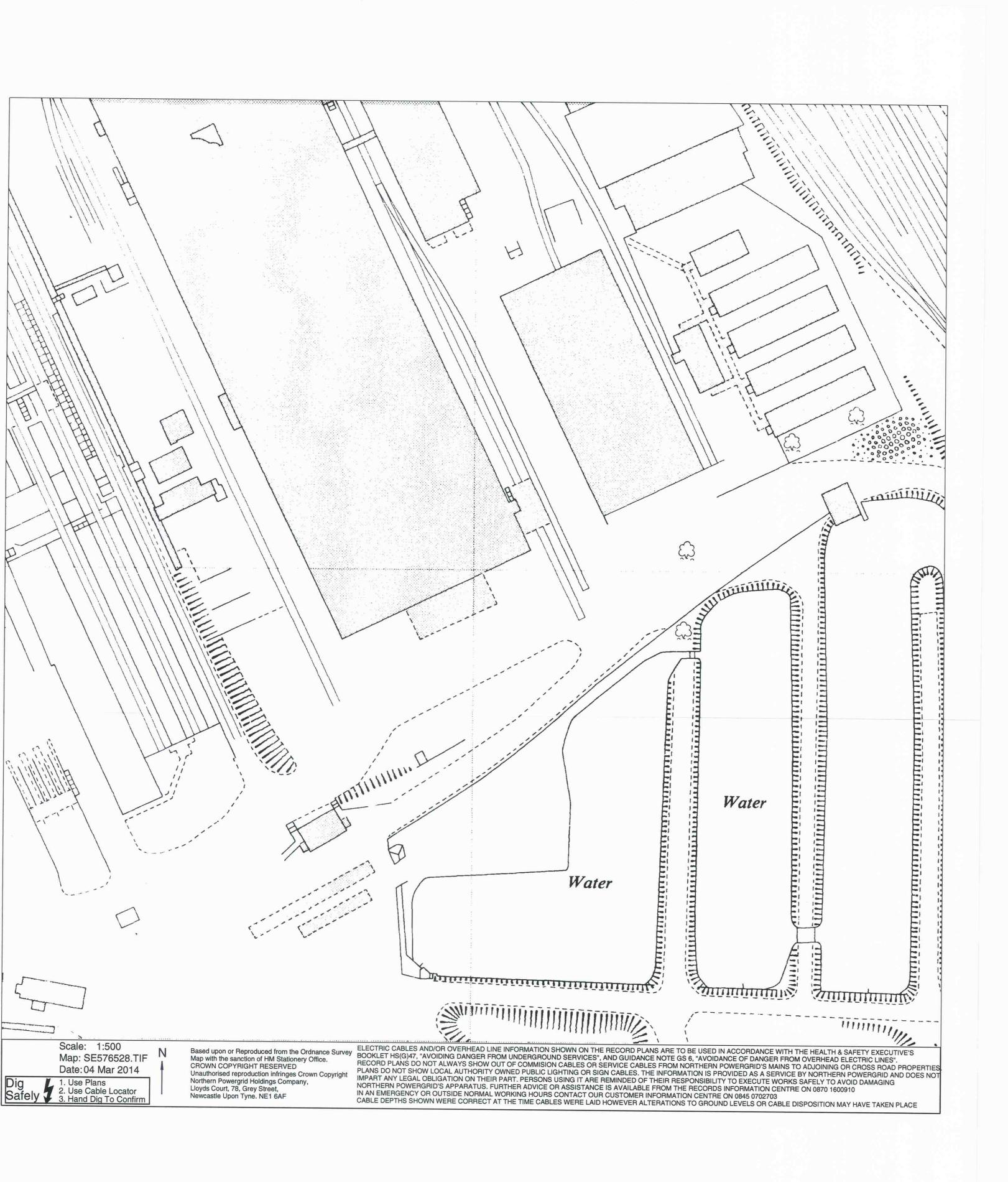


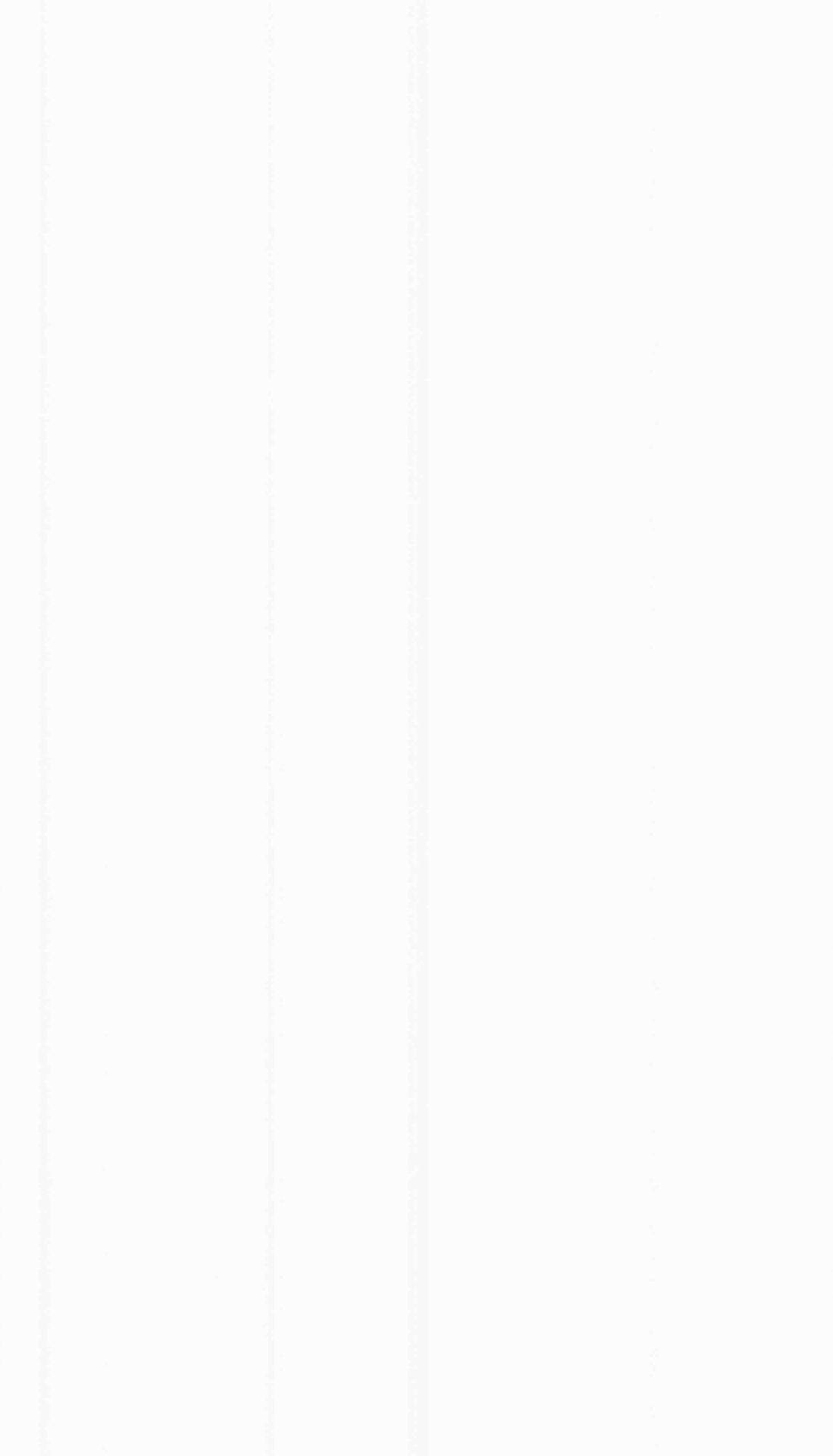


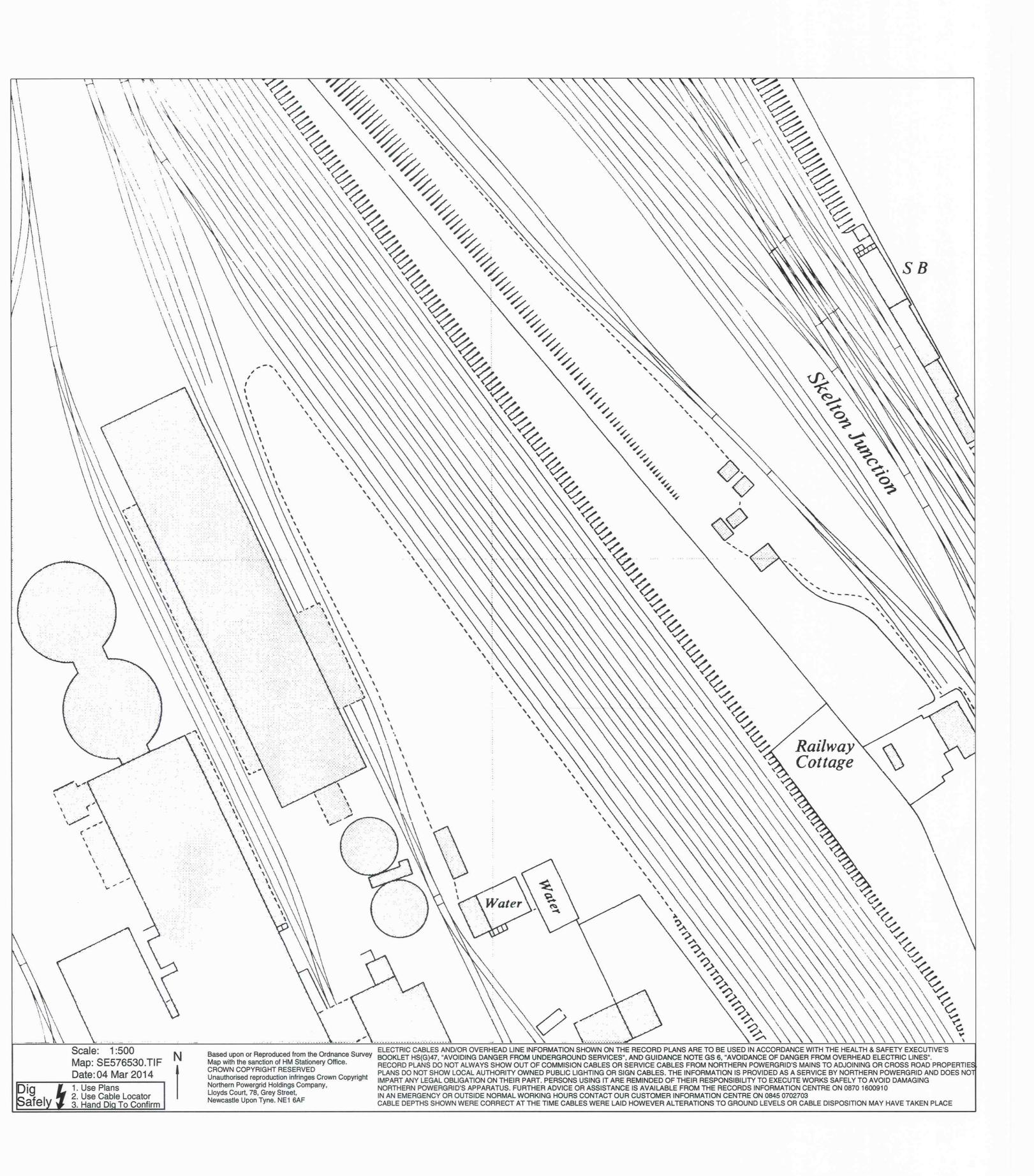


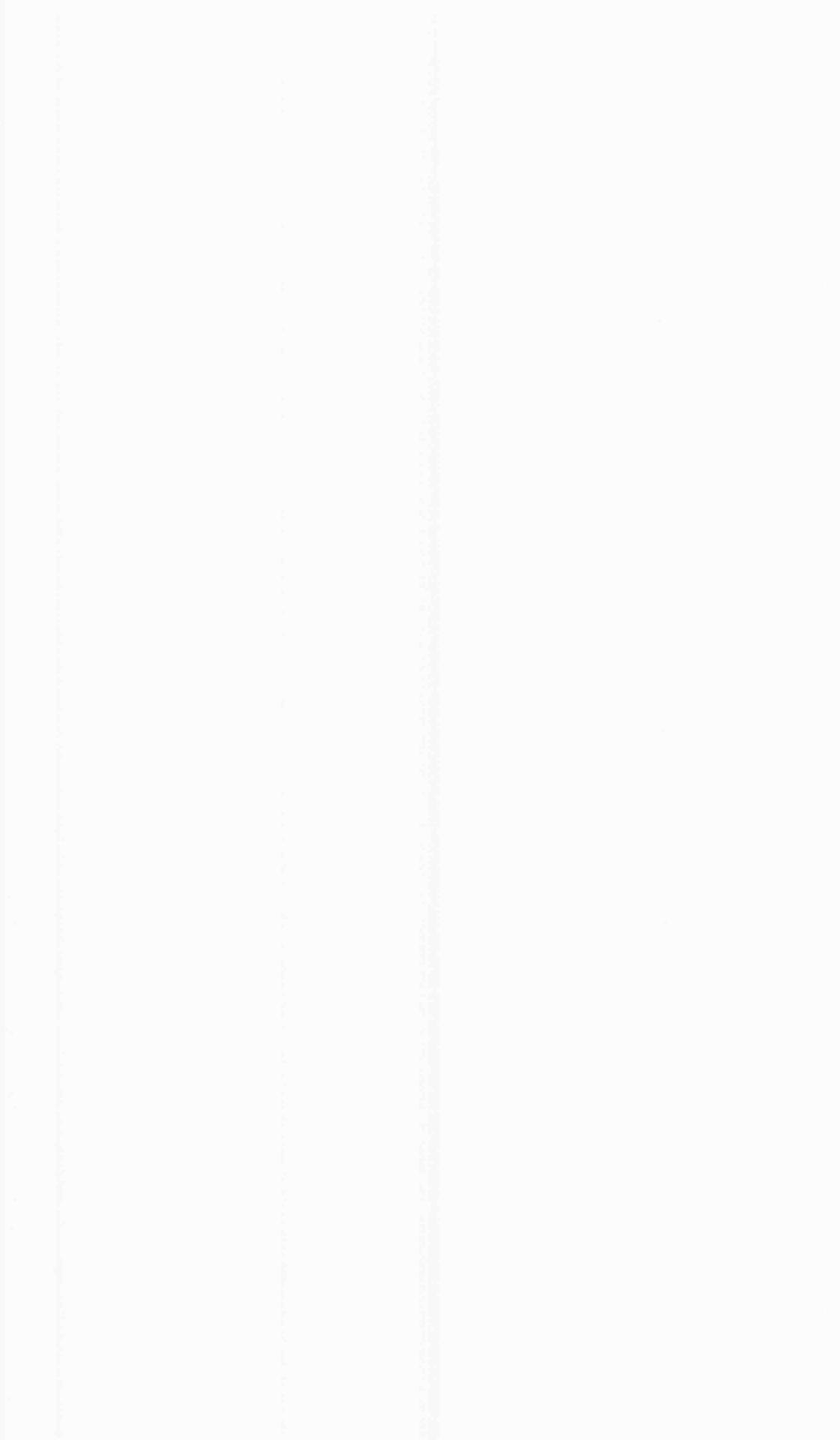


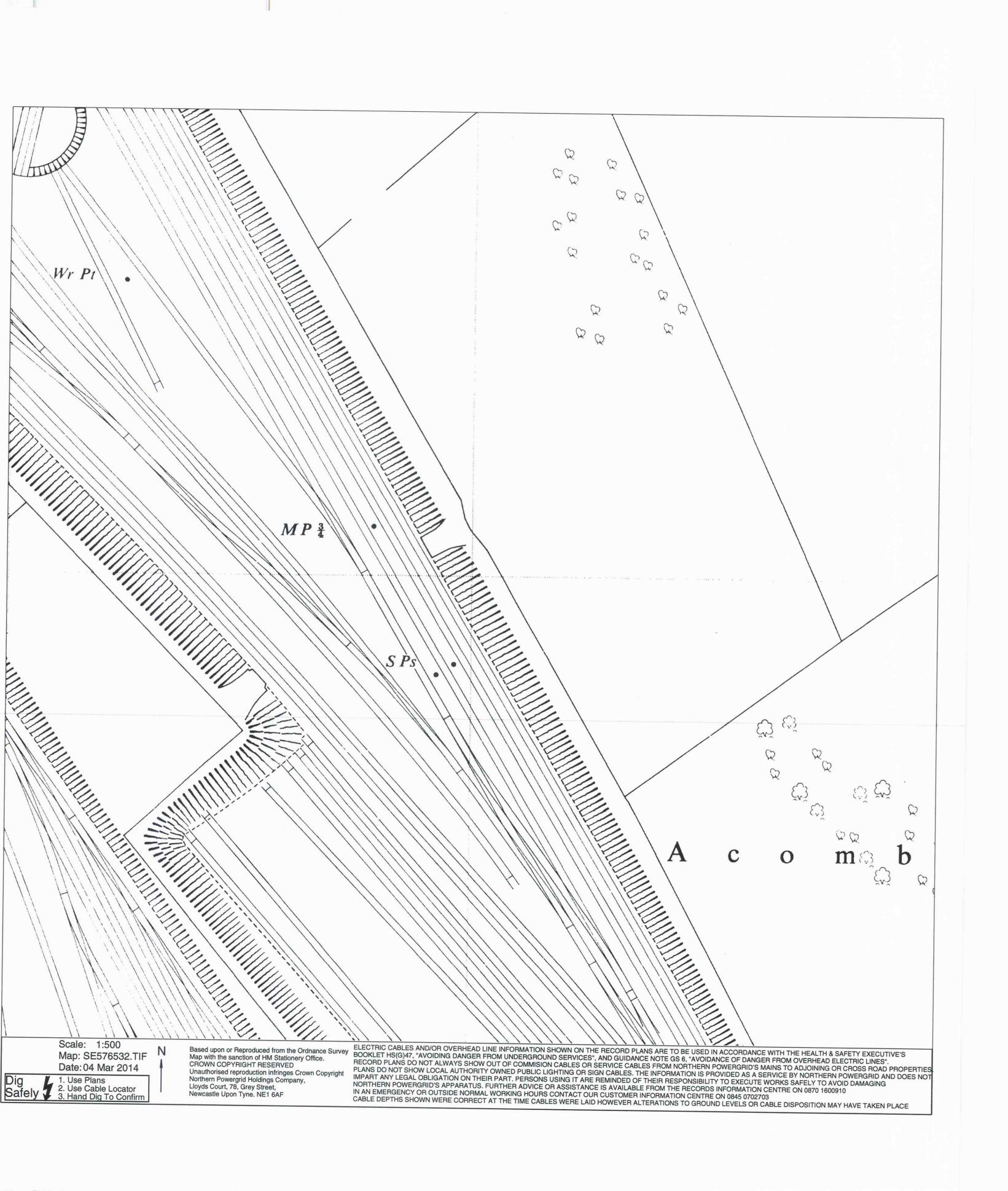


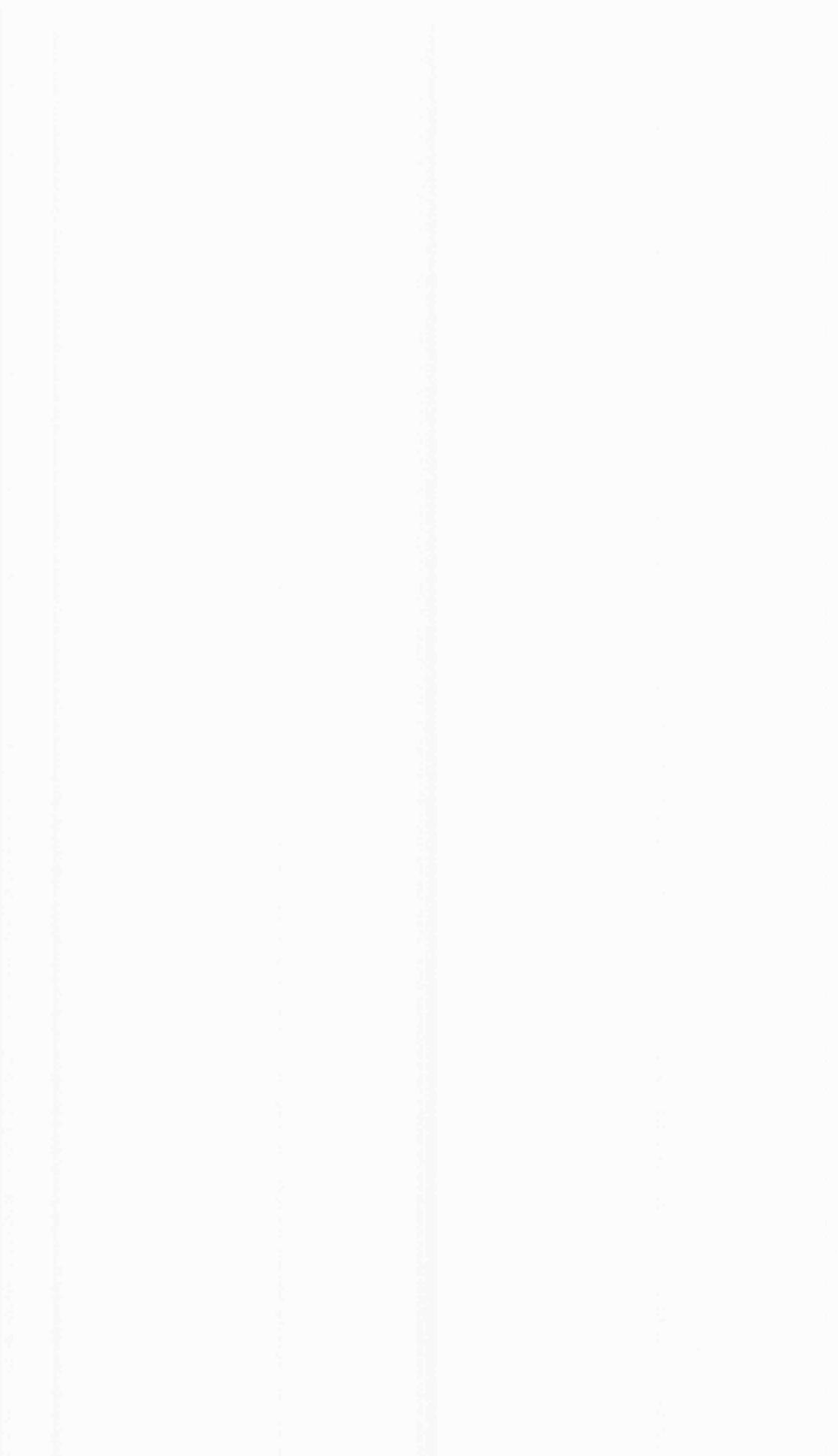


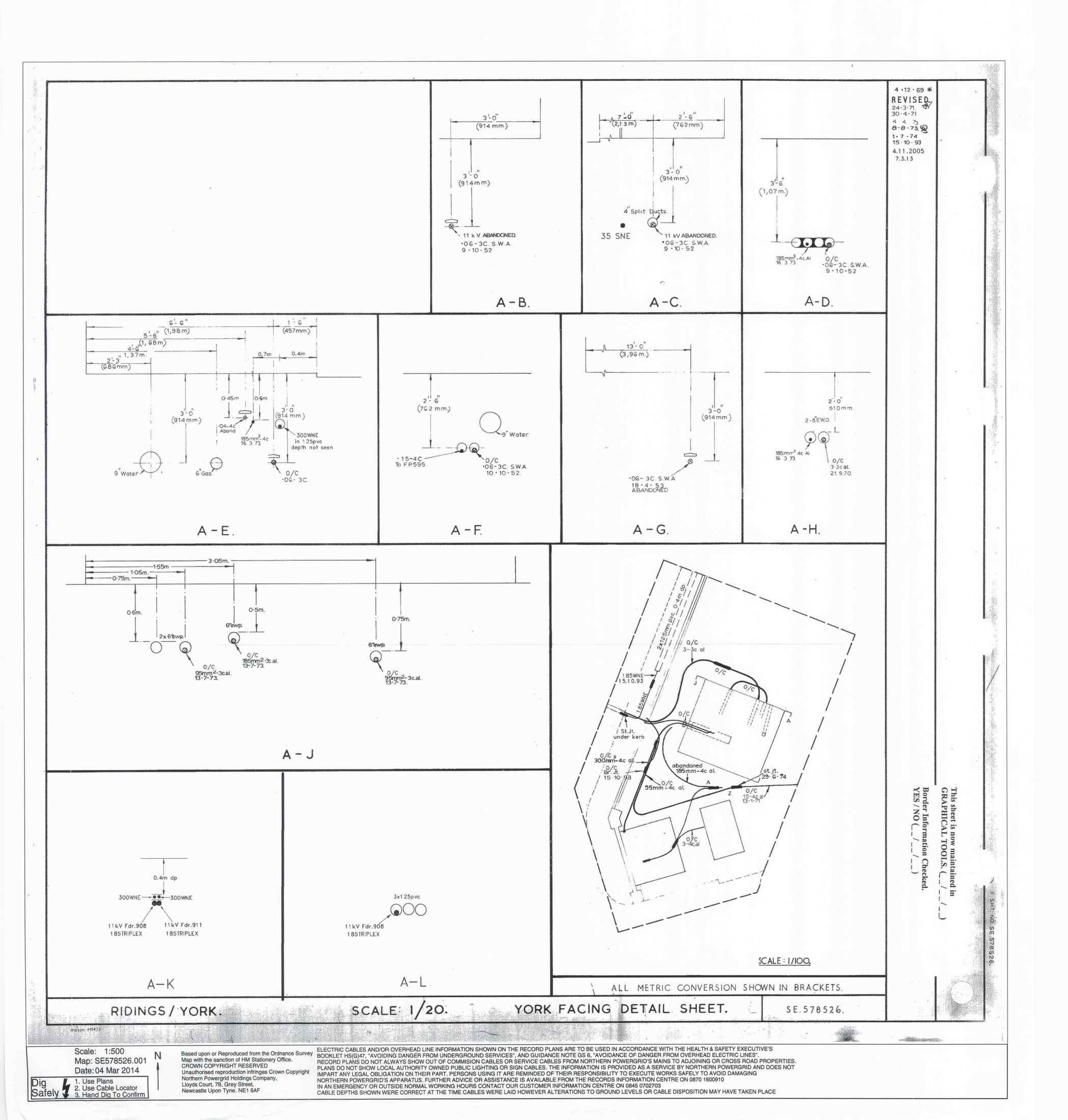


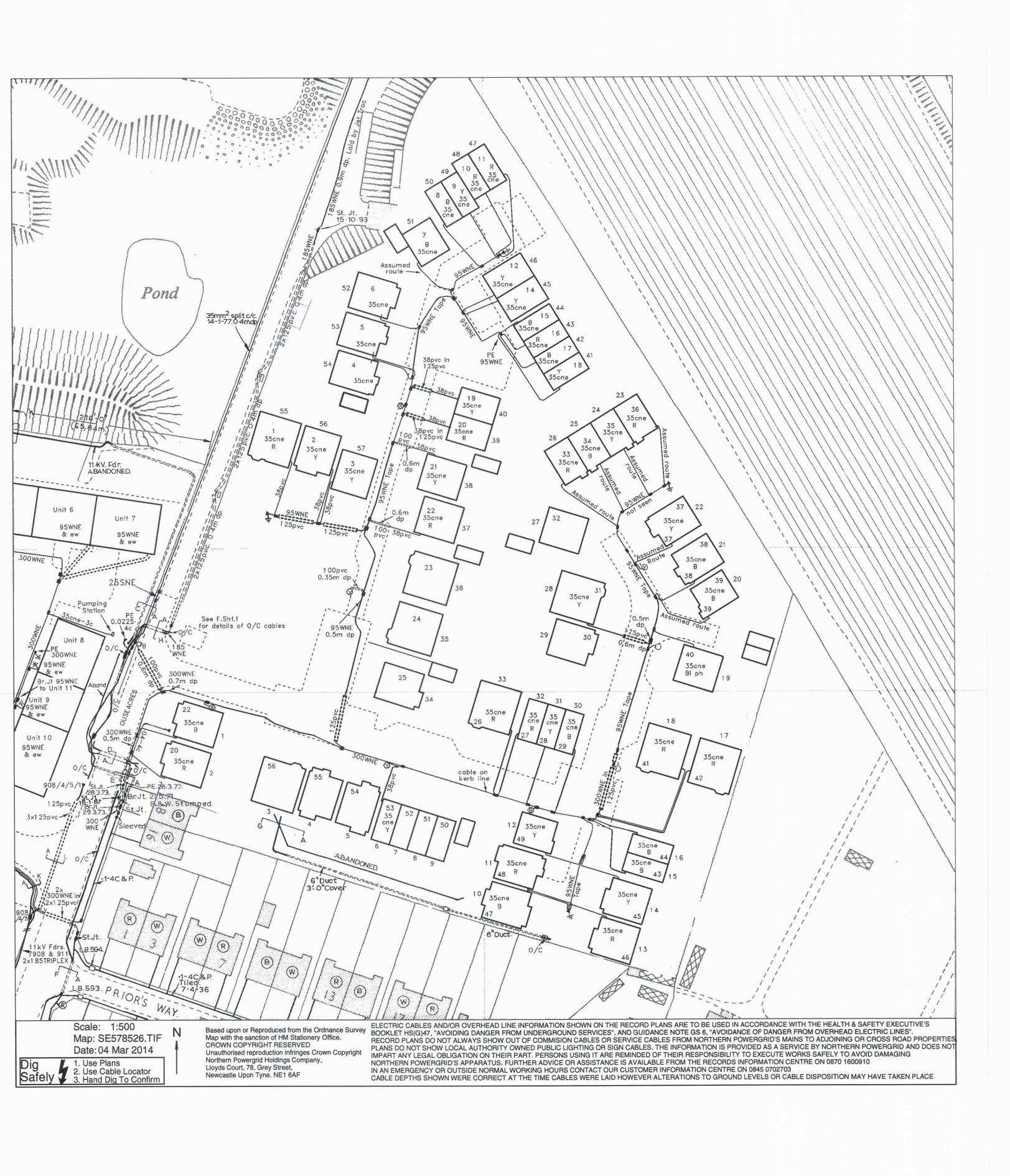


















Asil Amin St Mellons Buisness Park, Fortran Road Cardiff Uk CF3 0EY Safe-Move PO Box 99 Bradford BD3 7YB Tel: 0800 1 385 385

Your Ref: 456940 453092 Our Ref: LNX1-BA7F6F

15 March 2019

Dear Sirs,

Thank you for your request dated 12 March 2019 .

Please find enclosed the results of your Asset Record Search. If you need to discuss anything please do not hesitate to contact us.

Safe-Move enquiry completed for:	

VAT Regn. No. 500 5557 80							
Net Amount (VAT	£25.00						
Chargeable)							
VAT 20% on £25.00	£5.00						
Total Inc. VAT	£30.00						

We thank you for your enquiry and hope we can be of assistance in the future.

Yours faithfully,

YZackL

Jayne Jacklin Searches Advisor Tel: 01274 783053



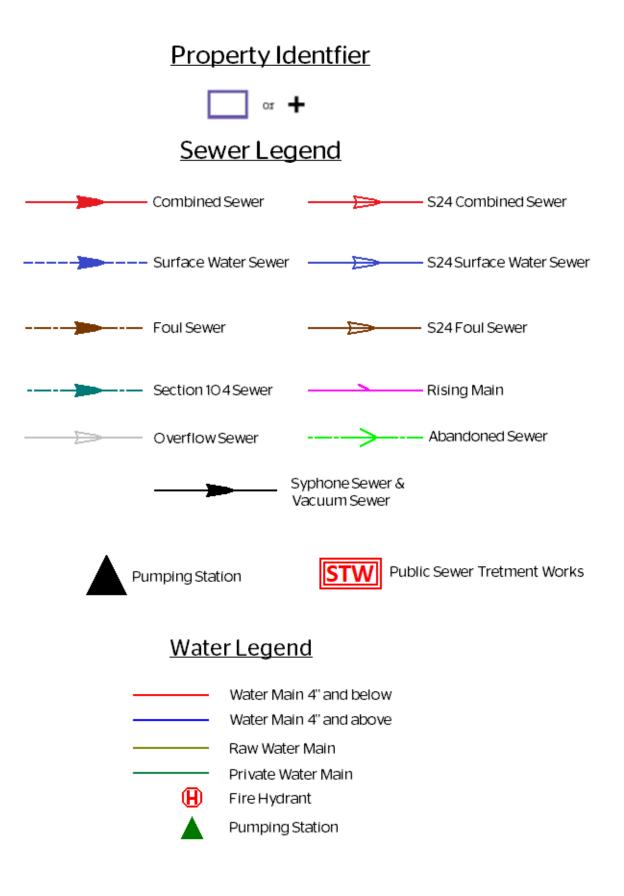
#### YORKSHIRE WATER PROTECTION OF MAINS AND SERVICES

- 1. The position of Yorkshire Water Services Ltd (YWS) apparatus shown on the existing mains record drawing(s) indicates the *general* position and nature of our apparatus and the accuracy of this information cannot be guaranteed. Any damage to YWS apparatus as a result of your works may have serious consequences and you will be held responsible for all costs incurred. Prior to commencing major works, the exact location of apparatus must be determined on site, if necessary by excavating trial holes. The actual position of such apparatus and that of service pipes which have not been indicated must be established on site by contacting the Customer Helpline on 0845 124 24 24 for both water and sewerage.
- 2. The public sewer and water network is lawfully retained in its existing position and the sewerage and water undertaker is entitled to have it remain so without any disturbance. The provisions of section 159 of the Water Industry Act 1991 provides that the undertaker may "inspect, maintain, adjust, repair or alter" the network. Those rights are given to enable the undertaker to perform its statutory duties. Any development of the land or any other action that unacceptably hindered the exercise of those rights would be unlawful. The provisions contained in Section 185 of the Water Industry Act 1991 state that where it is reasonable to do so, a person may require the water supply undertaker to alter or remove a pipe where it is necessary to enable that person to carry out a proposed change of use of the land. The provisions contained in Section 185 also require the person making the request to pay the full cost of carrying out the necessary works.
- 3. Ground levels over existing YWS apparatus are to be maintained. Sewers in highways will generally be laid to give 1200mm of cover from finished ground level working to kerb races, other permanent identification of the limits of the road or to an agreed line and level. Substantial increases or decreases to this 1200mm depth of cover will result in the sewer being re-laid at your expense. Water mains and services will generally be laid with a minimum of 750mm depth of cover however some mains and services usually those installed over 50 years ago may have less ground cover.
- 4. If surface levels are to be decreased / increased significantly the effects on existing water supply apparatus will be carefully considered and if any alterations are necessary, the costs of the alterations will be recharged to you in full. Outlets on fire hydrants must be no more than 300mm below the new levels and all surface boxes must be adjusted as part of the scheme.
- 5. To enable future repair works to be carried out without hindrance; any pipe, cable, duct, etc. installed parallel to a water main or service pipe should not be installed directly over or within 300mm of a water main or service pipe or 1000mm of a water water asset. Where a pipe, cable, duct, etc. crosses a main or service it should preferably cross perpendicular or at an angle of no less than 45° and with a minimum clearance of 150mm. These requirements apply to activities within an existing highway and are relevant to the installation of pipes, cables, ducts, etc. up to and including 250mm in diameter (see illustration below). Necessary protection measures for installations greater than 250mm in diameter and/or in private land will need to be agreed on an individual basis. Installations within a new development site must comply with the National Joint Utilities Group publication Volume 2: NJUG Guidelines On The Positioning Of Underground Utilities Apparatus For New Development Sites.
- 6. All excavation works near to YW apparatus should be by hand digging only.
- 7. Backfilling with a suitable material to a minimum 300mm above YW apparatus is required.
- 8. Adequate support must be provided where any works pass under YW apparatus.
- 9. Jointing chambers, lighting columns and other structures must be installed in such a way that future repair or maintenance works to YW apparatus will not be hindered.
- 10. Apparatus such as; railings, sign posts, etc. must not be placed in such a way that they prevent access to or full operation of controlling valves, hydrants or similar apparatus. YWS surface boxes must not be covered or buried. Any adjustment, alteration or replacement of manhole covers must be agreed on site prior to the commencement of the works with a YWS Inspector who may be contacted via our Call Centre on 0845 124 24 24.
- 11. Explosives shall not be used within 100 metres of any Yorkshire Water Services apparatus or installations.
- 12. Vibrating plant should not be used directly over any apparatus. Movement or operation by vehicles or heavy plant is not to be permitted in the immediate vicinity of YWS plant or apparatus unless there has been prior consultation and, if necessary, adequate protection provided without cost to YWS.
- 13. **Under no circumstances** should thrust boring or similar trenchless techniques commence until the actual position of the Company's mains/services along the proposed route have been confirmed by trial holes.
- 14. Any alterations to the highway should be notified following the procedures outlined in the New Road and Street Works Act 1991 Code of Practice; Measures Necessary Where Apparatus Is Affected By Major Works (Diversionary Works).
- 15. You will be held responsible for any damage or loss to YWS apparatus during and after completion of work, caused by yourselves, your servant or agent. Any damage caused or observed to YWS plant or apparatus should be immediately reported to YWS. Should YW incur any costs as a result of non-compliance with the above, all costs will be rechargeable in full.
- 16. You should ensure that nothing is done on the site to prejudice the safety or operation of YWS employees, plant or apparatus.

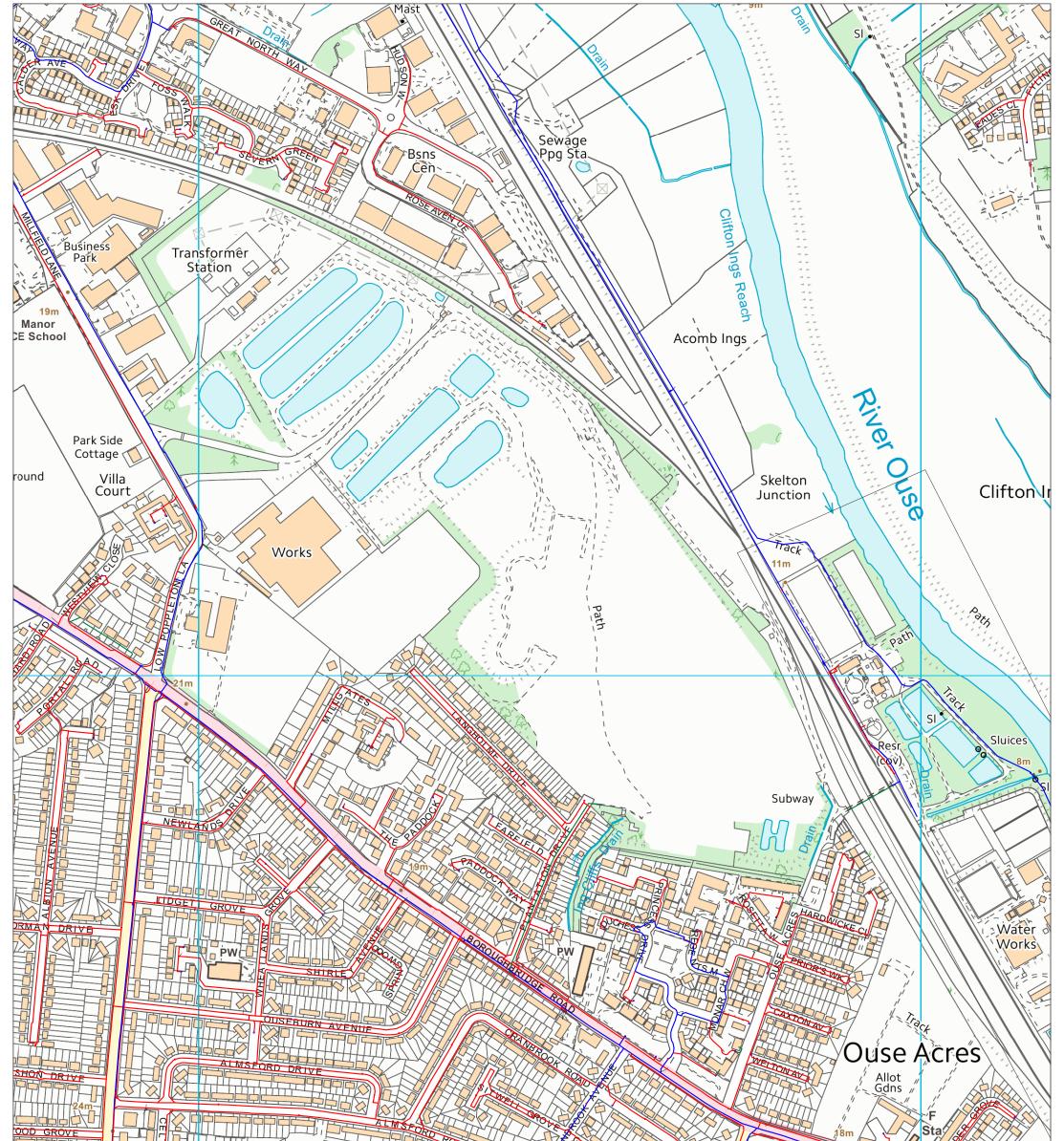


- 17. In accordance with the New Roads and Street Works Act 1991, Chapter 22, Part 3, Section 80. The location of any identified YW asset "which is not marked, or is wrongly marked, on the records made available " should be communicated back to Yorkshire Water. The location of the apparatus should be identified on copies of the supplied plans which should be returned to Yorkshire Water (Asset Records Team) with photographic supporting evidence where possible.
- 18. The Government has decided that responsibility for private sewers serving two or more properties and lateral drains (the section of pipe beyond the boundary of a single property, connecting it to the public sewer) will be transferred to the water companies on Oct 1 2011. Private pumping stations will also transfer during the period 1 October 2011 1 Oct 2016. Records of these assets may not yet be shown on the existing mains record drawing(s). If you encounter any of these assets you must inform Yorkshire Water Services Ltd (YWS).
- 19. Please note that the information supplied on the enclosed plans is reproduced from Ordnance Survey material with the permission of the Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office, © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Licence Number 1000019559.
- 20. This information is for guidance only and the position and depth of any YW apparatus is approximate only. Likewise, the nature and condition of any YW apparatus cannot be guaranteed. YW has no responsibility for recording the locations of privately owned apparatus. As of 1 October 2011, there may be some lateral drains and/or public sewers which are not documented on YW records but may still be present. For the avoidance of doubt, this information is not a substitute for appropriate professional and/or legal advice. YW accepts no responsibility for any inaccuracy or omissions in this information. The actual position of YW apparatus must be determined on site by excavating trail holes by hand. YW requires a minimum of two working days' written notice of the intention to excavate any trial holes before any excavation can be undertaken. If there are any queries in this respect please contact Yorkshire Water on 0345 124 24 24.





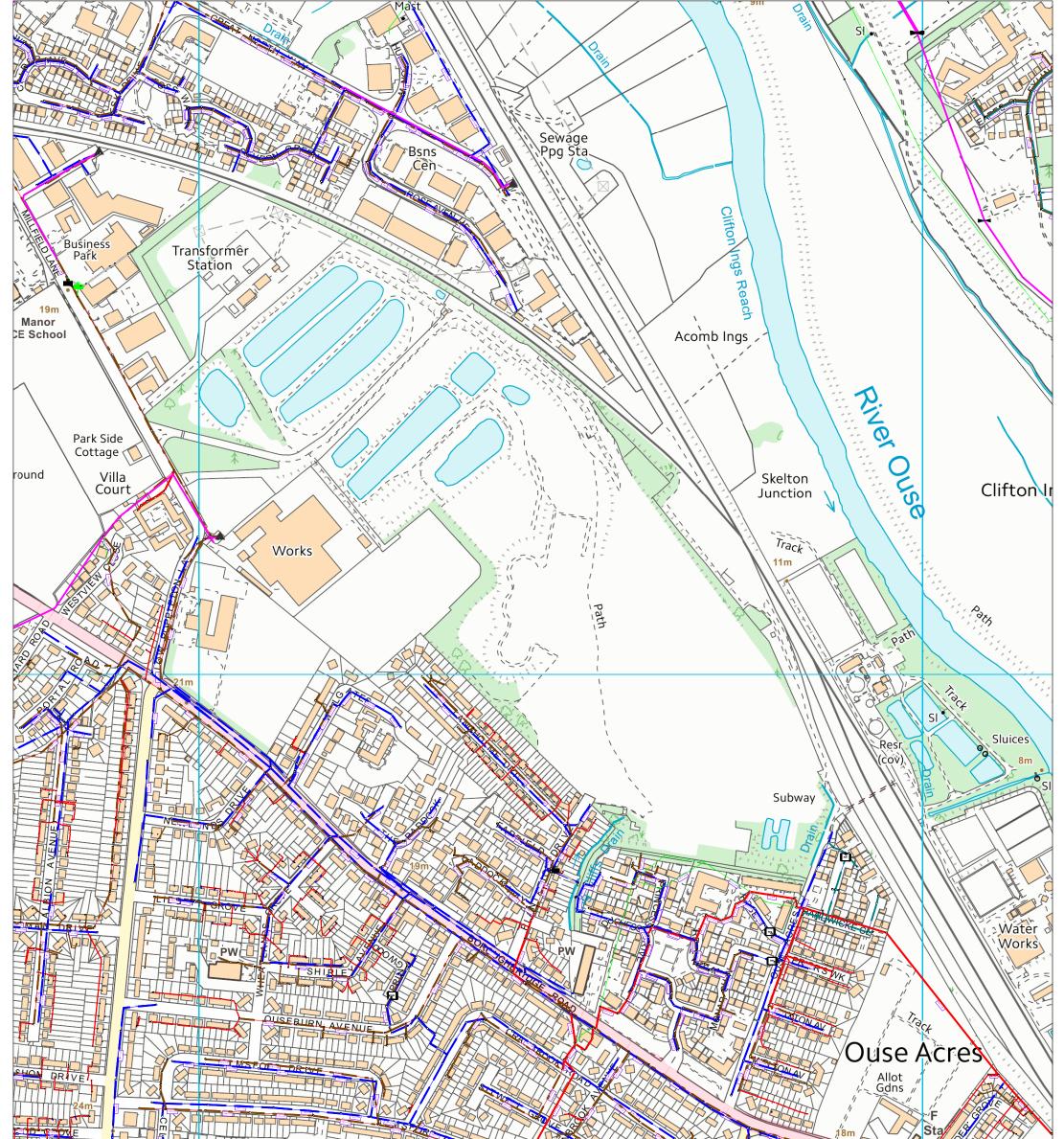




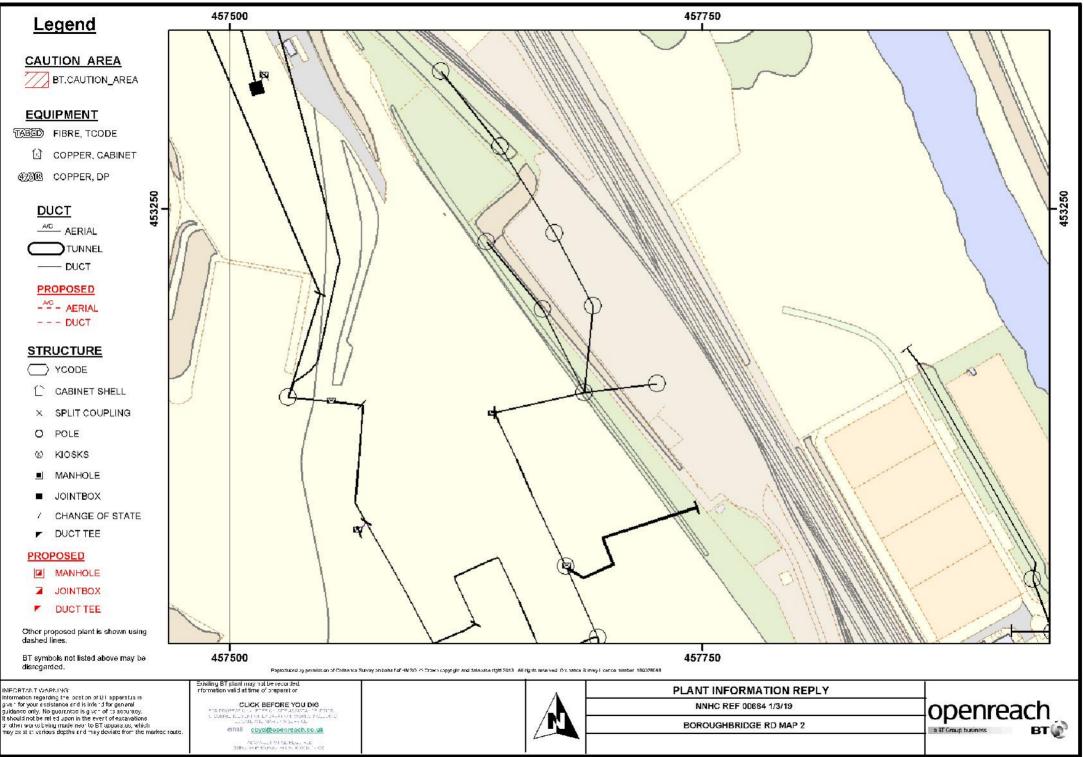
SROE CTOSET	schools			Sch Sch
	457040 : 452505	Map Name : SE5652SE	Title	
		Yorkshire Water, PO Box 500,	Notes	
	YorkshireWater	Halifax Road, Bradford BD6 2LZ Contact Name : jacklin Contact Tel :	Partial Key         Water mains up to 4" in diameter         Water mains over 4" in diameter         Raw water mains	The position and depths of apparatus shown on this plan are approximate only. The exact positions and depths should be obtained by excavation trial holes.
			Private water mains	Scale : 1:5000
Registered Office, Yorkshire Water Services Umited. Western House, Hailfax Road, Bradford BD6 252, Registered in England and Wales No. 2366682		A part of Yorkshire	Drg No :	Maris No : Date Gen : 15/03/2019, 15:31:30

UPN: Undefined

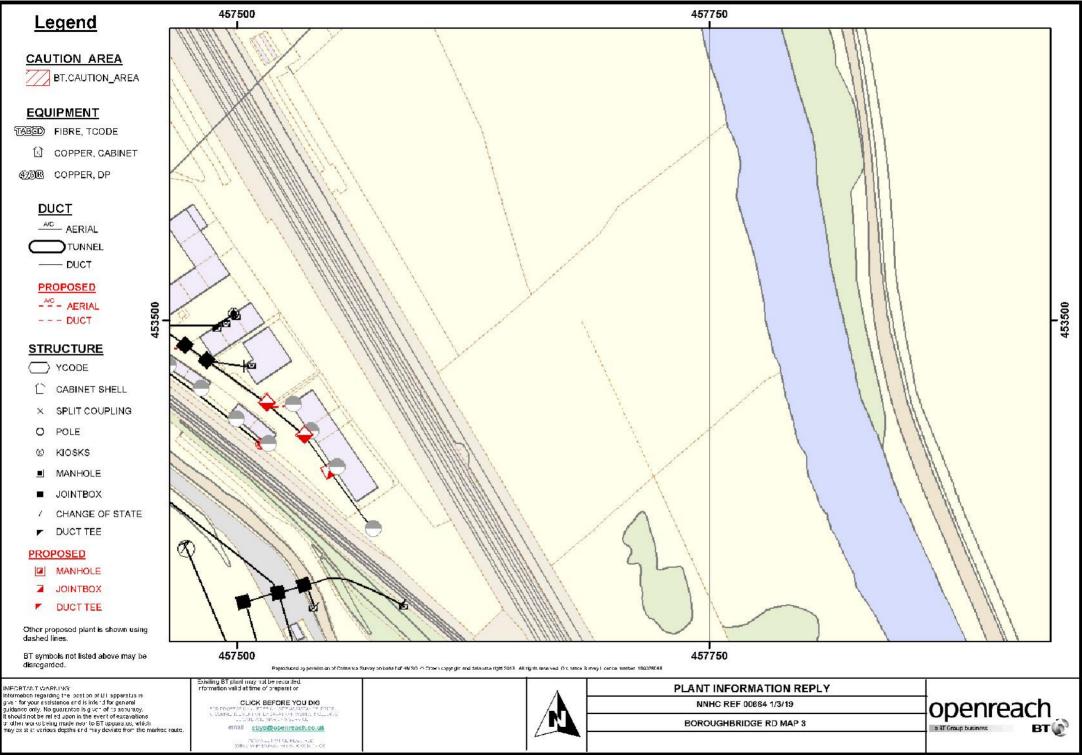
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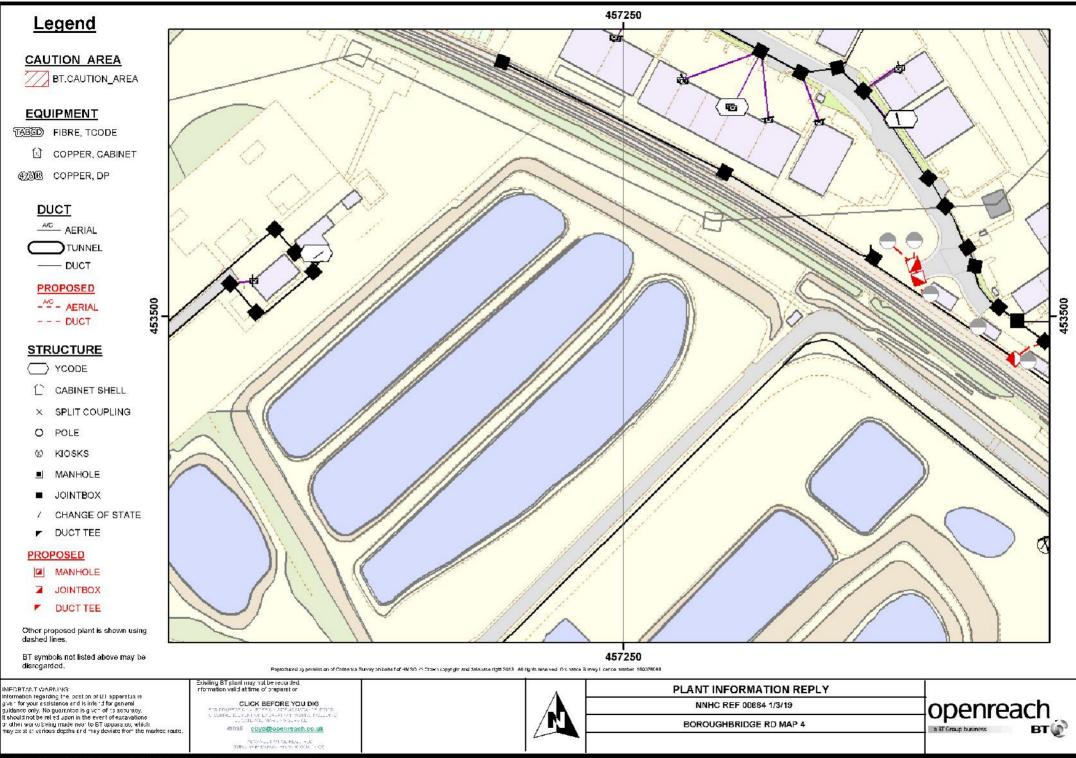
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PO Box 500, Haliax Road, Bradford BD6 2LZ Ontact Name : jacklin Contact Tel :       Partial Key Partial Key Tou Sewer = F Ontact Name : jacklin Contact Tel :       Partial Key Partial Key Tou Sewer = F Ontact Name : jacklin Contact Tel :       This plan is furnished as a general suide only and no warranty as to Be or morplets. This plan is furnished as a general suide only and no warranty as to Be or morplets. This plan is furnished as a general suide only and no warranty as to Be or morplets. This plan is furnished as a general suide only and no warranty as to Be or morplets. This plan is furnished as a general suide only and no warranty as to Be or morplets. This plan is furnished as a general suide only and no warranty as to Be or morplets. This plan is furnished as a general suide only and no warranty as to Be or morplets. This plan is furnished as a general suide only and no warranty as to Be or morplets. This plan is furnished as a general suide only and no warranty as to Be or morplets. This plan is furnished as a general suide only and no warranty as to Be or morplets. The bioinformation on the world on the world on public severs. No house or property connections are shown.         Perture Sever = SW Trade Sever = D Partial Segurate = PS       Safe Cen : 15/03/2019, 15:31:53       Date Gen : 15/03/2019, 15:31:59         Western Hause, Haitor Road Part of Do SSZ. Registered In Engler dard Waters No. 286682       Safe Cen : Sever Network Enquiny       Source : Sever Network Enquiny		457040 : 452505	Map Name : SE5652SE	Title	
Partial Key       This pain equared out own available so the relied upon in the event of excavations or other works made in the violity of public severes. No house or property connections are shown.         Partial Key       Fartial Key         Contact Name :       jacklin         Jacklin       Contact Tel :         Registered Office, Yorkshire Water Services Limited.       Western House, Haltak Read, Bractord BD6 25Z, Registered in Erglend and Water No. 256652			PO Box 500,	Notes	
Registered Office, Vorkshine Water Services Limited.         Western House, Hallitax Road, Bractford EDG25Z, Registered In England and Wates No. 2366682             Safe No             A part of Yorkshine             Source :       Sewer Network Enquiry		YorkshireWater	Bradford BD6 2LZ Contact Name : jacklin	Foul Sewer = F Combined Sewer = C Surface Water Sewer = SW	This plan is furnished as a general guide only and no warranty as to its correctness is given or implied. This plan must not be relied upon in the event of excavations or other works made in the vicinity of public sewers. No house or property connections are shown.
	Western House, Halifax Road, Bradford BD625Z Registered in England and Wales No. 2366682			Date Req : 15/03/2019, 15:31:53	Date Gen : 15/03/2019, 15:31:59



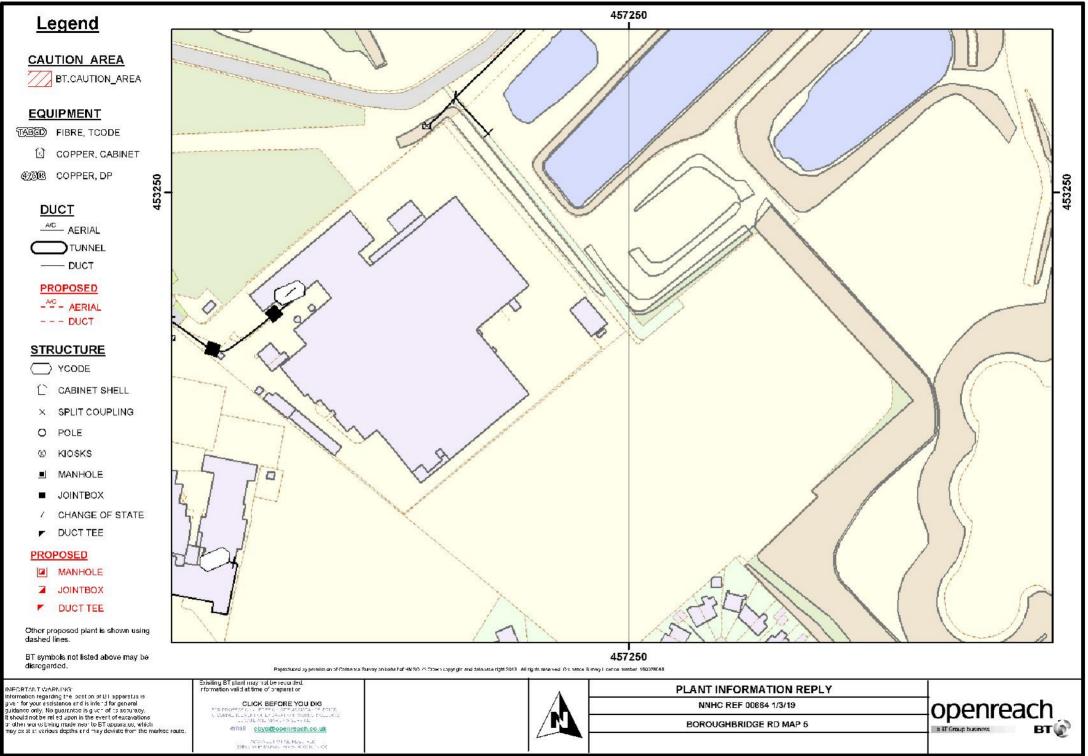
<sup>(</sup>C) British Telecommunications plc = INC\_NOTICE\_FLCTTemplate Tissue / (Revised June 2007)



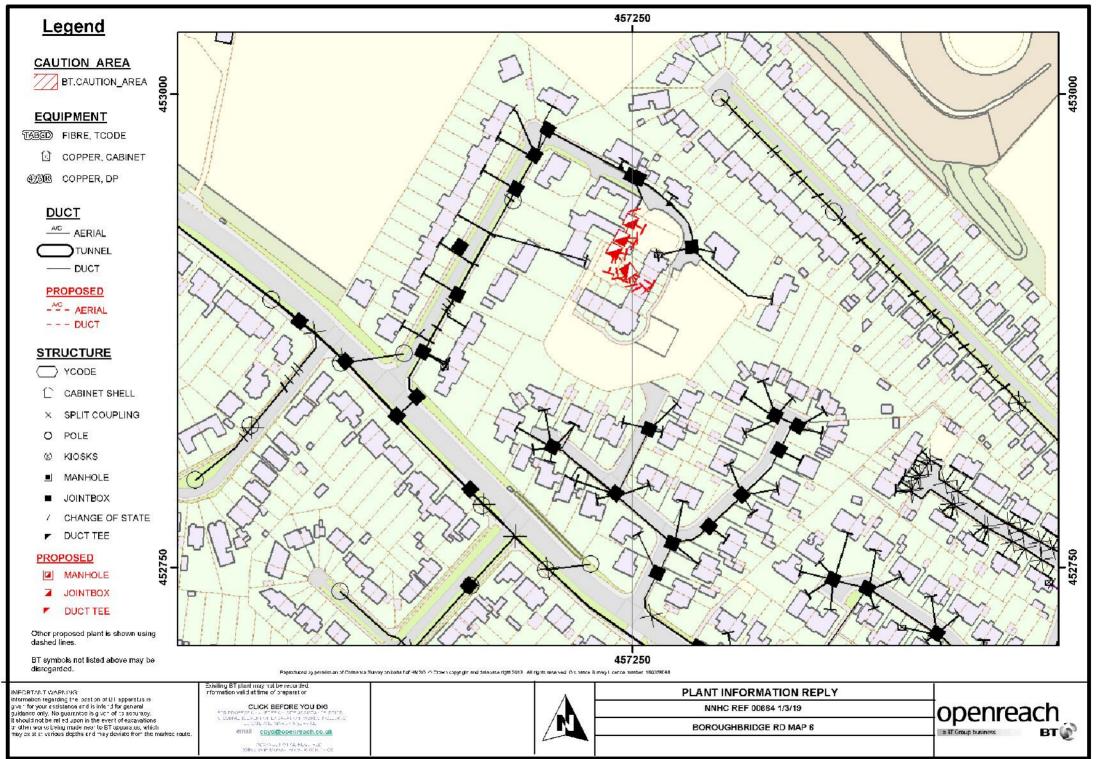
(C) British Telecommunications plc \_ INC\_NOTICE\_FLCT Template \_ Issue / (Revised June 2007)



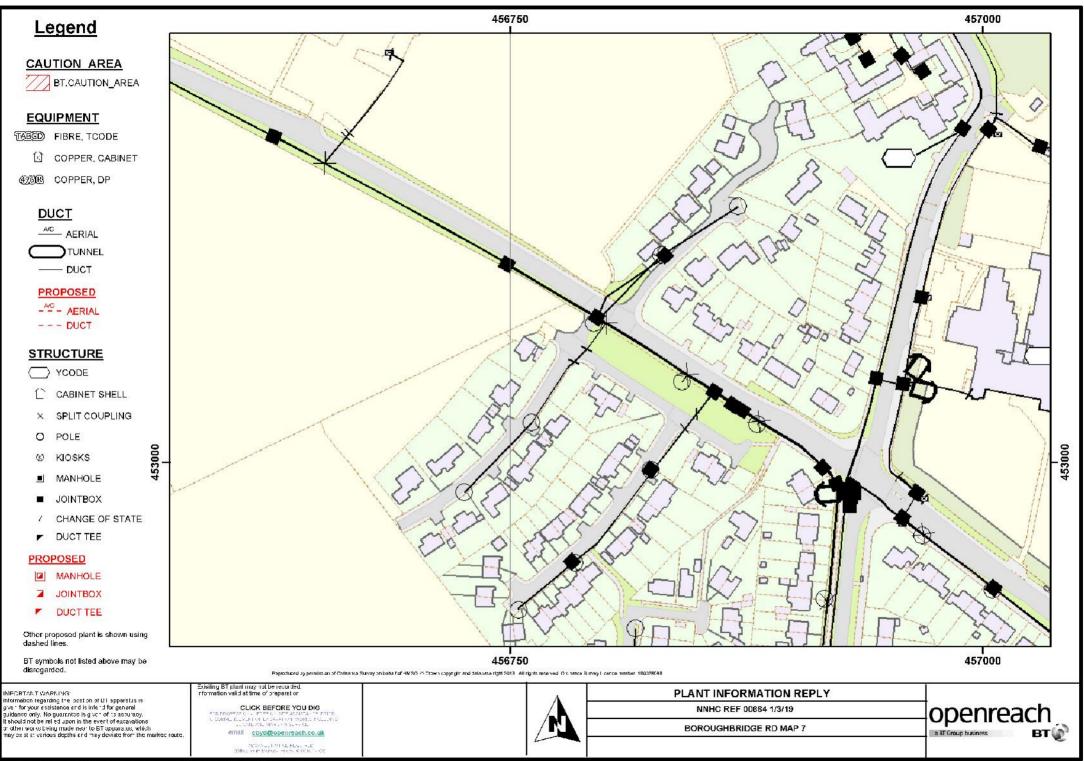
(C) British Telecommunications plc = INC\_NOTICE\_FLCTTemplate Tissue / (Revised June 2007)



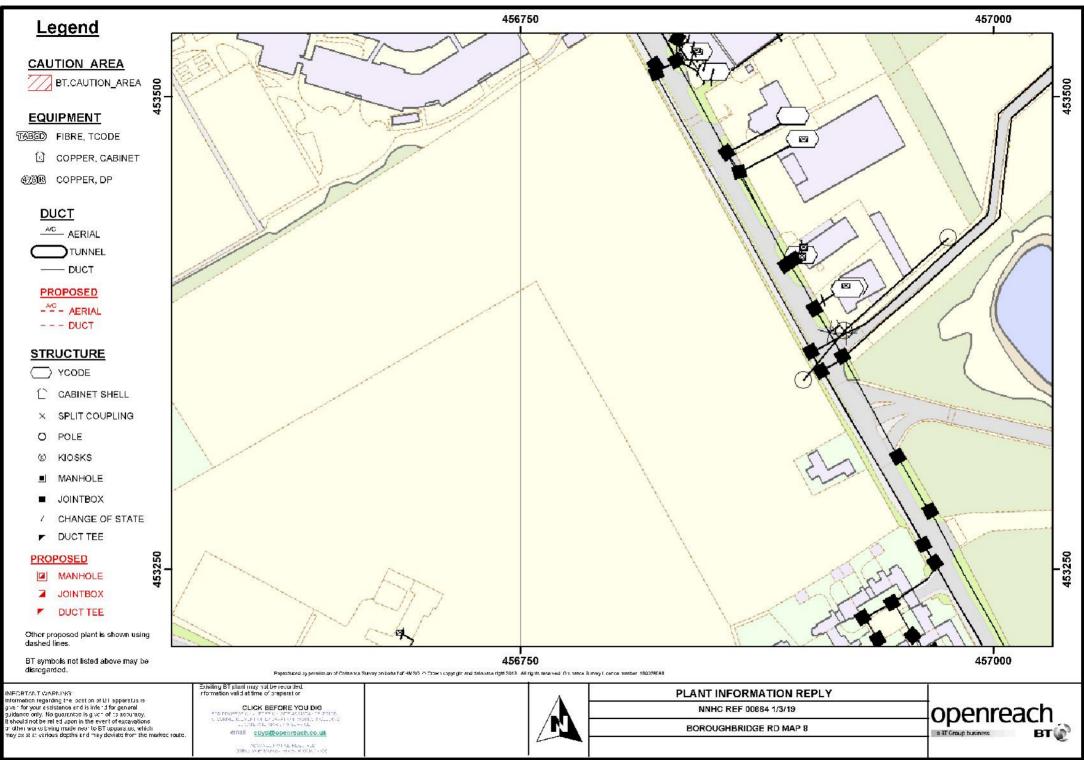
<sup>(</sup>C) British Telecommunications plc \_ IVC\_NOTICE\_FLCT Template \_ Issuer (Revised June 2007)



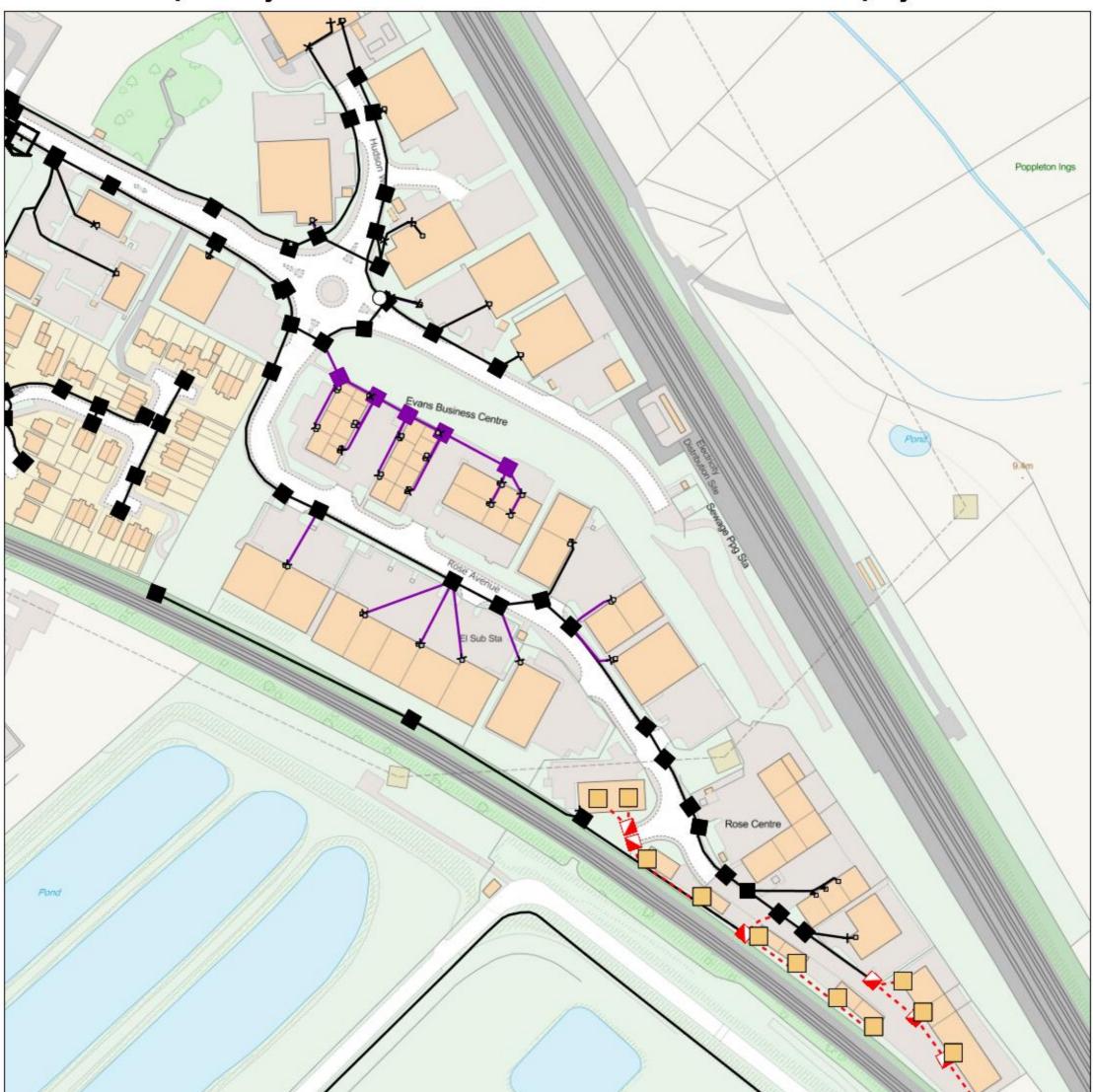
(C) British Telecommunications plc = IVC\_NOTICE\_FLC1 Template Tissue? (Revised June 2007)



(C) British Telecommunications plc = IVC\_NOTICE\_FLC1 Template Tissue? (Revised June 2007)



(C) British Telecommunications plc INC\_NOTICE\_FLCT Template Tissue? (Revised June 2007)



### IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.

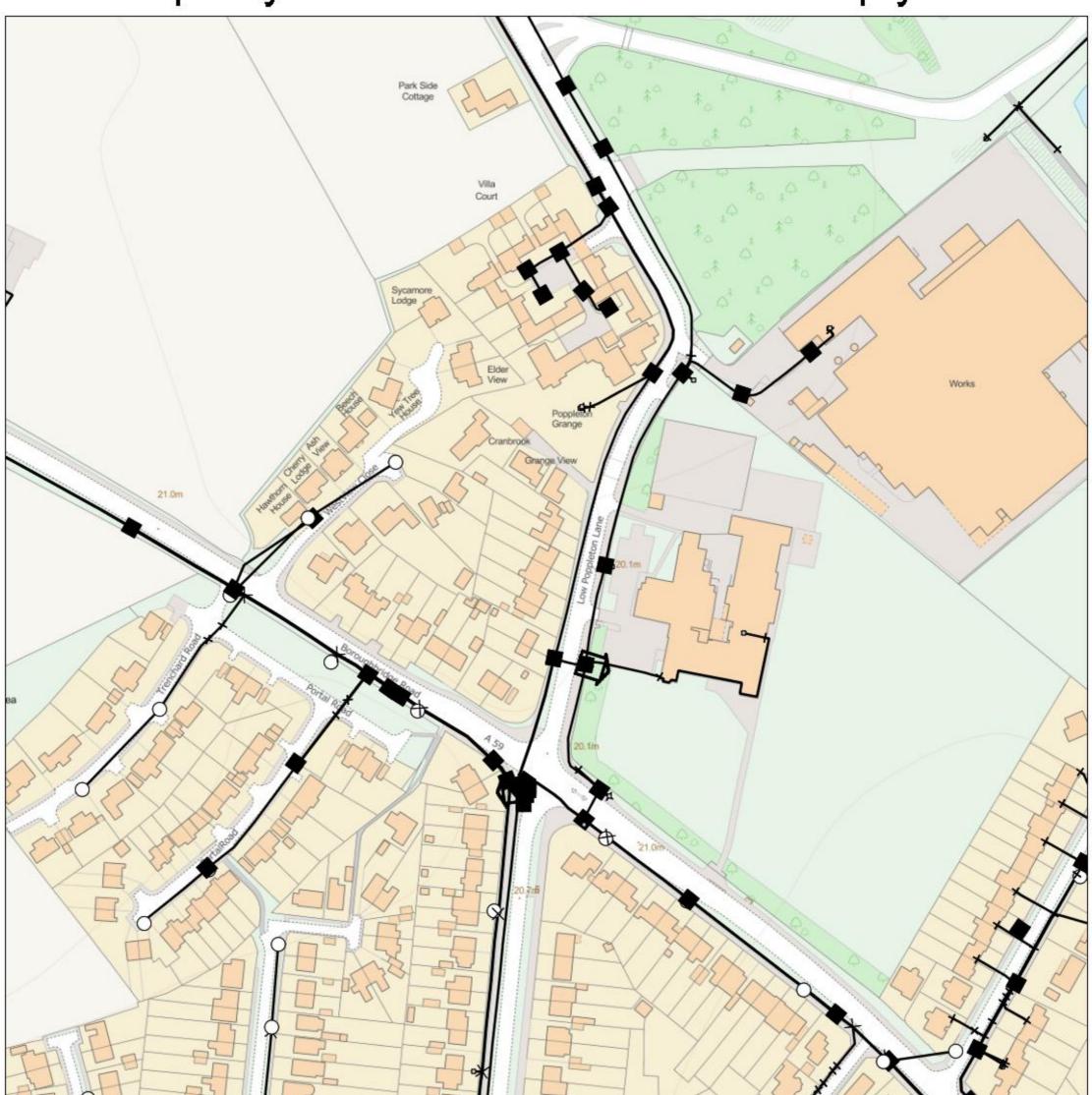


KEY	KEY TO BT SYMBOLS		Change Of State	CONTRACTOR AND A CONTRACT		***
	Planned	Live	Split Coupling	$\times$	Built	~
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Cabinet		Û	Existi	ing <mark>BT Pla</mark> nt n	bove may be di nay not be reco	rded.
					e of preparation ter the date of p	
	Pending Add	In Place	Pending Remove	Not In Use		
Power Cable	++	NN	##:	NN		
Power Duct	++	NN	+++	N/A	1	

BT Ref : DXJ025130

Map Reference : (centre) SE5736653653 Easting/Northing : (centre) 457366,453653

Issued : 18/02/2019 14:51:11



### IMPORTANT WARNING

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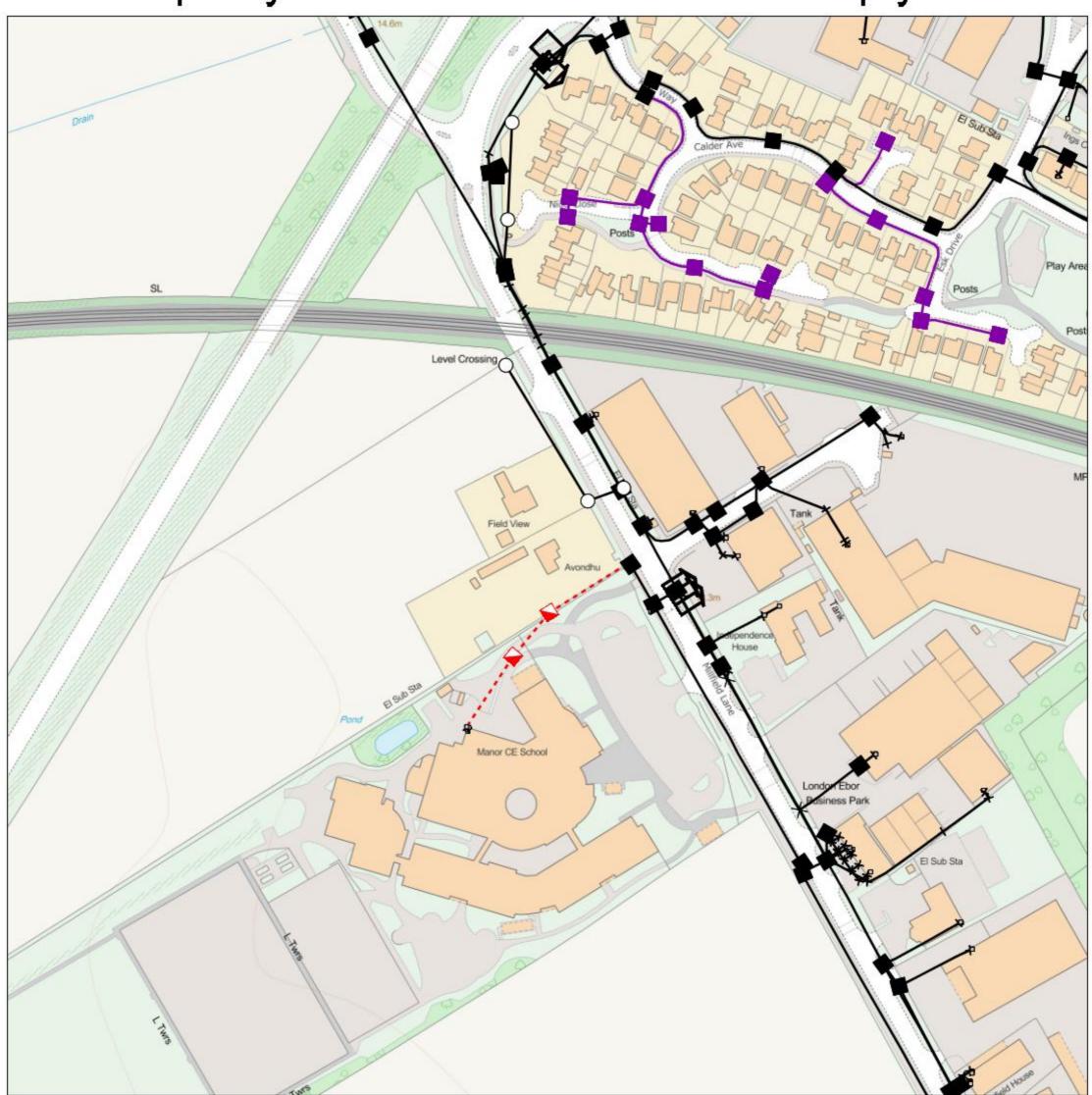


KEY TO BT SYMBOLS		Change Of + State		Hatchings	$\otimes$	
	Planned	Live	Split Coupling	$\times$	Built	~
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Power Duct	##	NN	+++	N/A	1	

BT Ref : HGO02448Z

Map Reference : (centre) SE5694053092 Easting/Northing : (centre) 456940,453092

Issued : 18/02/2019 14:44:42



### IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.

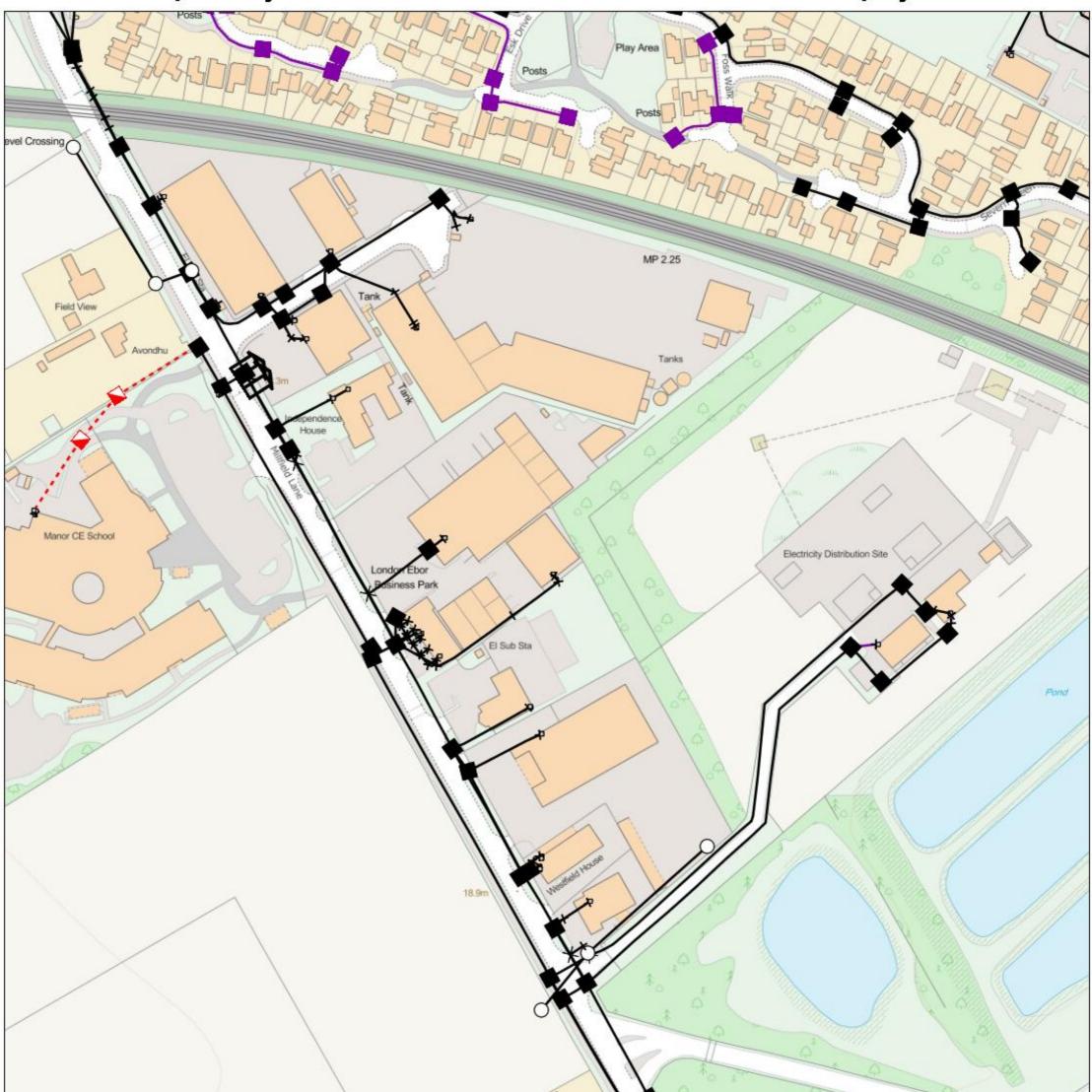


KEY	KEY TO BT SYMBOLS		Change Of + State		Hatchings	***	
	Planned	Live	Split Coupling	×	Built	~	
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BT Ref : MNT02511N

Map Reference : (centre) SE5670353660 Easting/Northing : (centre) 456703,453660

Issued : 18/02/2019 14:51:38



### IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.

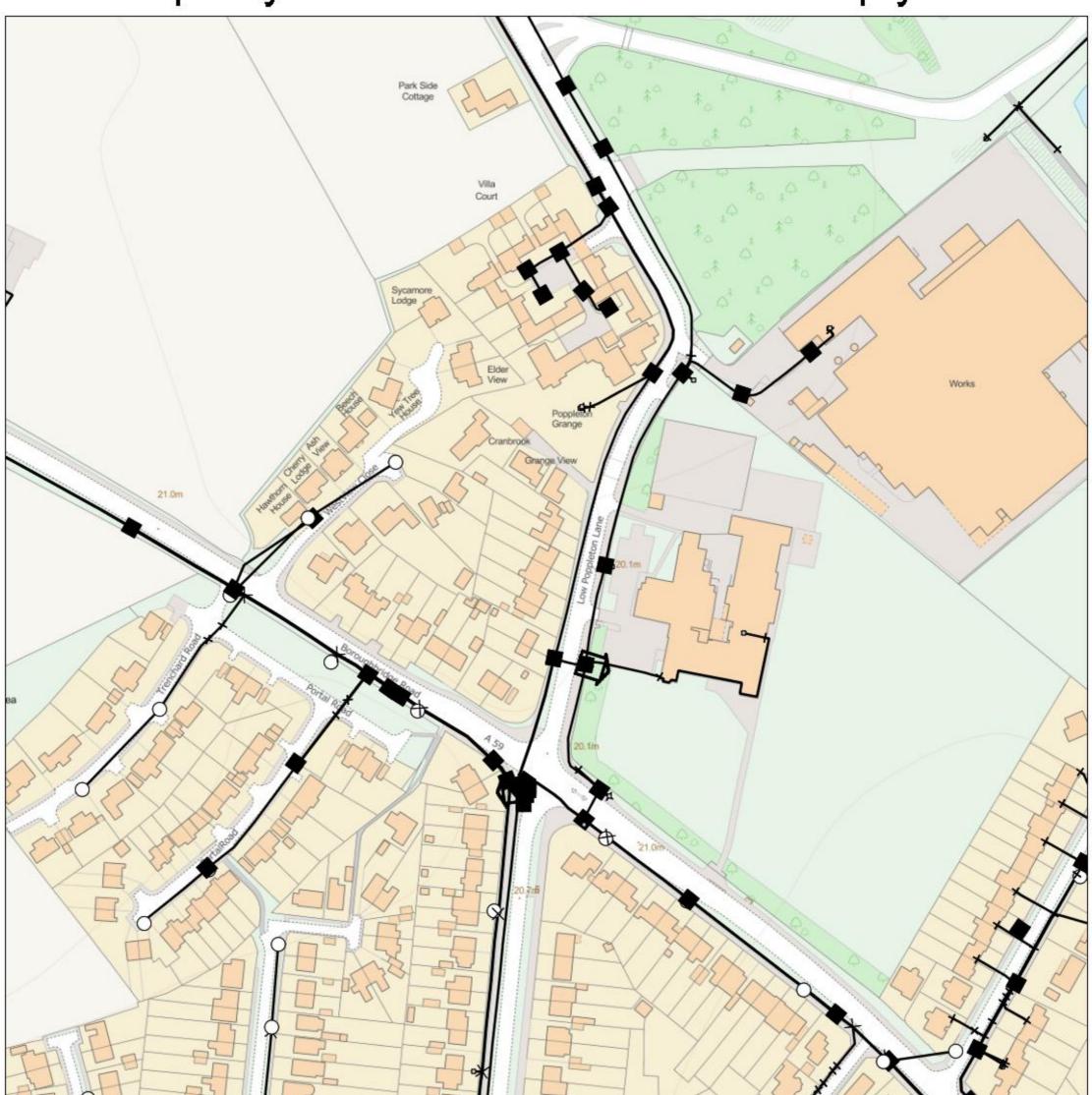


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			only valid f	or 90 days af	ter the date of p	publication.			
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BT Ref : NNS02527L

Map Reference : (centre) SE5690253561 Easting/Northing : (centre) 456902,453561

Issued : 18/02/2019 14:52:50



### IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.

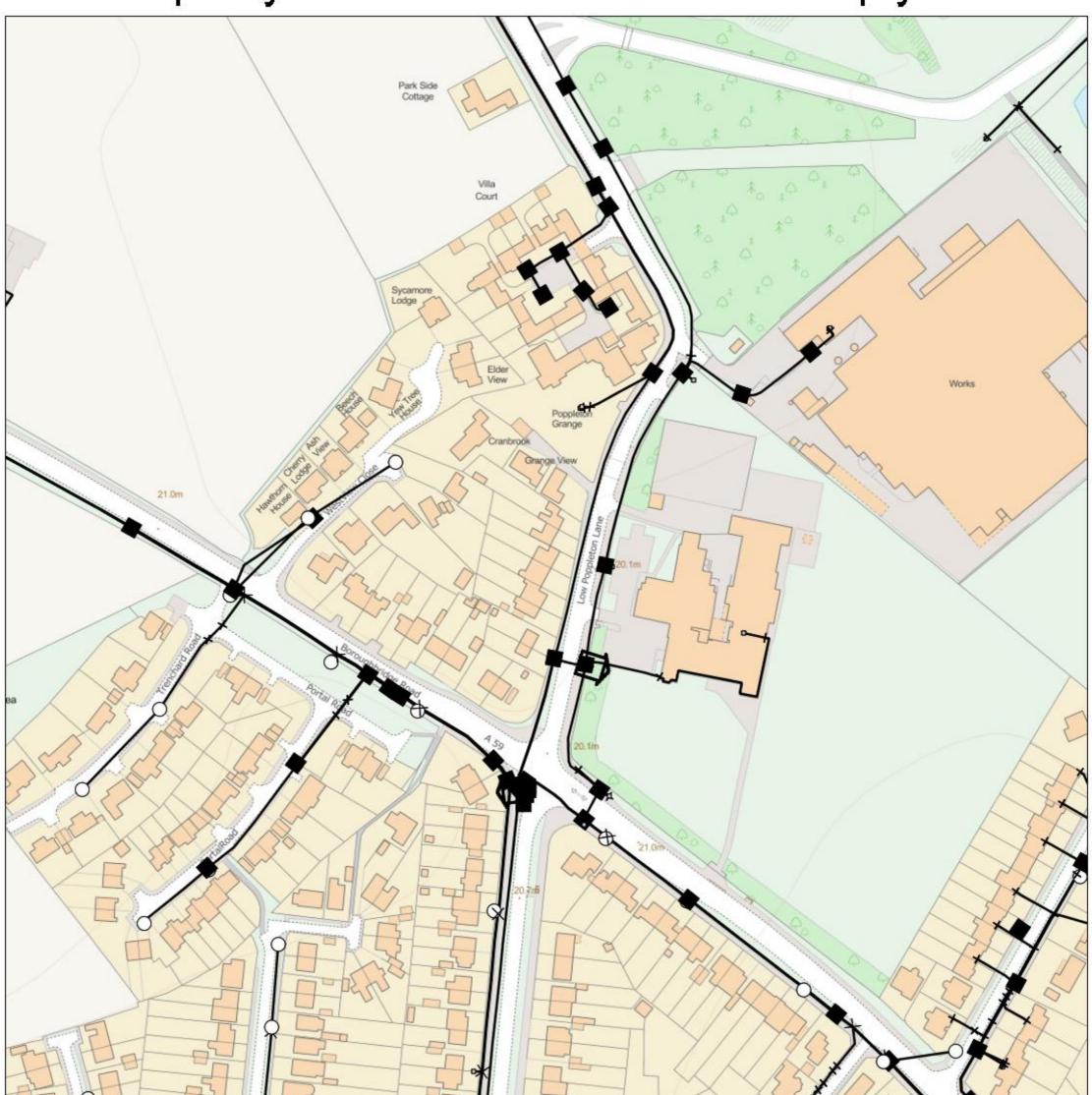


KEY TO BT SYMBOLS		Change Of State			$\otimes$		
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BT Ref : QQP02444Q

Map Reference : (centre) SE5694053092 Easting/Northing : (centre) 456940,453092

Issued : 18/02/2019 14:45:08



### IMPORTANT WARNING

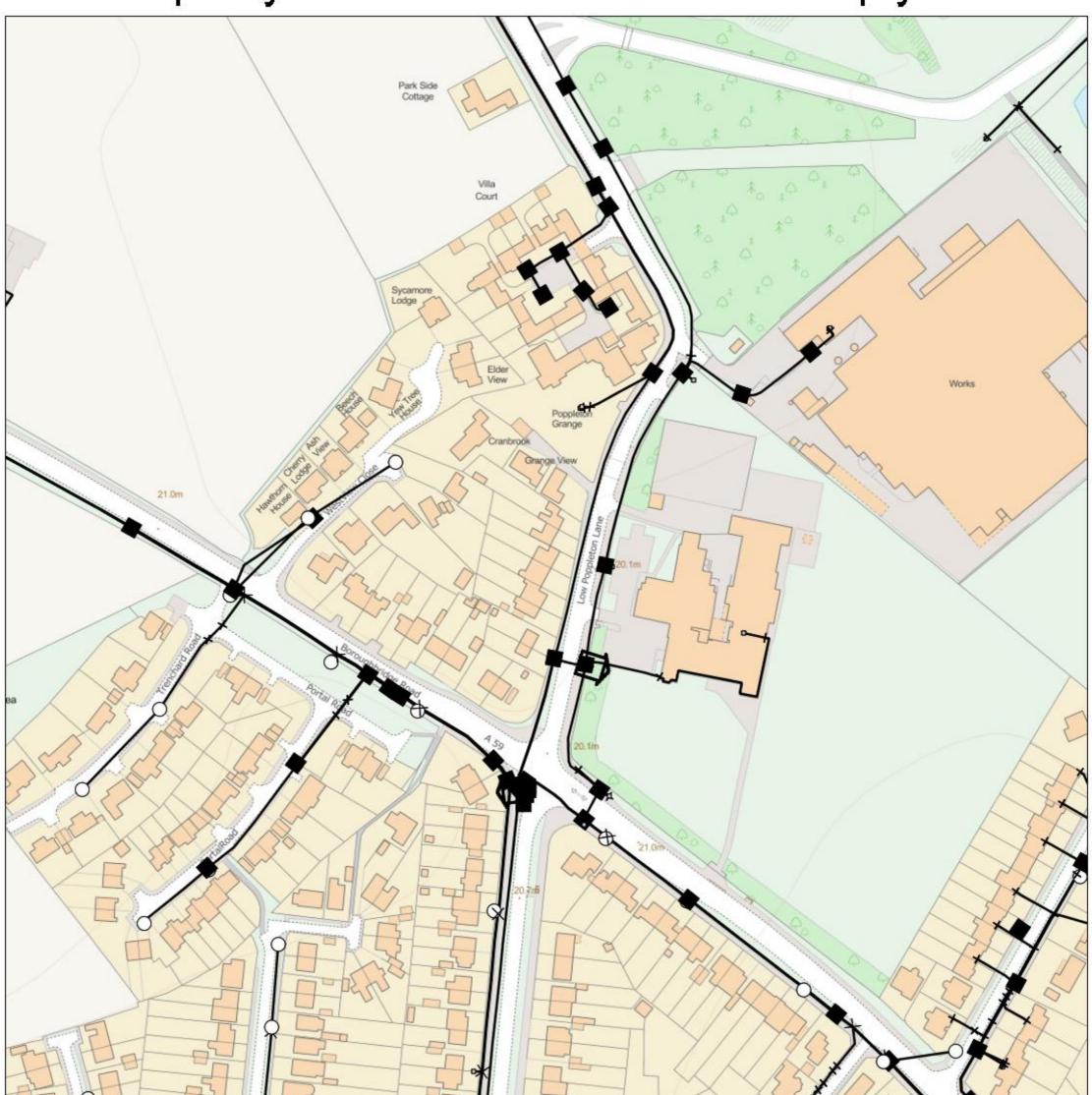
Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.



KEY	KEY TO BT SYMBOLS		Change Of + State +		Hatchings	<b>***</b>
	Planned	Live	Split Coupling	×	Built	~
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BT Ref : YIJ11404P

Map Reference : (centre) SE5694053092 Easting/Northing : (centre) 456940,453092 Issued : 18/03/2019 11:40:32



### IMPORTANT WARNING

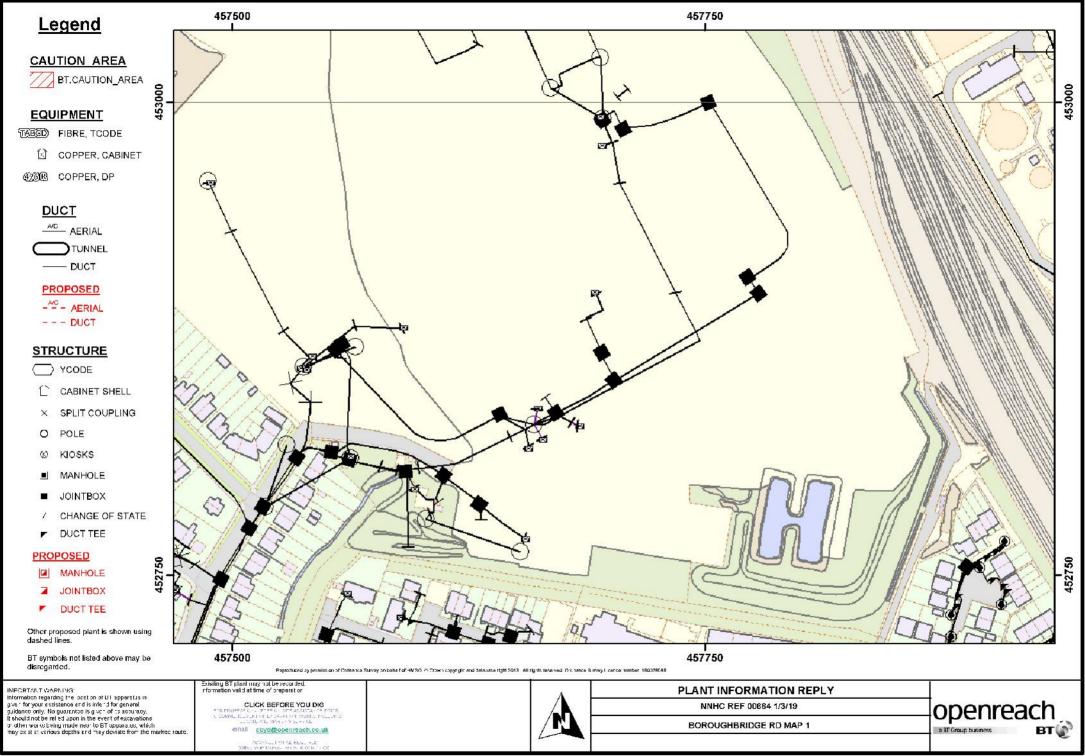
Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.



KEY TO BT SYMBOLS		BT SYMBOLS Change Of + State +		Hatchings	***		
	Planned	Live	Split Coupling	×	Built	~	
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BT Ref : ZJO11393D

Map Reference : (centre) SE5694053092 Easting/Northing : (centre) 456940,453092 Issued : 18/03/2019 11:40:12



(C) British Telecommunications plc = INC\_NOTICE\_FLC1 Template Tissue7 (Revised June 2007)









Underground Utility Box.Location Act., T02 - Underground Route.Route Act. - Leased ------ Underground Route.Route Act. - Third Party



Vodafone Limited (No01471587) registered office is at Vodafone House, The Connection, Newbury, Berkshire, RG142FN

Plot Date : 23/02/2019 Scale : 1:1250

4.

This plan shows apparatus owned by members of the Vodafone Group of companies (including legacy telecommunication companies currently within the group)







Underground Utility Box.Location Act., T02 - Underground Route.Route Act. - Leased — Underground Route.Route Act. - Third Party



Vodafone Limited (No01471587) registered office is at Vodafone House, The Connection, Newbury, Berkshire, RG142FN

Plot Date : 23/02/2019 Scale : 1:1250

This plan shows apparatus owned by members of the Vodafone Group of companies (including legacy telecommunication companies currently within the group)









Underground Utility Box.Location Act., T02 - Underground Route.Route Act. - Owned - Underground Route.Route Act. - Leased - Underground Route.Route Act. - Third Party

### **vodafone**

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#### Legend

Underground Utility Box.Location Act., T02 ------ Underground Route.Route Act. - Owned - Underground Route.Route Act. - Leased Underground Route.Route Act. - Third Party

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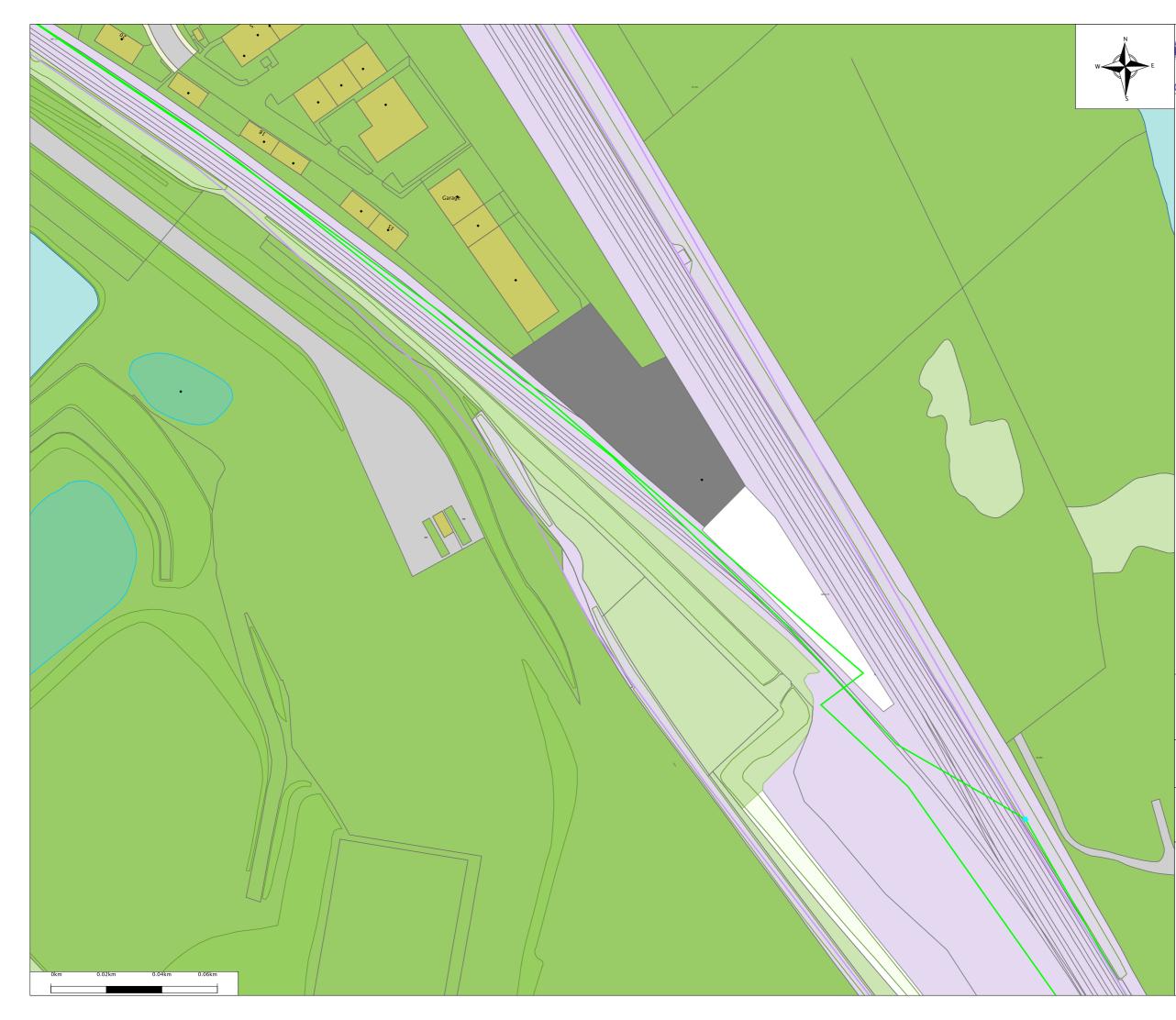
Underground Route.Route Act. – Leased - Underground Route.Route Act. - Third Party



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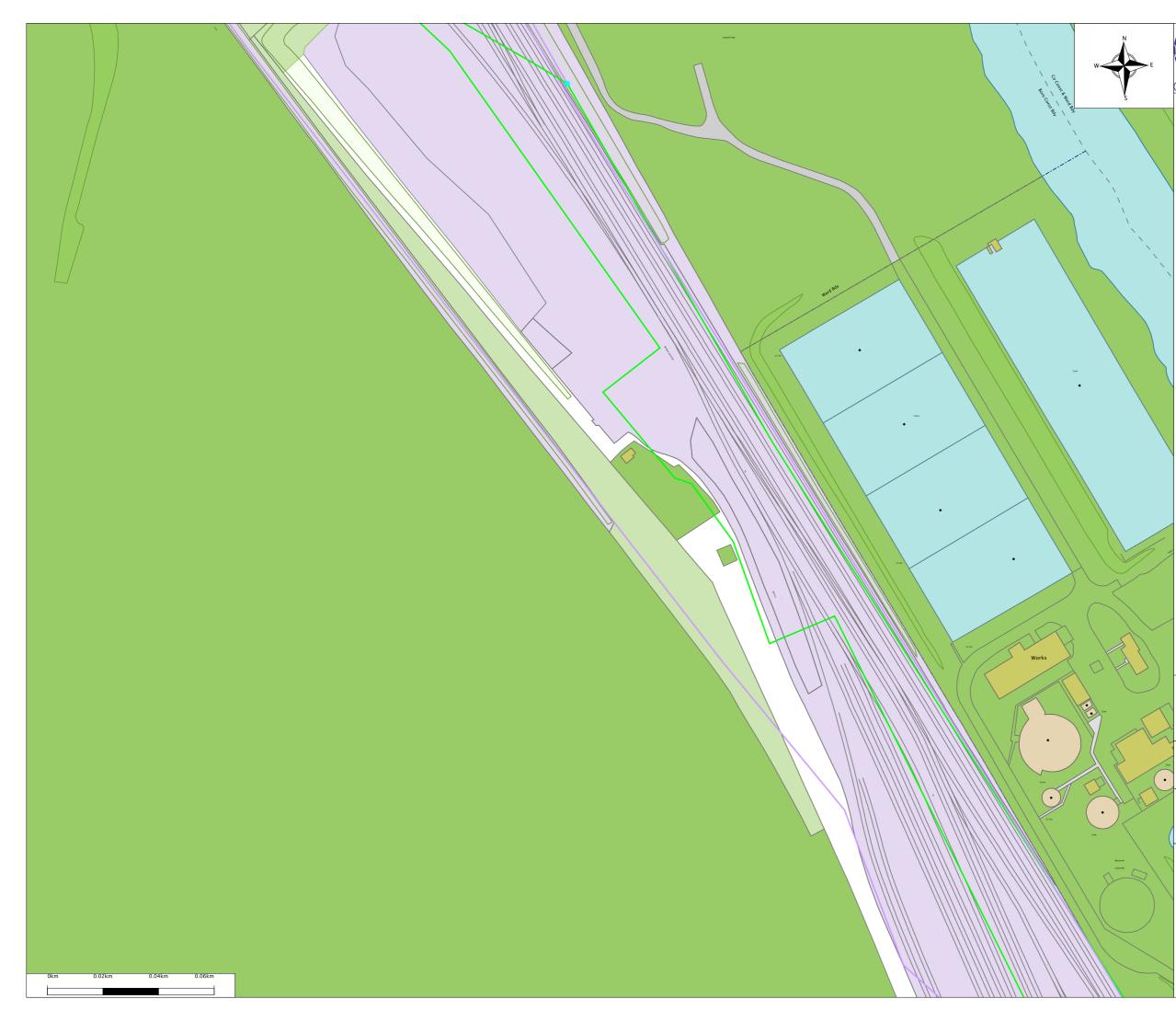
Underground Utility Box.Location Act., T01 Underground Route.Route Act. - Leased — Underground Route.Route Act. - Third Party

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Plot Date : 23/02/2019 Scale : 1:1250

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Underground Utility Box.Location Act., T02 Underground Route.Route Act. - Leased ------ Underground Route.Route Act. - Third Party

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Plot Date : 23/02/2019 Scale : 1:1250

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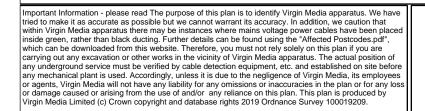
(c) Crown copyright and database rights 2019 Ordnance Survey 100019209

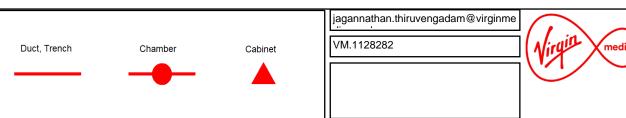
Date: 19/02/19 Scale: 1:7392

Map Centre: 457040,453420

Data updated: 11/01/19

#### Telecoms Plan A4







#### Enquiry Confirmation LSBUD Ref: 14860072

Enquirer							
Name	Mrs Asil Amin	Phone	02920 926 755				
Company	Arcadis Consulting	Mobile	Not Supplied				
Address	Arcadis Cymru House Fortran Road Cardiff Cardiff CF3 0EY						
Email	Asil.Amin@arcadis.com						
Enquiry D	Enquiry Details						

Enquiry Details						
Scheme/Reference	British Sugar Area 1					
Enquiry type	Initial Enquiry	Work cate	Work category		Development Projects	
Start date	04/04/2020	Work type	Work type		Commercial/industrial	
End date	01/05/2021	Site size	Site size		378535 metres square	
Searched location	YO26 6AZ	Work type	Work type buffer*		25 metres	
Confirmed location	457029 453339					
Site Contact Name	Brithis Sugar		Site Phone No		Not Supplied	
Description of Works	British Sugar Area 1		1		1	

\* The WORK TYPE BUFFER is a distance added to your search area based on the Work type you have chosen.





#### Asset Owners

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Asset Owners & Responses. Please note the enquiry results include the following:

- 1. "LSBUD Members" who are asset owners who have registered their assets on the LSBUD service.
- "Non LSBUD Members" are asset owners who have not registered their assets on the LSBUD service but LSBUD is aware of their existence. Please note that there could be other asset owners within your search area.

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**National Grid.** Please note that the LSBUD service only contains information on National Grid's Gas above 7 bar asset, all National Grid Electricity Transmission assets and National Grid's Gas Distribution Limited above 2 bar asset.

For National Grid Gas Distribution Ltd below 2 bar asset information please go to www.beforeyoudig.nationalgrid.com



#### LSBUD Members who have assets registered on the LSBUD service within the vicinity of your search area.

List of affected LSBUD members				
Asset Owner	Phone/Email	Emergency Only	Status	
National Grid Gas (Above 7 bar), National Grid Gas Distribution Limited (Above 2 bar) and National Grid Electricity Transmission	0800688588	Gas 0800111999 Electricity 0800404090	Await response	

LSBUD Members who do not have assets registered on the LSBUD service within the vicinity of your search area. Please be aware that LSBUD Members make regular changes to their assets and this list may vary for new enquiries in the same area.

	List of not affected LSBUD members	s
AWE Pipeline	Balfour Beatty Investments Limited	BOC Limited (A Member of the Linde Group)
BP Exploration Operating Company Limited	BPA	Carrington Gas Pipeline
CATS Pipeline c/o Wood Group PSN	Cemex	Centrica Storage Ltd
CLH Pipeline System Ltd	Concept Solutions People Ltd	ConocoPhillips (UK) Ltd
DIO (MOD Abandoned Pipelines)	Drax Group	E.ON UK CHP Limited
EirGrid	Electricity North West Limited	ENI & Himor c/o Penspen Ltd
EnQuest NNS Limited	EP Langage Limited	ESP Utilities Group
ESSAR	Esso Petroleum Company Limited	Fulcrum Pipelines Limited
Gamma	Gateshead Energy Company	Gigaclear PLC
Gtt	Hafren Dyfrdwy	Humbly Grove Energy
IGas Energy	INEOS FPS Pipelines	INEOS Manufacturing (Scotland and TSEP)
INOVYN Enterprises Limited	Intergen (Coryton Energy or Spalding Energy)	Mainline Pipelines Limited
Manchester Jetline Limited	Manx Cable Company	Marchwood Power Ltd (Gas Pipeline)
Melbourn Solar Limited	Northumbrian Water Group	NPower CHP Pipelines
Oikos Storage Limited	Ørsted	Perenco UK Limited (Purbeck Southampton Pipeline)
Petroineos	Phillips 66	Premier Transmission Ltd (SNIP)
Prysmian Cables & Systems Ltd (c/o Western Link)	Redundant Pipelines - LPDA	RWE - Great Yarmouth Pipeline (Bacton to Great Yarmouth Power Station)
RWEnpower (Little Barford and South Haven)	SABIC UK Petrochemicals	Scottish Power Generation
Seabank Power Ltd	Severn Trent (Chester area only)	SGN
Shell (St Fergus to Mossmorran)	Shell Pipelines	SSE (Peterhead Power Station)
Tata Communications (c/o JSM Construction Ltd)	Total (Colnbrook & Colwick Pipelines)	Total Finaline Pipelines
Transmission Capital	UK Power Networks	Uniper UK Ltd
Vattenfall	Veolia ES SELCHP Limited	Wales and West Utilities
Western Power Distribution	Westminster City Council	Wingas Storage UK Ltd
Zayo Group UK Ltd c/o JSM Group Ltd		



# Enquiry Confirmation LSBUD Ref: 14860072

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Non-LSBUD members (Asset owners not registered on LSBUD)				
Asset Owner	Preferred contact method	Phone	Status	
BT	https://www.swns.bt.com/pls/mbe/welcome.home	08009173993	Not Notified	
CenturyLink Communications UK Limited	plantenquiries@instalcom.co.uk	02087314613	Not Notified	
CityFibre	asset.team@cityfibre.com	033 3150 7282	Not Notified	
Colt	plantenquiries@catelecomuk.com	01227768427	Not Notified	
Energetics Electricity	plantenquiries@energetics-uk.com	01698404646	Not Notified	
ENGIE	nrswa@cofely-gdfsuez.com	01293 549944	Not Notified	
GTC	https://pe.gtc-uk.co.uk/PlantEnqMembership	01359240363	Not Notified	
Interoute	interoute.enquiries@plancast.co.uk	02070259000	Not Notified	
KPN (c/-Instalcom)	kpn.plantenquiries@instalcom.co.uk	n/a	Not Notified	
Mobile Broadband Network Limited	mbnl.plant.enquiries@turntown.com	01212 621 100	Not Notified	
Network Rail	OPBuriedServicesEnquiries@networkrail.co.uk	01904523401	Not Notified	
Northern Gas Networks	plantprotection@northerngas.co.uk	01915014349	Not Notified	
Northern Powergrid	Safediggingplans@northernpowergrid.com	01912294294	Not Notified	
Sky UK Limited	nrswa@sky.uk	02070323234	Not Notified	
Sota	SOTA.plantenquiries@instalcom.co.uk		Not Notified	
Utility assets Ltd	assetrecords@utilityassets.co.uk		Not Notified	
Verizon Business	osp-team@uk.verizonbusiness.com	01293611736	Not Notified	
Virgin Media	http://www.digdat.co.uk	08708883116	Not Notified	
Vodafone	osm.enquiries@atkinsglobal.com	01454662881	Not Notified	
Vtesse Networks	https://plant.interoute.com/plant-enquiries/	01992532100	Not Notified	
York City Council	highway.regulation@york.gov.uk	01904551450	Not Notified	
Yorkshire Water	safemove@yorkshirewater.com	08001385385	Not Notified	

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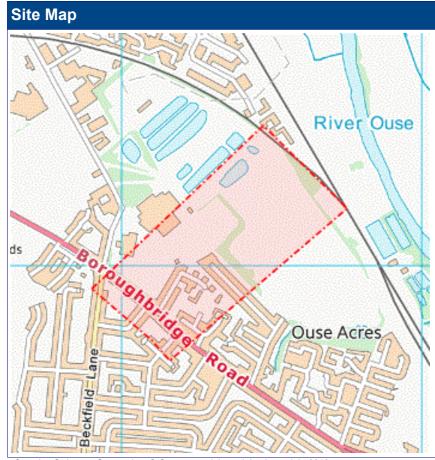
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Enquirer			
Name	Mrs Asil Amin	Phone	02920 926 755
Company	Arcadis Consulting	Mobile	Not Supplied
Address	Arcadis Cymru House Fortran Road Cardiff Cardiff CF3 0EY		
Email	Asil.Amin@arcadis.com		

British Sugar Area 2				
Initial Enquiry Work category Development Pro		lopment Projects		
04/04/2020	Work type		mercial/industrial	
08/05/2021	Site size	2909	67 metres square	
XY= -1.13205, 53.972981 Long/Lat	Work type bu	uffer* 25 m	etres	
457348 453081	<b>I</b>	I		
Brithis Sugar		Site Phone No	Not Supplied	
- CONTINUED FROM JOB: 14860072 -British Sugar Area 1				
	04/04/2020 08/05/2021 XY= -1.13205, 53.972981 Long/Lat 457348 453081 Brithis Sugar	Initial EnquiryWork catego04/04/2020Work type08/05/2021Site sizeXY= -1.13205, 53.972981 Long/LatWork type b457348 453081Brithis Sugar	Initial EnquiryWork categoryDevelopment04/04/2020Work typeCommon08/05/2021Site size2909XY= -1.13205, 53.972981 Long/LatWork type buffer*25 me457348 453081Site Phone Note	

\* The WORK TYPE BUFFER is a distance added to your search area based on the Work type you have chosen.





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For National Grid Gas Distribution Ltd below 2 bar asset information please go to <u>www.beforeyoudig.nationalgrid.com</u>



#### LSBUD Members who have assets registered on the LSBUD service within the vicinity of your search area.

List of affected LSBUD members				
Asset Owner	Phone/Email	Emergency Only	Status	
ESP Utilities Group	01372227560	01372227560	Await response	
National Grid Gas (Above 7 bar), National Grid Gas Distribution Limited (Above 2 bar) and National Grid Electricity Transmission		Gas 0800111999		
	0800688588	Electricity	Await response	
		0800404090		

LSBUD Members who do not have assets registered on the LSBUD service within the vicinity of your search area. Please be aware that LSBUD Members make regular changes to their assets and this list may vary for new enquiries in the same area.

	List of not affected LSBUD members	
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BP Exploration Operating Company Limited	BPA	Carrington Gas Pipeline
CATS Pipeline c/o Wood Group PSN	Cemex	Centrica Storage Ltd
CLH Pipeline System Ltd	Concept Solutions People Ltd	ConocoPhillips (UK) Ltd
DIO (MOD Abandoned Pipelines)	Drax Group	E.ON UK CHP Limited
EirGrid	Electricity North West Limited	ENI & Himor c/o Penspen Ltd
EnQuest NNS Limited	EP Langage Limited	ESSAR
Esso Petroleum Company Limited	Fulcrum Pipelines Limited	Gamma
Gateshead Energy Company	Gigaclear PLC	Gtt
Hafren Dyfrdwy	Humbly Grove Energy	IGas Energy
INEOS FPS Pipelines	INEOS Manufacturing (Scotland and TSEP)	INOVYN Enterprises Limited
Intergen (Coryton Energy or Spalding Energy)	Mainline Pipelines Limited	Manchester Jetline Limited
Manx Cable Company	Marchwood Power Ltd (Gas Pipeline)	Melbourn Solar Limited
Northumbrian Water Group	NPower CHP Pipelines	Oikos Storage Limited
Ørsted	Perenco UK Limited (Purbeck Southampton Pipeline)	Petroineos
Phillips 66	Premier Transmission Ltd (SNIP)	Prysmian Cables & Systems Ltd (c/o Western Link)
Redundant Pipelines - LPDA	RWE - Great Yarmouth Pipeline (Bacton to Great Yarmouth Power Station)	RWEnpower (Little Barford and South Haven)
SABIC UK Petrochemicals	Scottish Power Generation	Seabank Power Ltd
Severn Trent (Chester area only)	SGN	Shell (St Fergus to Mossmorran)
Shell Pipelines	SSE (Peterhead Power Station)	Tata Communications (c/o JSM Construction Ltd)
Total (Colnbrook & Colwick Pipelines)	Total Finaline Pipelines	Transmission Capital
UK Power Networks	Uniper UK Ltd	Vattenfall
Veolia ES SELCHP Limited	Wales and West Utilities	Western Power Distribution
Westminster City Council	Wingas Storage UK Ltd	Zayo Group UK Ltd c/o JSM Group Ltd



# Enquiry Confirmation LSBUD Ref: 14860078

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Asset Owner	Preferred contact method	Phone	Status	
BT	https://www.swns.bt.com/pls/mbe/welcome.home	08009173993	Not Notified	
CenturyLink Communications UK Limited	plantenquiries@instalcom.co.uk	02087314613	Not Notified	
CityFibre	asset.team@cityfibre.com	033 3150 7282	Not Notified	
Colt	plantenquiries@catelecomuk.com	01227768427	Not Notified	
Energetics Electricity	plantenquiries@energetics-uk.com	01698404646	Not Notified	
ENGIE	nrswa@cofely-gdfsuez.com	01293 549944	Not Notified	
GTC	https://pe.gtc-uk.co.uk/PlantEnqMembership	01359240363	Not Notified	
Interoute	interoute.enquiries@plancast.co.uk	02070259000	Not Notified	
KPN (c/-Instalcom)	kpn.plantenquiries@instalcom.co.uk	n/a	Not Notified	
Mobile Broadband Network Limited	mbnl.plant.enquiries@turntown.com	01212 621 100	Not Notified	
Network Rail	OPBuriedServicesEnquiries@networkrail.co.uk	01904523401	Not Notified	
Northern Gas Networks	plantprotection@northerngas.co.uk	01915014349	Not Notified	
Northern Powergrid	Safediggingplans@northernpowergrid.com	01912294294	Not Notified	
Sky UK Limited	nrswa@sky.uk	02070323234	Not Notified	
Sota	SOTA.plantenquiries@instalcom.co.uk		Not Notified	
Utility assets Ltd	assetrecords@utilityassets.co.uk		Not Notified	
Verizon Business	osp-team@uk.verizonbusiness.com	01293611736	Not Notified	
Virgin Media	http://www.digdat.co.uk	08708883116	Not Notified	
Vodafone	osm.enquiries@atkinsglobal.com	01454662881	Not Notified	
Vtesse Networks	https://plant.interoute.com/plant-enquiries/	01992532100	Not Notified	
York City Council	highway.regulation@york.gov.uk	01904551450	Not Notified	
Yorkshire Water	safemove@yorkshirewater.com	08001385385	Not Notified	

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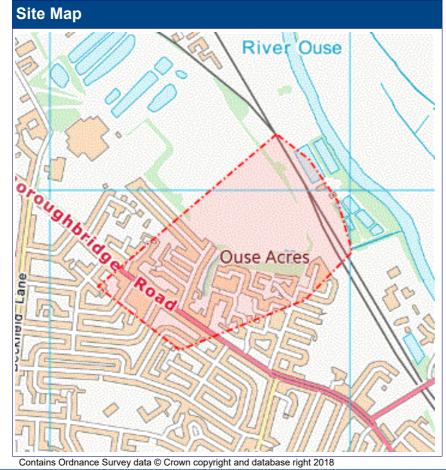
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Enquirer			
Name	Mrs Asil Amin	Phone	02920 926 755
Company	Arcadis Consulting	Mobile	Not Supplied
Address	Arcadis Cymru House Fortran Road Cardiff Cardiff CF3 0EY		
Email Asil.Amin@arcadis.com			

Enquiry Details					
Scheme/Reference	British Sugar Area 3				
Enquiry type	Initial Enquiry Work category Development Projects			oment Projects	
Start date	04/04/2020	04/2020 Work type Commercial/in		ercial/industrial	
End date	06/03/2021	Site size		323525 metres square	
Searched location	XY= -1.127245, 53.970628 Long/Lat	Work type buffer*		25 metres	
Confirmed location	457684 452879				
Site Contact Name	Brithis Sugar		Site Pho	ne No	Not Supplied
Description of Works	- CONTINUED FROM JOB: 14860078 Area 1	CONTINUED	FROM J	OB: 148	360072 -British Sugar

\* The WORK TYPE BUFFER is a distance added to your search area based on the Work type you have chosen.





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For National Grid Gas Distribution Ltd below 2 bar asset information please go to <u>www.beforeyoudig.nationalgrid.com</u>



#### LSBUD Members who have assets registered on the LSBUD service within the vicinity of your search area.

List of affected LSBUD members					
Asset Owner	Phone/Email	Emergency Only	Status		
ESP Utilities Group 01372227560 01372227560 Await response					

LSBUD Members who do not have assets registered on the LSBUD service within the vicinity of your search area. Please be aware that LSBUD Members make regular changes to their assets and this list may vary for new enquiries in the same area.

	List of not affected LSBUD members	
AWE Pipeline	Balfour Beatty Investments Limited	BOC Limited (A Member of the Linde Group)
BP Exploration Operating Company Limited	BPA	Carrington Gas Pipeline
CATS Pipeline c/o Wood Group PSN	Cemex	Centrica Storage Ltd
CLH Pipeline System Ltd	Concept Solutions People Ltd	ConocoPhillips (UK) Ltd
DIO (MOD Abandoned Pipelines)	Drax Group	E.ON UK CHP Limited
EirGrid	Electricity North West Limited	ENI & Himor c/o Penspen Ltd
EnQuest NNS Limited	EP Langage Limited	ESSAR
Esso Petroleum Company Limited	Fulcrum Pipelines Limited	Gamma
Gateshead Energy Company	Gigaclear PLC	Gtt
Hafren Dyfrdwy	Humbly Grove Energy	IGas Energy
INEOS FPS Pipelines	INEOS Manufacturing (Scotland and TSEP)	INOVYN Enterprises Limited
Intergen (Coryton Energy or Spalding Energy)	Mainline Pipelines Limited	Manchester Jetline Limited
Manx Cable Company	Marchwood Power Ltd (Gas Pipeline)	Melbourn Solar Limited
National Grid Gas (Above 7 bar), National Grid Gas Distribution Limited (Above 2 bar) and National Grid Electricity Transmission	Northumbrian Water Group	NPower CHP Pipelines
Oikos Storage Limited	Ørsted	Perenco UK Limited (Purbeck Southampton Pipeline)
Petroineos	Phillips 66	Premier Transmission Ltd (SNIP)
Prysmian Cables & Systems Ltd (c/o Western Link)	Redundant Pipelines - LPDA	RWE - Great Yarmouth Pipeline (Bacton to Great Yarmouth Power Station)
RWEnpower (Little Barford and South Haven)	SABIC UK Petrochemicals	Scottish Power Generation
Seabank Power Ltd	Severn Trent (Chester area only)	SGN
Shell (St Fergus to Mossmorran)	Shell Pipelines	SSE (Peterhead Power Station)
Tata Communications (c/o JSM Construction Ltd)	Total (Colnbrook & Colwick Pipelines)	Total Finaline Pipelines
Transmission Capital	UK Power Networks	Uniper UK Ltd
Vattenfall	Veolia ES SELCHP Limited	Wales and West Utilities
Western Power Distribution	Westminster City Council	Wingas Storage UK Ltd
Zayo Group UK Ltd c/o JSM Group Ltd		



# Enquiry Confirmation LSBUD Ref: 14860089

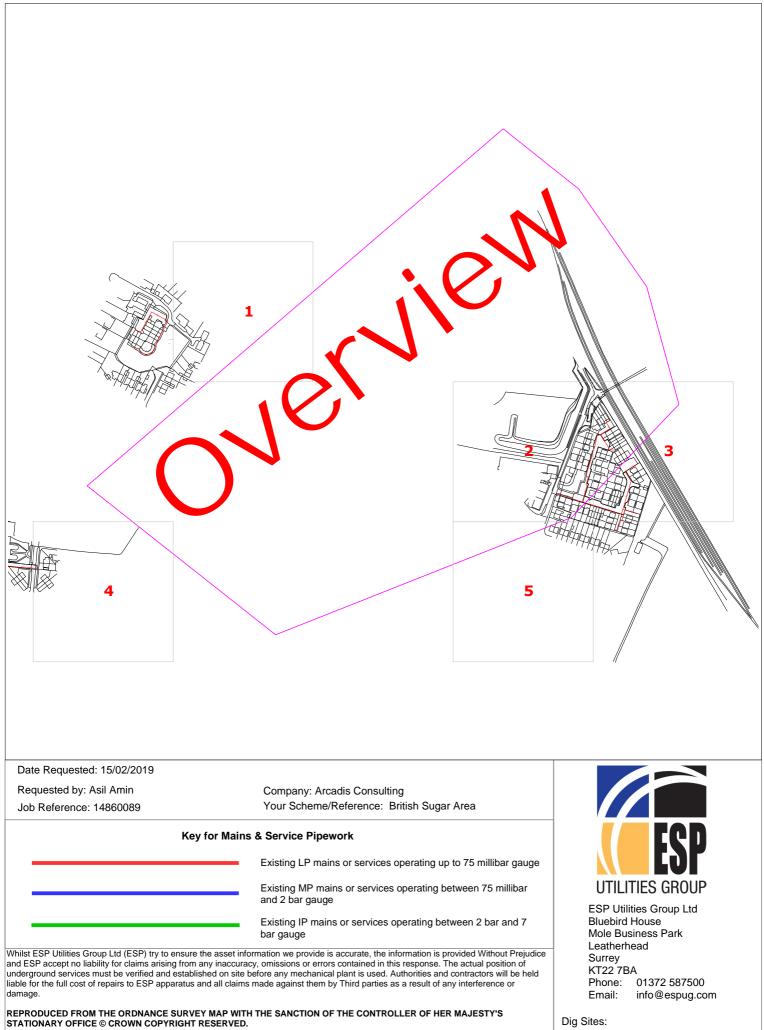
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Non-LSBUD members (Asset owners not registered on LSBUD)			
Asset Owner	Preferred contact method	Phone	Status
BT	https://www.swns.bt.com/pls/mbe/welcome.home	08009173993	Not Notified
CenturyLink Communications UK Limited	plantenquiries@instalcom.co.uk	02087314613	Not Notified
CityFibre	asset.team@cityfibre.com	033 3150 7282	Not Notified
Colt	plantenquiries@catelecomuk.com	01227768427	Not Notified
Energetics Electricity	plantenquiries@energetics-uk.com	01698404646	Not Notified
ENGIE	nrswa@cofely-gdfsuez.com	01293 549944	Not Notified
GTC	https://pe.gtc-uk.co.uk/PlantEnqMembership	01359240363	Not Notified
Interoute	interoute.enquiries@plancast.co.uk	02070259000	Not Notified
KPN (c/-Instalcom)	kpn.plantenquiries@instalcom.co.uk	n/a	Not Notified
Mobile Broadband Network Limited	mbnl.plant.enquiries@turntown.com	01212 621 100	Not Notified
Northern Gas Networks	plantprotection@northerngas.co.uk	01915014349	Not Notified
Northern Powergrid	Safediggingplans@northernpowergrid.com	01912294294	Not Notified
Sky UK Limited	nrswa@sky.uk	02070323234	Not Notified
Sota	SOTA.plantenquiries@instalcom.co.uk		Not Notified
Utility assets Ltd	assetrecords@utilityassets.co.uk		Not Notified
Verizon Business	osp-team@uk.verizonbusiness.com	01293611736	Not Notified
Virgin Media	http://www.digdat.co.uk	08708883116	Not Notified
Vodafone	osm.enquiries@atkinsglobal.com	01454662881	Not Notified
Vtesse Networks	https://plant.interoute.com/plant-enquiries/	01992532100	Not Notified
York City Council	highway.regulation@york.gov.uk	01904551450	Not Notified
Yorkshire Water	safemove@yorkshirewater.com	08001385385	Not Notified

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Date Requested: 15/02/2019		
Requested by: Asil Amin Job Reference: 14860089	Company: Arcadis Consulting Your Scheme/Reference: British Sugar Area	
Key fo	r Mains & Service Pipework	
	Existing LP mains or services operating up to 75 millibar gauge	<b>C9L</b>
	Existing MP mains or services operating between 75 millibar and 2 bar gauge	UTILITIES GROUP
	Existing IP mains or services operating between 2 bar and 7 bar gauge	ESP Utilities Group Ltd Bluebird House Mole Business Park Leatherhead
and ESP accept no liability for claims arising from any underground services must be verified and established	asset information we provide is accurate, the information is provided Without Prejudice inaccuracy, omissions or errors contained in this response. The actual position of d on site before any mechanical plant is used. Authorities and contractors will be held all claims made against them by Third parties as a result of any interference or	Learnemead Surrey KT22 7BA Phone: 01372 587500 Email: info@espug.com

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#### Date Requested: 15/02/2019

Requested by: Asil Amin

Job Reference: 14860089

Company: Arcadis Consulting Your Scheme/Reference: British Sugar Area

#### Key for Mains & Service Pipework

Existing LP mains or services operating up to 75 millibar gauge

Existing MP mains or services operating between 75 millibar and 2 bar gauge  $% \left( {{\left[ {{{\rm{D}}_{\rm{T}}} \right]}} \right)$ 

Existing IP mains or services operating between 2 bar and 7 bar gauge  $% \left( {{\left[ {{{\rm{D}}_{\rm{T}}} \right]}} \right)$ 

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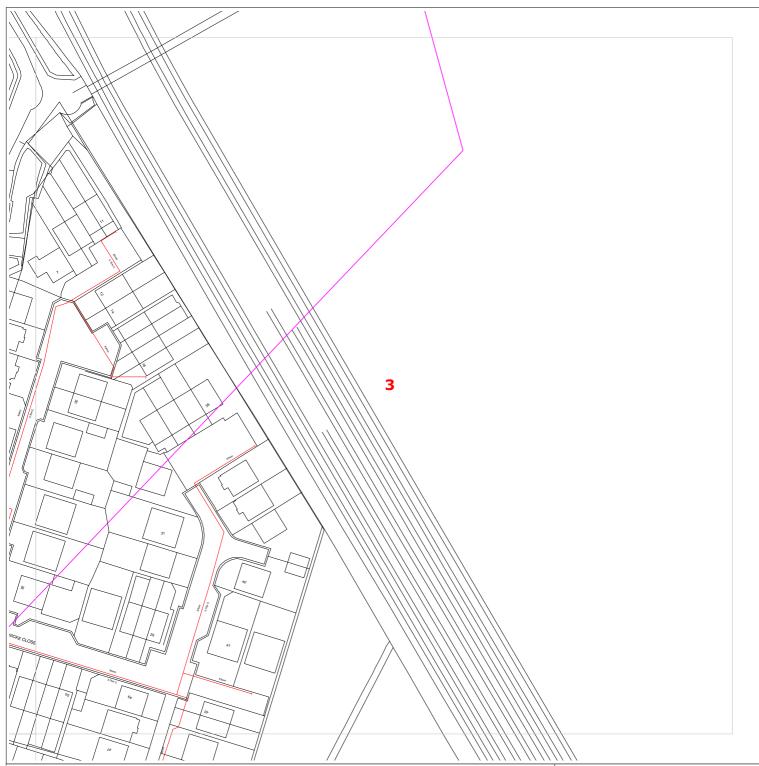


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#### ESP Utilities Group Ltd Bluebird House Mole Business Park Leatherhead Surrey KT22 7BA Phone: 01372 587500 Email: info@espug.com

Dig Sites:

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Job Reference: 14860089

Company: Arcadis Consulting Your Scheme/Reference: British Sugar Area

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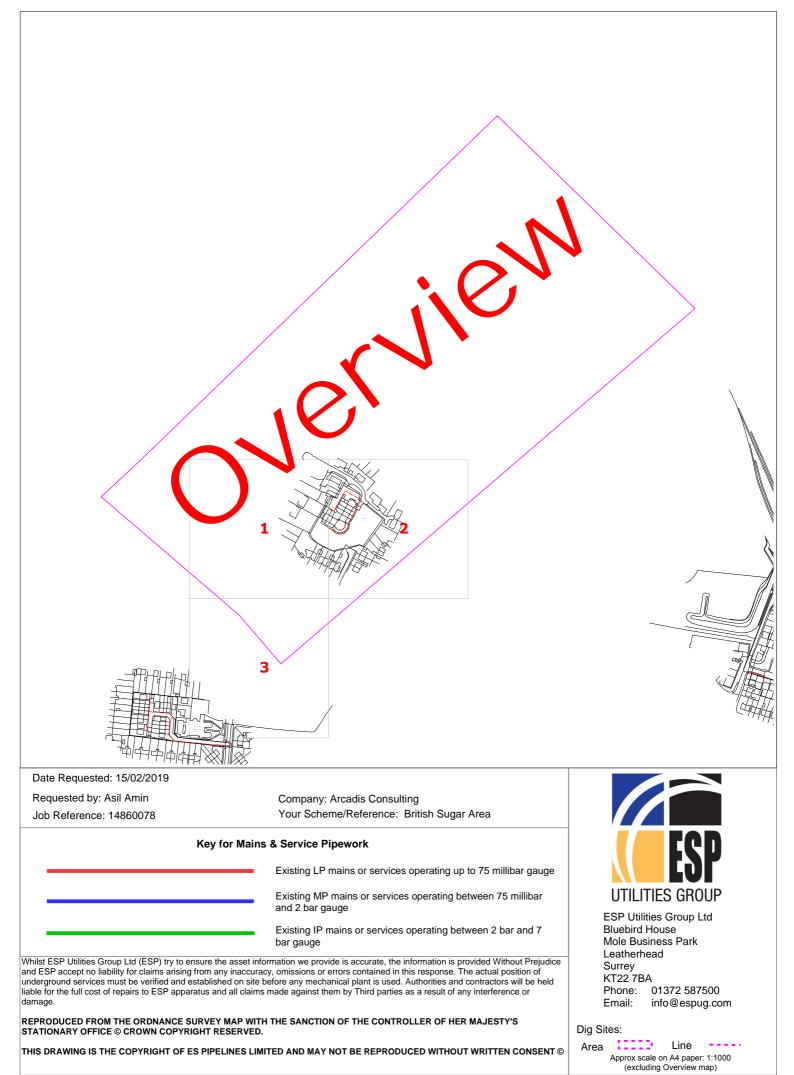
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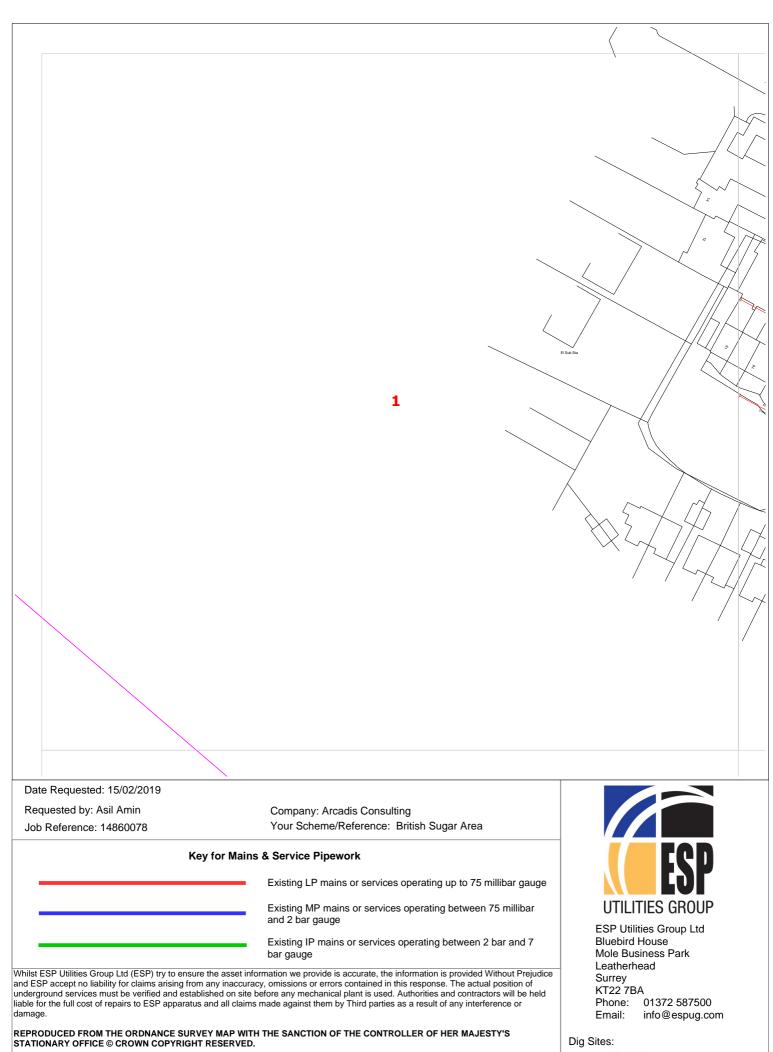
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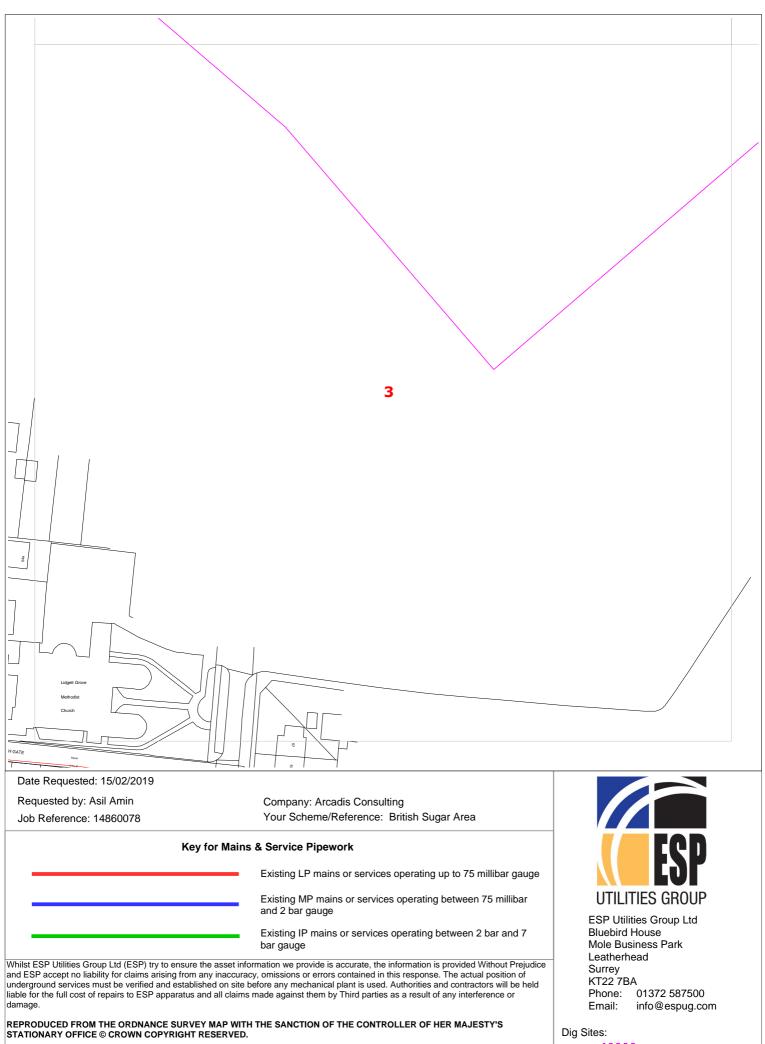
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and ESP accept no liability for claims arising from any underground services must be verified and established	asset information we provide is accurate, the information is provided Without Prejudice inaccuracy, omissions or errors contained in this response. The actual position of d on site before any mechanical plant is used. Authorities and contractors will be held all claims made against them by Third parties as a result of any interference or	Surrey KT22 7BA Phone: 01372 587500 Email: info@espug.com

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Area Line ----Approx scale on A4 paper: 1:1000 (excluding Overview map) Environmental Management System

# APPENDIX B Outline Construction Environmental Management Plan

Former British Sugar Site, York

# OUTLINE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP)

VERSION: 1.2

# June 2017

Rev	Date	Revision Notes
1.1	27-06-17	Revised drawing FBSS-URS-XX-XX-DR-GE-00014 P2 added at appendix A
1.2	07-09-17	Revised wording to clause 5.5.4 to reflect actions after each work phase

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		OUTINE MAINTENANCE AND INSPECTION	

# Former British Sugar Site, York OUTLINE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP)

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-	OMP UPDATE AND REVIEW	
SITE	ASSESSMENT FOR POTENTIAL DUST AND ODOUR IMPACTS DURING REMEDIATION	

#### 1 INTRODUCTION

#### 1.1 Background

- 1.1.1 This outline Construction Environmental Management Plan (CEMP) has been prepared to support development at the Former British Sugar Refinery site in York including:
  - i. construction of a development platform, land form engineering works and remediation and reclamation of the British Sugar Site; and
  - ii. the development of the Site, comprising up to 1,100 residential units (C3), community uses (D1/D2), and new public open space, with access (to include new access points at Millfield Lane and Boroughbridge Road and a new link road, crossing the Former Manor School Site) and demolition of the FMS buildings.
- 1.1.2 The purpose of this document is to outline how the site owners, future Developers and Contractors will formally commit to the management of impacts relating to the remediation and reclamation, and subsequent phases of development at the British Sugar site, as defined within the CEMP. Where practical, measures will be implemented to minimise the impact of the construction activities associated with the development on the surrounding area and community.

#### 1.2 Limitations

- 1.2.1 This CEMP and its appendices is a live document that may be revised / updated as necessary to reflect changes to the planned works that directly impact upon it.
- 1.2.2 Following appointment of a contractor to undertake site preparation works (i.e. remediation, development platform construction, housing, community uses, roads and infrastructure etc.), it may be necessary for the CEMP to be updated with details of specific construction methodology. The intention for which is to allow for improvement in the management and efficacy of control measures to mitigate potential environmental impacts, if required, following the appointment of contractors and the start of the works on site. Any material changes to the CEMP will be consulted upon as required and agreed with its stakeholders.
- 1.2.3 An annual review and update of the CEMP will be undertaken to include consultation with stakeholders, as necessary. A summary of any changes will be provided.

# 2 SITE DESCRIPTION

2.1.1 The Former British Sugar Refinery site and part of former Manor School (FMS) site covers an area of land measuring approximately 39.62ha to the north west of York. The site is edged red on the Site Boundary Plan AECOM-04034 Rev C in Appendix A.

### 3 PROPOSED DEVELOPMENT

- 3.1.1 The proposed development works are separated into three main elements. The first is the Remediation and Reclamation of the site in order to create a number of development platforms. This element of the works was covered by the detailed planning application. The method of remediation is described in more detail in Section 4.
- 3.1.2 The second is the construction of the Spine Road and associated site infrastructure through the site, which will be used to access the separate development parcels.
- 3.1.3 The third element of construction works will be the house building development phase and will comprise the construction of dwellings and ancillary infrastructure on the various development parcels, as well as the construction of the community use buildings.
- 3.1.4 The second and third elements of the proposed works are covered by the outline planning application. As such, there is currently less detail in the methods that will be used during the construction of those elements. As the detailed design of these elements evolve, the CEMP will be updated to reflect this, if required.

# 4 CONSTRUCTION WORK

#### 4.1 Hours of work

4.1.1 Except in the case of emergencies, no construction operations, which are audible beyond the boundary of the site, shall take place on site other than between the hours of:

### 08:00-18:00 Monday to Friday 09:00-13:00 on Saturdays

4.1.2 There shall be no working on Sundays or Public Holidays.

#### 4.2 Information on the Remediation and Reclamation Works

- 4.2.1 The text below describes the activities to be undertaken during the remediation of the site, based on the method and plans available.
- 4.2.2 Elements of the works described below have the potential to generate emissions of dust and odour that could impact on nearby sensitive receptors. To mitigate impacts associated with the works, control measures will be applied as appropriate, in line with the risk-based assessment that has informed this CEMP (Appendix C).

#### 4.3 Summary of Work

- 4.3.1 The remediation and reclamation works will involve excavation, testing, sentencing, remediation (as necessary) and engineered use of site-won materials, treatment of hydrocarbon-impacted materials and materials containing high concentrations of organic matter to allow use, physical stabilisation of wet soils to allow compaction, and a cut-to-fill operation to provide the development platform.
- 4.3.2 The following summarises the general remediation and reclamation works:
  - Set up of environmental controls and monitoring points on and off-site;
  - Health & Safety, Environment (H&SE) induction for site staff to ensure all staff know and understand Site requirements and expectations on these matters (new staff / site visitors to be inducted as and when required);
  - Dust and odour issues and related site management practices will be included in the induction programme for contractor's staff.
  - Initial clearance of any vegetation and/or topsoil;
  - Removal and stockpiling of any topsoil for later placement;
  - Excavate to base of Made Ground, classify, test, stockpile and sentence the materials for the appropriate end use or to a remediation process

prior to use (this includes removal of buried obstructions which will be screened and the concrete crushed on-site);

- Apply the appropriate remediation processes in designated remedial treatment areas as required to render the material acceptable for use in the development platform; and
- Placement of materials to formation level with engineered fill compacted to target density (which for some of the materials will require stabilisation / modification with a design mix containing lime, cement and possibly other additives; the extent of the stabilisation will depend on the condition of the material, primarily defined by its moisture content.

# 4.4 Outline Programme

- 4.4.1 The remediation and reclamation works are programmed to last approximately 12 months.
  - Site compound set up, environmental controls and monitoring points, setting up location for perched groundwater storage / treatment, and clearance of the site would be undertaken in the first two weeks of the programme.
  - Excavation works would then proceed for the next 9 to 10 months.
  - Bioremediation works are anticipated to start in month 2 and will proceed until at least the end of the excavation works and may progress longer, depending at what time of year the excavation works are completed.
  - Placement of materials and the stabilisation works are anticipated to also start in month 2 and will proceed to the end of month 12.
- 4.4.2 It should be noted that delays may be incurred due to inclement weather causing materials to become wet and unsuitable for handling.

# 4.5 Methodology

Contractors Compound / Stockpiling Areas

- 4.5.1 The Contractors compound will be located in the central area of the site.
- 4.5.2 An Environmental Permit (EP) is in place on part of the site currently, so it is assumed that there will be a requirement for two locations for stockpiling of materials and undertaking remediation works. The locations to be used need to be close to the main areas of earthworks to be undertaken at the site. The indicative locations are noted on drawing FBSS-URS-XX-XX-DR-GE-00014 Rev P2 (attached at Appendix A).
- 4.5.3 The CEMP will be updated to include the final locations of the stockpiles, once confirmed. The update will be communicated to relevant stakeholders. It should be noted that the existing earth bund will be removed and incorporated into the remediation works as the work progresses. However,

additional areas for stockpiling may be required from time to time, the siting of which should take into consideration the proximity to adjacent properties. Stockpiles will be managed in a manner to reduce potential dust impacts, through the control of stockpile dimensions (height and surface area) and the angle of slope.

- 4.5.4 The implementation of standard dust mitigation at a site compound area is generally sufficient to control emissions to the extent that the risk of impacts would be low. Such measures would entail general 'good housekeeping'. Should such measures be incapable of controlling emissions, additional dust control measures will be required. Standard dust measures are described in more detail in Section 7.3.
- 4.5.5 Material stockpiles can be a high-risk source of potential dust emissions, depending on the material that they are comprised of and whether or not they are managed appropriately. Due to the sensitivity of some nearby sensitive receptors to the site, such as the Tangerine Confectionary production facility, measures over and above the standard use of general good housekeeping may also be required. These measures are also described in Section 7.3.

#### Enabling Works

- 4.5.6 Ground materials in the southern area will be worked as per the remediation strategy submitted as part of the planning application. However, materials from the northern area of the site will be required to raise land levels in the southern area. Therefore, work (excavation, remediation and placement, etc.) will be required across the whole site to achieve the necessary earthworks balance to create the development platform.
- 4.5.7 The initial stage of works will be setting up of environmental controls, monitoring points and mitigation measures. The site would then be cleared of vegetation and any remaining above ground structures. Such structures will be broken up by hydraulic hammers and large excavators. The materials from any remaining structures will be stockpiled. The material will be crushed to generate a granular material for reuse or as a mixing agent.
- 4.5.8 The crushing operation will be sited in an isolated area of the site, with the objective of minimising environmental impacts, such as noise, dust and odour, from the crushing process and will include an appropriate level of mitigation, as described in Section 7.
- 4.5.9 The remediation of the site will be established and managed by the remediation contractor who will operate and hold the appropriate Environmental Permits (including Mobile Treatment Licence(s) and deployment forms). Using the appropriate geotechnical and chemical data the remediation contractor will complete the required treatment and

complete the compliance testing as set out in the remediation strategy. The results of the compliance testing will determine the location for placement within the scheme.

#### Perched water

- 4.5.10 Perched water encountered in the made ground during the works will be collected in a collection tank or lined lagoon before any treatment and discharge. The incidental water shall either be: discharged to foul sewer under a trade effluent consent agreed with the local sewerage undertaker and/or; discharged to surface water under a water discharge activity environmental permit ("WDA-EP") from the Environment Agency.
- 4.5.11 Where perched water encountered during the progress of the earthworks contains concentrations of determinands that would breach any consent/permit for discharge then the water shall be subject to pretreatment. This treatment will be influenced by the nature of the exceedances and may include the use of the following treatment processes: settlement, flocculation, air stripping, aeration, chemical oxidation, granulated carbon adsorption. It is envisaged that an on-site treatment plant may be required to ensure that the concentrations of key determinands in the effluent discharge are within consented discharge limits.
- 4.5.12 Where treatment of perched water is required, this will be undertaken at a location that is as far away from the most sensitive receptors as practical, with the application of standard and additional odour control as required (See Section 7.5.

#### Excavation

- 4.5.13 Excavation works have a potential for the generation of dust due to the disturbance of ground materials. All excavation works will comply with the noise, air and dust, and odour management plan sections of the CEMP, for the site remediation works and subsequent phases, as described in Section 7.
- 4.5.14 Excavations of the made ground will be carried out by back-acting tracked excavators. The excavated made ground materials will be loaded into dump-trucks which then transfer the materials either to stockpile located away from sensitive neighbouring property if the material requires bio-remediation; or direct to the point of intended placement if the material is deemed suitable for placement in its existing state, and / or if the material can be placed but requires modification / stabilisation.
- 4.5.15 Topsoil will be excavated from across the site, tested and stockpiled for later use in the works. Materials within the site will be excavated to the base of the Made Ground. The excavated materials will be classified, tested,

stockpiled and sentenced for appropriate end-use or to a remediation process for treatment and then for appropriate end-use. The excavation works will include the removal and processing of buried obstructions left over from the demolition of the sugar refinery structures. This will be undertaken, as already noted earlier, across the site. Buried obstructions are also known to be present within the southern area of the site and will need to be removed early on and material from the northern half of the site (after remediation processing) will be required to raise land levels in the southern half of the site.

#### Lagoons

4.5.16 The existing lagoons will be dewatered and the silt and sediment at their base will be excavated and will follow the procedures set out under Excavation.

#### Remediation - Ex-situ Bioremediation

- 4.5.17 The activities undertaken for the ex-situ bioremediation will comply with the requirements of the air, dust and odour management plan for the site remediation works. Where Made Ground materials contain hydrocarbon and / or ammoniacal nitrogen contamination at concentrations above the relevant Remedial Trigger Values (RTV) and / or contain organic matter concentrations indicative of a source of ground gas then this material will be sentenced for ex-situ aerobic bioremediation.
- 4.5.18 The form of ex-situ bioremediation to be used is anticipated to be the static biopile and windrow type method. Both techniques may be used concurrently depending upon the type of material and contaminant being treated and the anticipated duration of treatment of the particular material.
- 4.5.19 The process applied to biopiles and windrows is essentially the same, i.e. aerobic biodegradation leading to the production of carbon dioxide and moisture. In windrows, air is introduced to the material by turning / rotavating whereas in static biopiles air is introduced via pipework laid in the material. Biopiles are favoured in materials for which prolonged treatment times are anticipated. The decision as to which method is to be used in which circumstance will be based on the results of initial site pilot trials which are described in the project Remediation and Reclamation Strategy. It is anticipated both methods will be deployed dependent on the nature of the material for remediation.
- 4.5.20 A biopile consists of a basal layer or pad upon which the pile is formed, a perimeter drain to capture any run off or seepage; a network of installed perforated uPVC pipe work to aerate the pile, commencing at the base; and the soil itself which is placed onto the treatment pad typically to a height no greater than 2.5m. The aerated floor of each treatment unit is inspected and cleaned each time it is used, in advance of being filled. The biopile can be

covered with a fleece sheeting in order to maintain the core temperature and retain sufficient moisture to promote biodegradation. Odours are inherently mitigated in the biopile system with the air being mechanically drawn through the biopile passing through a granular activated carbon or air biofilter, to removes volatiles and odours, prior to release.

- 4.5.21 A windrow is of a similar design but does not involve the forced movement of air through the soil. As with biopiles a fleece covering will be placed over the treated soil to assist in maintaining warm temperatures to promote activity of the micro-organisms and to minimise the potential for rainfall infiltration, aerosol, dust and odour migration.
- 4.5.22 There will be a need for the excavation, testing and sentencing of a large volume of made ground material which requires a steady throughput of material delivered to the receiving area of use for the development platform. Existing test results indicate that a significant proportion of the material will be geo-environmentally acceptable at the point of excavation and will therefore be directed to the area of use without needing remediation of contamination. Material which does require remediation for the most part contains low concentrations of the biodegradable contaminants. These factors indicate that the windrow system is likely to be appropriate for the remediation of the bulk of the material requiring treatment.
- 4.5.23 However a small proportion of the material requiring bioremediation will be odorous and may be contaminated to a higher concentration of the key contaminants, requiring longer treatment times and the close control of volatile emissions. For this small proportion of the material the static biopile method is likely to be required.
- 4.5.24 Overall therefore a combined system of turned windrows for dealing with the majority of the material requiring treatment, and static biopiles to deal with a small proportion of the more contaminated and potentially odorous material, is likely to be necessary. The actual proportions treated by either method will depend on the point-of-excavation inspection and testing of the material and the results of site pilot trials.
- 4.5.25 The CEMP and associated OMP will be updated to reflect this, once the results of the pilot trials are available. If the trials indicate that any static biopile is necessary, these will be available onsite from the onset of the works.

#### Remediation - Stabilisation / Solidification

4.5.26 The activities undertaken for stabilisation / solidification will comply with the requirements of the air, dust and odour management plan for the site remediation works (see Section 7.3 and 7.5). Any material which cannot be reasonably well compacted due to high moisture content will require either chemical stabilisation, or, as a minimum, the modification (lowering) of the

moisture content. The difference between stabilisation and modification is essentially the proportion of additive mixed into the material. Modification requires a lower proportion of additive than does stabilisation. The degree of stabilisation or modification required will be dependent on the specific end use of the material and the level of placement below formation level.

- 4.5.27 At this stage it is anticipated that lime will be the stabilisation / modification additive although other materials including cement and pulverised fuel ash may be considered in combination with lime. In order to stabilise or modify the material, thorough mechanical mixing of the material with the stabilising / modifying additive is required prior to compaction. The plant to be used for the stabilisation / modification of materials would be Integrated Mixers, which rotavate the additive into the material in thin layers beneath a ground-level shield or cowl as the mixer travels across the surface of the material. This method is designed to minimise the risk of significant dust generation and to minimise wastage of the additive.
- 4.5.28 Soil materials to be stabilised or modified will be placed initially by dozer in un-compacted layers of the order of 300mm 400mm. The integrated mixer then travels over the material, the additive fed and rotavated into the surface layer of the material beneath the protective shield or cowl. Once the additive has been mixed into the material the layer is compacted using conventional compaction plant including towed vibratory smooth wheeled rollers and / or sheepsfoot rollers which compact and seal the layer prior to the placement of subsequent layers.

#### Material Placement

4.5.29 Natural ground at the base of the excavation will be rolled to confirm that the formation can receive compacted placed materials. The made ground materials previously excavated, tested and remediated, or materials deemed suitable for placement direct from the excavations, will be placed loosely by dozer in layers of circa 300mm – 400mm thickness. Each layer of material is then rolled using smooth wheeled and / or sheepsfoot roller between 5 and 10 occasions to achieve the desired level of compaction and to seal the surface. The layer is tested to validate the compaction. Then the next layer of material is placed, compacted and tested. The placement and compaction of materials is repeated until the desired level is achieved for the development platform.

#### 4.6 Anticipated Plant

- 4.6.1 The following Plant are anticipated for the bulk earthworks
- 4.6.2 Excavation Activities
  - Excavators (e.g. Komatsu 240);
  - Backhoe Loaders;

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- Dozers (e.g. Komatsu 734);
- Articulated Dump Trucks (e.g. Volvo A25D);
- Crushing Plant hydraulic hammers and large excavators.
- 4.6.3 Placement and Compaction Activities:
  - Excavators (e.g. Komatsu 240) (materials from stockpiles);
  - Backhoe Loaders;
  - Dozers (e.g. Komatsu 734);
  - Articulated Dump Trucks (e.g. Volvo A25D);
  - Compaction rollers (sheepsfoot and/or smooth compactor);
  - Ripping equipment (attached to Dozers).
- 4.6.4 During all activities:
  - Water treatment Plant;
  - Back acting excavator (JCB type).
- 4.6.5 The following plant and equipment will be required for the biopile or windrow bioremediation treatment:
  - Back acting excavator with front end loader;
  - Water knockout tank with automatic level control;
  - Rotary displacement vacuum pump or centrifugal flow fan to provide aeration;
  - Off-gas treatment such as granular activated carbon drum(s);
  - Generator (450V 32a);
  - Tractor mounted windrow turner;
  - Leachate collection system/sump.
- 4.6.6 The type of plant and equipment required for the stabilisation is discussed in the remediation section.
- 4.6.7 All plant will be operated in line with the manufacturer's guidelines and by contractors who are adequately trained in the use of such plant. The plant will be maintained in good working order and serviced and maintained as required. Plant not in use will be switched off to avoid unnecessary noise.

#### 4.7 Construction of bund and acoustic barrier

4.7.1 A strip of land will be retained adjacent to the boundary with the Tangerine Confectionary production facility. For the construction of the bund the vegetation will be cleared and the Made Ground will be excavated and the excavation backfilled to form a suitable founding stratum for the bund. The backfilling will place materials in thin layers which are then re-compacted in accordance with the requirements of the specification. The bund supporting the acoustic barrier will be formed from site materials. The materials will be placed in thin (300mm) layers and compacted (to control settlement) in accordance with the requirements of the specification. Once the design height has been reached a thin layer of topsoil would be placed for landscaping purposes and the acoustic barrier would be constructed on the summit of the bund.

- 4.7.2 The Site Manager will be responsible for ensuring that all staff on site maintain an ongoing visual risk assessment at all times during works and that equipment is available throughout the works to dampen the working area at the time it is required. The principal mitigation measure to control dust generation during the construction of the acoustic bund will be to ensure that the surface of the materials remains dampened. Following earthworks, the surface of the bund will be seeded or planted (landscaped) as early as practicable to remove the risk of windblown dust from exposed soil surfaces.
- 4.7.3 During the construction of the acoustic bund, the Principal Contractor's Site Manager will establish and maintain regular communication with an appointed representative from Tangerine Confectionary to ensure impact to Tangerine's operations is managed and minimized.

# 5 SITE ACCESS

### 5.1 Access & Egress for construction vehicles

- 5.1.1 It is proposed that all vehicles for the purposes of construction will access the site from the A1237 along Millfield Lane or via the A59 Boroughbridge Road.
- 5.1.2 During the construction phases Heavy Goods Vehicles shall only enter or leave the site during the working times shown in section 4.1.
- 5.1.3 During the Remediation/Reclamation stage of the development, which is anticipated to be completed within approximately 12 months, the daily level of forecast traffic movements is estimated to not exceed 169 vehicle movements per day. Of these, 31 movements are estimated to be undertaken by HGV. All construction traffic would use Millfield Lane.
- 5.1.4 During the site layout stages of the development, which is estimated to be completed within 7 years, total daily movements are estimated at 100 vehicles, of which 20 are estimated to comprise HGV movements. This traffic is forecast to arrive and leave proportionally equivalent to 55% via Millfield Lane and 45% via Boroughbridge Road.
- 5.1.5 All Heavy Goods Vehicles shall use white noise reverse sounders rather than reverse beepers.
- 5.1.6 Advice shall be provided to all drivers accessing or leaving the site along Millfield Lane to ensure awareness of other local users and associated risks, plus on the correct use of the level crossing. The Construction Manager will liaise with the Level Crossings Manager over issues affecting the crossing such as damage brought about as a direct consequence of construction traffic use, or the anticipated use of the level crossing by abnormal vehicles.
- 5.1.7 Construction traffic signage will be provided generally in accordance with the principles set out in the Traffic Signs Manual as produced by TSRGD. Reference is made to Section D3.22, but this is not a comprehensive reference. The specific nature of the signing will need to respond to detailed phasing patterns of the site and would be agreed with the highway authority prior to implementation. This would include signage throughout the construction period instructing that no construction traffic is to use Lower Poppleton Road or Plantation Drive. The Site Manager will be responsible for ensuring that the signing strategy applicable to the specific construction phase is accurate with all signs clearly visible to road users. A regular check on the integrity of the signing will be the responsibility of the Site Manager.

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### 5.2 Site structures

- 5.2.1 A number of temporary structures will be installed on the site during the remediation and construction phases of development. These will include gatehouses, site compounds and site offices as well as welfare facilities for construction workers. These temporary structures will be installed in accordance with the relevant legislation and regulations.
- 5.2.2 All reasonable measures will be taken to avoid creating a material impact on nearby receptors and in reality this could only be the case if any of the structures are to be placed on or within very close proximity of the site boundary in close proximity to a sensitive receptor, which is not envisaged or practical to facilitate the development works.
- 5.2.3 If necessary and appropriate, temporary structures, cranes or mechanical plant working adjacent to the Network Rail boundary will be located and operated in accordance with Network Rail guidelines.

## 5.3 Parking areas for vehicles of site operatives and visitors

- 5.3.1 A temporary parking area and number of construction compounds will be located on the site to accommodate construction vehicles and personal vehicles off the public highway.
- 5.3.2 Where any site compound or parking area is created adjacent to the Network Rail Boundary, an Armco or similar barrier will be located such that vehicles would not be in a position to drive into or roll onto the railway or damage the line side fencing.

# 5.4 Managing public highway

- 5.4.1 In order to reduce the deposit of mud and grit on the public highway, hard standing surfaces will be provided within the site, especially where deliveries are going to be taking place. The developers will take reasonable steps to ensure that the deposit of mud and dirt on the highway is kept to a minimum. Wheel washing facilities will be provided on the site at all times through each phase of the development.
- 5.4.2 A pressure washer, with manual brushing facilities will be provided on site and used as frequently as deemed necessary by the condition of the road adjacent to the operational site accesses, as determined by the site manager as part of the daily visual dust inspection regime, and in consultation with the local authority's highways department as necessary.

### 5.5 Condition Survey

5.5.1 Prior to the start of works on site, a visual inspection of the existing highway on Millfield Lane between the site access and the A1237 roundabout, and

on Boroughbridge Road between the site access and the A1237 roundabout shall be undertaken by British Sugar. A condition report shall be produced setting out all identified defects and an assessment of the reasonably anticipated level of wear and tear that would be expected on the highway during the forecast construction period for the development in circumstances where the development were not to proceed. The report will be provided to City of York Council (CYC), Network Rail and the Principal Contractor.

- 5.5.2 The report, including photographic evidence, shall detail the location and condition of all surfacing, kerbs, drainage (gullies), signage, lighting and street furniture, and soft landscaping.
- 5.5.3 Any damage caused to the highway on Millfield Lane, the level crossing on Millfield Lane, or Boroughbridge Road, directly attributable to vehicles accessing or leaving the site shall be reported by the vehicle driver to the Principal Contractor, who in turn would report the matter to CYC. Details shall be entered into the site log book by the Principal Contractor. The need for reasonable and appropriate remedial works can then be agreed by British Sugar with CYC and/or Network Rail as appropriate.
- Following the completion of the site works relating to the approved 5.5.4 remediation works (planning application ref: 14/02798), and following the completion of the site works relating to each phase of the approved masterplan development (under planning application ref: 14/02789/OUTM), an inspection of the highway on Millfield Lane, the level crossing on Millfield Lane and Boroughbridge Road (covered in the condition report noted in para 5.5.1) shall be undertaken by British Sugar in coordination with all of the parties referred in para 5.5.1. This inspection shall include an assessment of any wear and tear to the highway on Millfield Lane, the level crossing on Millfield Lane, and Boroughbridge Road, which can reasonably be concluded to be directly attributable to the drivers not acting in accordance with para 5.1.6. In light of the assessment a schedule of any reasonably required remedial works (together with a reasonable and appropriate specification for the works) to the highway on Millfield Lane, the level crossing on Millfield Lane, and/or Boroughbridge Road shall be agreed by British Sugar with CYC and/or Network Rail as applicable, and completed by the Principal Contractor within 12 months of the completion of the site works (or such longer period as may be agreed), subject in each case to any remedial works being on land within the ownership and/or control of CYC and/or Network Rail and to British Sugar obtaining any necessary approvals, licences and authorisations (at nil cost) from CYC and/or Network Rail as appropriate.

# 6 STORAGE & SECURITY

## 6.1 Storage of plant and materials

6.1.1 Secure, hard-standing space will be designated by the contractor alongside loading and unloading areas for the initial storage of plant and materials. Due to the size of the development, additional localised storage areas may be introduced, in line with the phasing of the development, to reduce the movement of plant and materials around the site (and thereby minimise the noise associated with such movements).

## 6.2 Securing the site

- 6.2.1 Secure boundary fencing around the site will be maintained throughout the development. Where it is necessary to temporarily or permanently alter the existing security fence (e.g. where new access roads are constructed), a suitable temporary security fence or hoarding will be provided. This will be monitored and maintained throughout the works to ensure a safe working environment and prevent risk to the general public. Additional temporary security fencing will be erected around hazardous or restricted areas of site works as required.
- 6.2.2 When house builders commence development of parcels, they will be responsible for securing the sites upon which they are developing if appropriate.
- 6.2.3 No works are anticipated to the Network Rail Boundary.

# 7 MANAGING IMPACTS OF CONSTRUCTION ACTIVITY

# 7.1 General

- 7.1.1 The recommendations contained within this CEMP are based upon industry best practice and the CEMP should be regularly reviewed to reflect changes in industry standards.
- 7.1.2 During the remediation works covered by the detailed planning application and the subsequent phases covered by the outline planning application, the Site Manager / Contractor's Foreman will be available on a weekly basis, to meet and discuss with stakeholders at nearby sensitive receptors any activities planned at the site for that week. The purpose of which will allow open discussion on the activities planned at that time, the risk associated with them and will also provide receptors with the means to raise concerns on the timing of activities and/or the control measures to be applied.

# 7.2 Noise and vibration

- 7.2.1 An acoustic survey has previously been undertaken at a selection of locations within the site to establish existing ambient noise levels. The noise monitoring was completed in accordance with a methodology agreed with the Local Planning Authority. The Contractor will adopt steps and procedures to minimise the creation and impact of noise and vibration, resulting from the site preparation, demolition, groundwork and construction phases of the development by applying BS 5228-2009+A1:2014 (*Code of practice for noise and vibration control on construction and open sites*).
- 7.2.2 The following summarises the approach to be taken in order to manage noise and vibration as part of the works.

# Trigger Levels

- 7.2.3 Noise a trigger level of 75dB (LAeq,t) at the site boundary
- 7.2.4 Vibration the trigger level of 3 mms-1 peak component particle velocity at the site boundary
- 7.2.5 The above trigger levels apply to normal daytime working hours of 08:00-18:00 Monday to Friday and 09:00 to 13:00 Saturday. No works outside of these hours are proposed.
- 7.2.6 In the event that the trigger levels are exceeded at any of the monitoring locations identified in section 7.2.10, then an assessment will be undertaken to identify the cause, impacts, and any remedial actions that may be necessary. Where remedial work is required, a plan will be prepared for the implementation of the remedial measures.

### Regular Inspection/Monitoring

- 7.2.7 The site manager (or other designated personnel) will carry out regular (minimum daily) inspections of the site in the vicinity of the current area of working and the nearest site boundary. The purpose of the inspection is to identify any unacceptable or unexpected sources of noise/vibration and to determine if it is likely to result in an exceedance of the trigger levels.
- 7.2.8 If the inspection identifies any unacceptable or unexpected noise/vibration sources, remedial action to reduce levels will be taken as soon as reasonably practicable.
- 7.2.9 Details of inspections which identify anything unusual or result in remedial action being taken shall be recorded in the site log book. The details shall include the time of any monitoring undertaken, who did it, what they witnessed, what remedial action was taken and when any revisit was taken where remedial action was undertaken.

Quantitative Noise/Vibration Monitoring Locations and Frequency

- 7.2.10 Based on the boundary of the works, routine monthly noise monitoring is proposed at the following locations within the site:
  - A rear of Langholme Drive south
  - B rear of Langholme Drive north
  - C closest approach to Severn Green
  - D closest approach to Park Side Cottage on Millfield Lane
  - E closest approach to Princess Drive
- 7.2.11 Routine monthly vibration monitoring at the above locations will be carried out during works which are a potentially significant source of vibration.
- 7.2.12 Monitoring will also be undertaken in the event of a potentially valid complaint received directly from nearby residents or via the local Environmental Health Department.

### Noise Monitoring Regime

7.2.13 At each location the monitoring will be carried out using a suitable sound level meter and field calibrator which have been calibrated by the manufacturer or at an accredited laboratory to the relevant standards and within the previous 2 years. Sound level meters shall conform to BS EN 61672-1:2003 class 1, and calibrators to BS EN 60942:2003 class 1.

- 7.2.14 All noise monitoring must be carried out by suitably qualified/experienced personnel. Details of qualifications and experience to be recorded as part of the monitoring regime.
- 7.2.15 Monitoring shall be carried out in a 'free-field' position a minimum of 3.5m away from any vertical reflective surface, and at a height of between 1.2 and 1.5m. The microphone shall be protected by a wind shield at all times during the monitoring.
- 7.2.16 Monitoring at each location shall be carried out for a minimum of 1 hour when the site is operating normally, in order to obtain an estimate of the  $L_{Aeq,1hour}$  reading.
- 7.2.17 Before and after each monitoring session a field calibration test shall be carried out using a hand held calibrator and the result recorded. If a significant change in the calibration level is noted between the beginning and end of a monitoring session, greater than 0.5 dB(A), then the results should be considered suspect and the monitoring repeated, ideally using an alternative noise meter.
- 7.2.18 During the monitoring the prevailing weather conditions, in particular wind speed and direction, shall be noted. Monitoring must not be carried out during wet and/or windy weather (wind speeds greater than 5 ms<sup>-1</sup>).
- 7.2.19 The dominant noise sources observed during the monitoring shall also be noted. If the site is audible but monitored noise levels are dominated by other sources e.g. road/rail traffic, then an attempt shall be made to estimate the level of the site noise during 'gaps' in the dominant noise source by watching the second to second display on the meter. This will aid in determining if any exceedances of the noise trigger level is due to site operations, and therefore remedial action needs to be taken.

### Vibration Monitoring Regime

- 7.2.20 At each location the monitoring will be carried out using suitable vibration monitoring equipment as specified in BS EN ISO 8041:2005, which has been calibrated by the manufacturer or at an accredited laboratory to the relevant standards and within the previous 2 years.
- 7.2.21 All vibration monitoring must be carried out by suitably qualified/experienced personnel. Details of qualifications and experience to be recorded as part of the monitoring regime.
- 7.2.22 Monitoring shall be carried out in a 'free-field' position away from any supporting structures. Transducers shall be bonded to the ground using a method suitable for the transducer in use.

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- 7.2.23 Monitoring at each location shall be carried out for a minimum of 15 minutes when the site is operating normally, in order to obtain an estimate of the peak component particle velocity.
- 7.2.24 The dominant vibration sources observed during the monitoring shall also be noted. This will aid in determining if any exceedances of the vibration trigger level is due to site operations, and therefore if remedial action needs to be taken.

### Action Following Receipt of a Complaint

- 7.2.25 Should complaints arise from nearby residents regarding noise/vibration from site activities a log of the complaint will be made, including:
  - the date and time that the complaint was received by the site;
  - the nature of the complaint; and
  - the name, address and telephone number of the complainant.
- 7.2.26 The site manager (or other designated personnel) shall be notified as soon as possible that a complaint has been received and, if required, contact the complainant to obtain further details.
- 7.2.27 If the complaint relates to an event in the past then the likely cause of the complaint will be investigated as soon as possible via records of site activities and prevailing weather conditions. The complainant will be advised of the results of the investigation and any remedial action taken as a result of the complaint.
- 7.2.28 If the source of the complaint is still ongoing it will be investigated as soon as reasonably practicable. If initial investigations identify that the noise/vibration levels are unusual or the site noise/vibration trigger levels may be being breached then remedial action will be taken to reduce noise levels. If the source of the complaint relates to normal day to day activities noise/vibration monitoring will be undertaken to determine if such works are likely to result in a breach in the future. The results will be discussed with the complainant and explained with regard to the noise/vibration trigger levels, and the influence of other noise sources outside the site. If the noise/vibration monitoring results indicate that normal day to day activities are likely to result in a breach then adjustments to the working methods will be considered as far as practical to reduce noise/vibration levels.

# 7.3 Air Quality / Dust

### Introduction

7.3.1 The measures for the control of dust impacts on local air quality to be implemented throughout the scheme will include the activities described in the sections below. The aim of the control measures described will be to control and/or minimise dust emissions at source. The measures described

are segregated into those that are relevant to all phases of the works to be undertaken on the site and those that are relevant to the two main phases. These are divided between the remediation phase of the works (referred to as the 'remediation phase'), including all works associated with the excavation, treatment and placement of materials and the construction of the earth bund adjacent to the Tangerine Confectionary site, and those that are relevant to all other phases (referred to as the 'construction Phase'), including infrastructure works and construction of houses.

# Dust Sources

# Remediation Phase

- 7.3.2 Activities associated with the remediation phase with the potential to generate dust, can be divided into the following Categories:
  - The excavation of material during remediation works;
  - The storage and handling of pre and post-remediated material;
  - The treatment of remediated material;
  - The construction of an earth bund, adjacent to the site boundary with the Tangerine;
  - The movement of non-road mobile machinery; and
  - The movement of construction vehicles on the public road.

# Construction Phase

- 7.3.3 Activities associated with the construction phase with the potential to generate dust, can be divided into the following Categories:
  - The demolition of existing structures;
  - The excavations associated with site infrastructure and foundations, and landscaping works;
  - The storage and handling of construction material, including soil, sand and hardcore;
  - Construction activities, including the grinding and cutting of construction materials;
  - The movement of non-road mobile; and
  - The movement of construction vehicles on the public road network.

# Control Measures

- 7.3.4 The aim of the dust control measures set out below is to control emissions, mitigate against emissions or remove emissions at source.
- 7.3.5 The objective of these measures is to minimise the visible release of airborne dusts and particulates arising from remediation and construction activities, and to prevent releases in such quantities or concentrations that are likely to cause pollution of the environment or harm human health or bring about serious detriment to the amenity of the locality.

7.3.6 Appendix C contains a risk assessment, based on Environment Agency guidance, that suggests the applicability of the measures described below for each phase of the detailed application remediation works. The same measures should be maintained to control dust throughout all following works undertaken at the site.

### Generally

- 7.3.7 Training, Awareness and Competence
  - Staff at all levels will be provided with the necessary training and instruction in operational control procedures to control dust emissions. Training, awareness and competence will be evaluated on a routine basis to ensure ongoing effectiveness.
  - The site will have a regular cleaning regime, the frequency of which will be determined by the site manager, based on the programme of works and the conditions at the time, and the immediate cleaning up of spills will be undertaken.
  - Daily inspections will be undertaken of site boundary locations near to sensitive receptor locations. If there is evidence of dust from the site depositing beyond the site boundary, this will be reported, investigated and measures implemented to prevent further deposition.
  - Site management will update nearby sensitive receptors on potentially dust generating activities to be undertaken on a weekly basis, particularly when works are being undertaken in close proximity to them.
- 7.3.8 Road and Traffic Management
  - An on-site speed limit of 10 mph will be enforced on-site, to reduce the amount of dust re-suspended by HGV movements.
  - The access road and hard-standing areas will be kept clean to ensure that dust is not re-suspended by vehicle movements on the site.
  - The public roads in the vicinity of site accesses will be kept clean to ensure that dust is not re-suspended by vehicle movements off the site.
  - Wheel washing facilities will be in operation at all times during development work phases.
- 7.3.9 Materials Storage and Handling
  - The number of handling operations of potentially dusty materials will be kept to a minimum, ensuring that any such material isn't moved or handled unnecessarily.
  - Temporary stockpiles will be located away from site boundary, dampened down and removed as soon as practical. The slopes on stockpiles should be no steeper than the natural angle of repose of the material and should maintain a smooth profile. Regular monitoring of stockpiles shall be carried out to check for wind entrainment.
  - Reduced drop heights shall be used where possible to control dust.

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# Remediation Phase

## 7.3.10 Training, Awareness and Competence

- Written operating instructions will be prepared for all critical operations involving plant used for remediation works, including plant start-up, shutdown, operation and abnormal operating conditions. Instructions will be reviewed immediately after any change to the method of working is introduced, to ensure ongoing dust control effectiveness.
- 7.3.11 Road and Traffic Management
  - Vehicles carrying potentially dusty remediation material from the site will require sheeting or containment to ensure that dust is not released onto the public highway.
  - All vehicles relating to the remediation phase will adhere to the onsite speed limit.
- 7.3.12 Remediation Works
  - Carrying out remediation works during dry and/or windy conditions should be avoided at locations close to sensitive receptors, if reasonably practicable, having regard to programme and contracting arrangements for the relevant works. Where this is unavoidable, appropriate water suppression to control dust should be applied.
  - Water will be available on-site for dust suppression at all times during all elements of the remediation phase;
  - Crushing or grinding plant, which falls within the definition in Section 3.5 Chapter 3 of the Pollution Prevention and Control (England and Wales) Regulations 2000 S.I.1973, will have the appropriate permit issued. City of York Council's Public Protection team shall be notified prior to the arrival and use of the plant on site. A water supply will be provided for the plant.
  - Plant will be maintained according to the procedures set out in the Pollution Prevention and Control Act 1999. A copy of its permit should be held on site.
  - Remediation plant should be fitted with appropriate dust control measures, such as enclosed conveyors, rubble chutes and water suppression, where reasonably practicable.
  - A monitoring regime will be implemented to quantify dust deposition and or soiling at locations close to the site boundary that are nearest to dust sensitive receptors. The monitoring methodology will be agreed in advance with the LPA, but will include, as a minimum, the locating of sticky pad soiling gauges at site boundary locations that are adjacent to nearby dust sensitive receptors. The monitoring will be undertaken throughout the remediation phase with samples being changed over on a weekly basis. The purpose of the monitoring will be to demonstrate the effectiveness of dust control measures implemented on the site.

# 7.3.13 Materials Storage and Handling

 Materials retrieved during remediation works close to sensitive areas of the site boundary will be moved to designated stockpile areas away from the site boundary as soon as possible.

# Construction Phase

- 7.3.14 Training, Awareness and Competence
  - Written operating instructions will be prepared for all critical operations including plant start-up, shut-down, operation and abnormal operating conditions. Instructions will be reviewed immediately after any change to the method of working is introduced, to ensure ongoing dust control effectiveness.
- 7.3.15 Road and Traffic Management
  - Vehicles carrying potentially dusty construction materials entering and leaving the site will require sheeting or containment to ensure that dust is not released onto the public highway.
  - All vehicles relating to the construction phase will adhere to the onsite speed limit.

## 7.3.16 Construction works

- Carrying out demolition and construction during dry and/or windy conditions should be avoided at locations close to sensitive receptors, if reasonably practicable, having regard to programme and contracting arrangements for the relevant works. Where this is unavoidable, appropriate water suppression to control dust should be applied.
- Water will be available on-site for dust suppression at all times during the construction phase of the works;
- Construction plant should be fitted with appropriate dust control measures, such as enclosed conveyors, rubble chutes and water suppression, where reasonably practicable.
- The monitoring regime will be continued through the construction phase of the works.
- 7.3.17 Materials Storage and Handling
  - The storing of potentially dusty construction materials should be done so away from site boundaries and/or potentially sensitive receptors. Materials, such as the final sand product, or any other aggregate on site, should be stored in bunded areas and not allowed to dry out.

# Additional Control Measures

7.3.18 Should conditions prove that the measures described above are not sufficient to control dust impacts at sensitive locations beyond the site boundary, then it is normal practice on construction sites for 'additional'

control measures to be implemented, on top of those already being employed at the site.

- 7.3.19 In this instance, the measures listed as standard dust control tools to be implemented at the British Sugar site are relatively comprehensive, to the extent that 'additional' measures would involve the following for all phases of the works:
  - A temporary or permanent (if required) reduction of the on-site speed limit to 5mph.
  - An increase in the frequency in which dust suppression is applied to working areas of the site.
  - An increase in the frequency of visual inspections for dust deposition beyond the site boundary.
  - An increase in the frequency of the on-site cleaning regime;
  - An increase in the frequency of the cleaning of the site access road and nearby section of the public road.
  - The movement of stockpile and/or treatment areas to other parts of the site, away from the area being impacted, but with regard for the amenity of other nearby receptors.
  - An increase in the scale of dust monitoring required, with consideration given to real-time dust monitoring.

# Monitoring

# Monitoring of Meteorological Conditions

- 7.3.20 The Site Manager will make reasonable efforts to foresee adverse weather conditions by accessing an appropriate source of weather forecast data. A weekly forecast will be made available for the weekly liaison meetings with relevant receptors to aid with planning of activities. This information should be used to schedule appropriate preventative action at times when there is an increased risk that site operations will give rise to significant off site impacts. Alternatively, activities with the potential to generate significant amounts of dust will be postponed, if necessary, until there are more favourable meteorological conditions.
- 7.3.21 In addition to the forecasting of meteorological conditions, meteorological data that is representative of conditions at the site will also be required to substantiate potential complaints. This will gathered by a meteorological station position at a suitable area within the site (possibly fixed to the site office) and will measure and electronically log parameters including wind speed, wind direction and precipitation.

### Visual Dust Monitoring

7.3.22 It will be the responsibility of all site personnel to maintain a vigilance of dust emissions during the working day. Any significant dust emission occurring

with the potential to travel beyond the site boundary will be reported to the site manager, who will be responsible for investigating the cause and taking immediate action to minimise further emissions. If necessary, site operations will be halted until an appropriate remedial action can be implemented.

- 7.3.23 A daily inspection of the site boundary will be made, by the site manager or another designated individual, to check for abnormal levels of dust deposition and the transfer of dusty material beyond the site boundary. If abnormal levels are found, the site manager or other designated individual will investigate the cause. Immediate remedial action will be taken where necessary.
- 7.3.24 A site log will be maintained that records the details of all visual inspections undertaken at the site. This will need to include a description of the dust, when and where it was found, the meteorological conditions at the time (with reference to the data being collected), whether or not evidence suggested that it was as a result of the works being undertaken at the site, and the corrective actions taken. The log should also record inspections when no dust deposition was noticed.

### Quantitative Monitoring

- 7.3.25 Prior to the start of the remediation works, a period of baseline dust monitoring will be undertaken to establish existing conditions at site boundary locations that are representative of the nearest dust sensitive receptors in each direction of the site. This baseline data will provide a benchmark against which data gathered during the operational phases can be compared.
- 7.3.26 As a minimum, the monitoring will involve the use of sticky pad dust gauges to measure the rate of soiling on a weekly basis throughout all phases of the works.
- 7.3.27 During the remediation and construction works, monitoring will continue and the results gathered will be compared against the baseline levels measured during the baseline survey, and as agreed with the LPA.
- 7.3.28 Where the weekly monitoring undertaken during the remediation and construction works does suggest that activities are leading to increased soiling and/or deposition beyond the site boundary, at levels that may cause complaints/harm to nearby receptors, the site management will investigate operations in that area and increase the level of dust control there, if required.
- 7.3.29 If elevated soiling rates persist at a site boundary monitoring location, consideration will also be given to the installation of a real-time airborne dust monitoring device (such as a light-scatter device). If required, real-time

monitoring will allow for an immediate response to elevated airborne dust concentrations.

7.3.30 All monitoring data should be filed and stored so that it is easily retrievable if required for substantiating a complaint or for a review of the dust control measures being implemented at the site.

### Complaints Management

- 7.3.31 The contact telephone number for the site shall be permanently displayed at the site entrance.
- 7.3.32 Should a dust related complaint be received either directly or via the Environmental Health Officer/Planning Authority, pertaining to the site, then the following actions will be taken:
  - Details of the complaint will be logged on a 'Complaints Log Sheet', and will include the name, address, contact details of the complainant, the method of communication (e.g. in person, telephone, email or letter), and the specific details of the complaint;
  - The complaint will be investigated and details logged will include prevailing weather conditions (e.g. dry, wind, etc.) and operational plant details, including maintenance and complaint related history;
  - All complaints will be brought to the attention of the Site Manager who is responsible for reviewing the complaints log, investigations and remedial action effectiveness;
  - If a complaint is found to be as a result of an activity carried out at the site, appropriate remedial action will be taken, and details will be recorded within the complaints log;
  - Any remedial action will be logged and all corrective actions relating to the complaint will be signed off and dated as concluded.
  - The results and outcome of the investigation will be reported back to the complainant.
- 7.3.33 All complaints will be investigated within 1 working day of receipt. In the case of serious or persistent complaints the need for fully independent professional advice will be considered.
- 7.3.34 Problems concerning dust from site activities can sometimes be avoided by taking a considerate and neighbourly approach to relations with the local residents and other dust sensitive receptors. For example, if works outside of normal working hours is required, due to an emergency, then the residents will be notified accordingly.

### Record Management

7.3.35 The Site Manager will ensure that records required by the Dust Management Plan are completed and retained. This should be summarised

and maintained within a site log book/s, the details shall include the time of any monitoring undertaken, who did it, what they witnessed, what remedial action was taken and when any revisit was taken where remedial action was undertaken.

## Meteorological Conditions

- 7.3.36 The data gathered by the on-site meteorological station will be stored electronically in a location that can be easily accessed for when the data is required. As a minimum, the data stored should include wind speed, wind direction and precipitation.
- 7.3.37 Forecast data will also need to be gathered at the start of the week, to inform the schedule of works and highlight if meteorological conditions could be a constraint in the works planned for that week. Such data can be obtained from online meteorological resources, such as the BBC (www.bbc.co.uk), the met office (www.metoffice.gov.uk) and metcheck (www.metcheck.co.uk) websites. This forecast data should be entered into the site log book at the start of each week.

## Visual Dust Monitoring

- 7.3.38 A record of all visual monitoring should be kept for each day of operation. This would include the following information:
  - Date and time;
  - Summary of meteorological conditions;
  - Whether or not evidence dust deposition if found;
  - If so, where and to what extent;
  - A summary of the operational activities undertaken that day; and
  - A description of the remedial actions taken.
- 7.3.39 This information on visual inspections should be included within the site log book, including inspections that do not identify abnormal dust conditions.

# Quantitative Dust Monitoring

- 7.3.40 A record of all quantitative monitoring should be kept for each monitoring period undertaken during the remediation and construction works. This should include the following information, upon return of the results from the laboratory:
  - dates and duration of each sampling period; and
  - dust deposition rate (mg/m<sup>2</sup>/day) for each monitoring location.
- 7.3.41 A summary of the results obtained from the quantitative monitoring should be included within the site log, upon receipt of the analysis results from the laboratory. A review of the results data will determine if additional or alternative mitigation measures are required.

# **Complaints**

- 7.3.42 A record of all substantiated and unsubstantiated complaints will be recorded and retained on site. The information recorded will include:
  - Date and time of the complaint;
  - Location of where the subject of the complaint occurred;
  - On-site activities undertaken at the time of the subject of the complaint;
  - Meteorological conditions at the time of the subject of the complaint;
  - Whether or not the complaint is substantiated;
  - If so, the remedial action taken.
- 7.3.43 A summary of all complaints, substantiation and resulting actions should be recorded in the site log book.

# 7.4 Visual impact and lighting

- 7.4.1 In determining the lighting arrangement on site, consideration will be given to residents and other sensitive receptors (such as the operational railway) that may experience a nuisance by light. Where appropriate, measures will be implemented to reduce obtrusive light.
- 7.4.2 Where appropriate the following measures will be considered for implementation:
  - Dim or switch off lights where it is safe to do so;
  - Use specifically designed equipment; and
  - Position and angle lights to minimise light pollution of adjacent receptors.

# 7.5 Odour Management

# Introduction

- 7.5.1 An Odour Management Plan (OMP) has been prepared, which sets out the means of managing odour emissions from the site at source. The OMP is included within Appendix B.
- 7.5.2 The Odour Management Plan (OMP) will be developed further by the Principal Contractor appointed to undertake the remediation works, to be updated as further information on the remediation strategy is made available and in response to any changes in process/equipment that has the potential to affect odorous emissions. As the OMP is developed it will remain part of the CEMP. The OMP will govern the control of odour from the remediation and construction works on site.
- 7.5.3 In line with the recommendations of the Environment Agency's H4 Odour Guidance, a review of the OMP will take place on an annual basis. However,

the OMP is intended to be a reference during day-to-day operations, and as such would be updated on a more frequent basis should the following occur:

- significant changes are made to the process or operational practices;
- there is a change to the management structure, designation of responsibility or training provision;
- the Local Planning Authority requests that the OMP is updated, in their role as regulator; or
- complaints are received, which on subsequent investigation result in the identification of further control measures or remedial action, in addition to those set out within this OMP.
- 7.5.4 Appendix C provides a risk assessment of the potential for odour impacts to occur as a result of the remediation works at nearby sensitive receptors. Where the details of the working methods are currently unknown, assumptions have been made. The assumptions will need to be confirmed or amended as the construction method is finalised.
- 7.5.5 The OMP covers the works associated with the construction of a development platform; landform engineering works and remediation; and reclamation of the site. During the planned reclamation and remediation works, there is the potential for the disturbance, storage and handling of odorous material. No odour issues are anticipated once the remediation phase of the works is complete. Key points from the OMP are summarized below.

# Odour Sources

- 7.5.6 During the remediation works, the following activities will have the potential to generate odours that could impact on nearby odour sensitive receptors:
  - Collection, treatment as necessary and discharge of any perched water from the Made Ground in order to protect the surrounding environment from the potential effects of short term migration during the works;
  - Selection and remediation of soils contaminated by hydrocarbons, and / or organic matter and / or ammoniacal nitrogen (representative of ammonia and ammonium) by means of aerobic bioremediation. This to be achieved by static biopiles and / or turned windrows, the particular method or combination of methods being determined based on initial site pilot trials as set out in the Remediation and Reclamation Strategy.
- 7.5.7 Existing test results indicate that a significant proportion of the ground material will be geo-environmentally acceptable at the point of excavation and will therefore be directed to the area of use without needing remediation of contamination. Material which does require remediation for the most part contains low concentrations of the biodegradable contaminants. These factors indicate that the windrow system is likely to be appropriate for the remediation of the bulk of the material requiring treatment.

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- 7.5.8 A small proportion of the material requiring bioremediation will be odorous and may be contaminated to a higher concentration of the key contaminants, requiring longer treatment times and the close control of volatile emissions. For this small proportion of the material the static biopile method is likely to be required.
- 7.5.9 Therefore, a combined system of turned windrows for dealing with the majority of the material requiring treatment, and static biopiles to deal with a small proportion of the more contaminated and potentially odorous material, will be necessary.
- 7.5.10 The actual proportions treated by either method will depend on the point-ofexcavation inspection and testing of the material and the results of site pilot trials. The CEMP and associated OMP will be updated as required to reflect this, once the results of the pilot trials are available. If the trials indicated that any static biopile is necessary, these will be available onsite from the onset of the works.

## Odour Sensitive Receptors

7.5.11 There are a number of odour sensitive receptors in the vicinity of the site, including Residential properties on Langholme Drive, Plantation Drive, Severn Green, Princess Drive, Villa Court, Ouse Lane and Low Poppleton Lane, commercial properties on Pyramid Court, Rosetta Way and Rose Avenue, and the Amarna House Care Home, The Tangerine Confectionary production facility and the Muddy Boots Nursery and playing fields.

# Control Measures

- 7.5.12 The application of good working practices and process control is of fundamental importance in eliminating and minimising the risk of any odours being produced on site and their subsequent release to atmosphere. The management of sources of odour is preferable to the management of the pathways to receptors for both ease and efficiency. The measures described below are segregated into those based on general 'Good housekeeping' and those that are more specialised due to the nature of the works being undertaken. Control measures will be implemented on site to control odour emissions at source, reducing the risk of odour impacts occurring at odour sensitive receptor locations.
- 7.5.13 The overall aim during the operation of the works is to apply Best Available Techniques (BAT) at all stages of the remediation operations undertaken on site. For this reason, the works will be operated and managed in accordance with the accepted hierarchy of preferred controls, that is:
  - i. prevent the formation or emission of odorous compounds at source;
  - ii. where this is not practicable, minimise the release of odour;
  - iii. abate excessive emissions; then

iv. dilute any residual odour by effective dispersion in the atmosphere.

# Good Housekeeping

- 7.5.14 Training and Awareness:
  - Staff at all levels will be provided with the necessary training and instruction in operational control procedures to control odour emissions. Training, awareness and competence will be evaluated on a routine basis to ensure ongoing effectiveness.
  - The site will have a regular cleaning regime, the frequency of which will be determined by the site manager, based on the programme of works and the conditions at the time, and the immediate cleaning up of spills will be undertaken.
  - Daily inspection and cleaning of all site areas, site access roads and drainage channels, to ensure they are clear of any potentially odorous materials.
  - Site management will update nearby sensitive receptors on potentially odour generating activities to be undertaken on a weekly basis, particularly when works are being undertaken in close proximity to them.
  - Meteorological conditions and site conditions to be monitored and considered in unison, specifically on days where conditions are such that the risk of odours being transmitted off site is higher.
  - When such circumstances occur, work areas will be adapted, where possible, to reduce odour impacts off site as far as reasonably practicable.
  - If persistent odours are detected as a result of the remediation works, at locations close to odour sensitive receptors, works will be postponed until meteorological conditions improve and/or corrective action can be implemented.
- 7.5.15 Excavations
  - Excavations to be undertaken progressively with any dewatering required undertaken ahead of excavation, where practical, to reduce odours and improve the handling condition of soils.
- 7.5.16 Material Storage and Handling
  - The number of handling operations of potentially odorous materials will be kept to a minimum, ensuring that any such material isn't moved or handled unnecessarily.
  - Temporary stockpiles will be located away from site boundary and removed as soon as practical.
  - Excavated material to be transported to processing areas as soon as possible.
  - Minimising the stockpiling of potentially odorous material through suitable material and resource management, where practicable.
  - Minimising the surface area of any such odorous material exposed to air;

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- Daily inspection of any material stockpiles, to enable the early detection of any malodorous emissions.
- The inclusion of a quarantine area for the temporary storage of particularly odorous material if immediate treatment is not viable. This should be located as far away as possible from the nearest sensitive receptors, and in a direction that is predominantly upwind of these receptors.
- Prohibition of any unnecessary handling or movement of materials.
- 7.5.17 Road and Traffic Management
  - Installation and use of a wheel wash system for all vehicles leaving site;
  - Sheeting of all outgoing loads;

### **Remediation**

- 7.5.18 Material Treatment
  - Temporary cover systems will be utilised to reduce odour generation at any time they are required.
  - Biopiles will operate under negative pressure, with drawn air passing through a granular activated carbon or air bio-filter to remove volatiles and odours.
  - Where windrows are used to treat contaminated materials, they will be sealed by a fleece cover between turning cycles.
  - Windrows will be turned regularly (weekly / fortnightly) to aerate the soils and promote biodegradation, with the the fleece cover being replaced immediately after each turning. Potential odour emissions will only be likely when the cover is removed for turning and during turning of the material. The odour associated with each windrow will progressively reduce after each turning event.
  - Any lagoons should initially operate at reduced levels where possible to reduce the mobilisation of odours.
  - Contaminated ground liquids will be pumped in sealed pipes to treatment systems for immediate treatment or contained storage.
  - The locating of the processing area at a location selected to take into consideration odour risk at nearby sensitive locations.
  - Material is moved, with minimal delay, from the processing equipment to treatment beds.

### Additional Control Measures

7.5.19 Should conditions prove that the measures described above are not sufficient to control odour impacts at sensitive locations beyond the site boundary, then 'additional' control measures will be required, on top of those already being employed at the site. Should additional measures be required, they will be incorporated into a revised version of this CEMP. The level of additional mitigation will be defined by the level of odour risk identified by the contractors.

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- 7.5.20 An example of additional odour control measures that could be implemented is given below. These are indicative and actual measures deployed would depend on site requirements:
  - For the treatment of potentially contaminated water on the site, the use of fully abated air strippers could be applied.
  - When highly odorous materials are uncovered during the remediation works, that material will be moved to the quarantine area as soon as possible and then covered to control odours from that area.
  - If particularly odorous materials are uncovered, these will be treated using static biopiles, which include appropriate odour controls, over windrows, to minimise the risk of odour impacts.
  - Where windrows themselves are identified as a source of odour impacting beyond the site boundary, the regular turning of these will be timed to coincide with favourable meteorological conditions.
  - If timing the turning of windrows is not successful in reducing odour impacts, consideration will be given to transferring that material to a static biopile, if available at the time.
  - If odour issues are persistent, consideration will be given to the movement of treatment areas to a new location further away from the sensitive site boundary locations where issues have been identified, taking into account other nearby sensitive receptors.
  - As a last resort, targeted odour suppressants could be applied at any high risk odour activities and near to high risk odour sensitive receptors, providing that it is away from the Tangerine confectionary facility to avoid tainting of confectionary products.

### Monitoring

- 7.5.21 A monitoring regime will be implemented at the site, based on the Environment Agency's sniff test methodology, that will include multiple tests per day at upwind and downwind locations in relation to the activities being undertaken at that time, and the predominant wind direction at the time, focusing on site boundary locations in close proximity to nearby odour sensitive receptors.
- 7.5.22 In the event that monitoring indicates that odorous emissions from the facility are taking place, the site management team would take the following actions:
  - identify the cause/source of the odour;
  - check relevant items of equipment in order to identify the possible cause of the malodourous emission;
  - cease the activity causing the malodours emission, if necessary; and
  - record the incident and any remedial action taken in the site diary.

# Complaints Management

- 7.5.23 A complaints procedure will also be put into practice, which will include the following procedure:
  - The site manager will record the complaint details, including the time and the location that the odour episode was experienced at and the time of the complaint. Additional descriptive information should also be logged on the nature of the odour as described by the complainant.
  - The site manager or their delegate will investigate the activities ongoing at the time of the complaint and in the event of a complaint relating to an ongoing event apply mitigation as appropriate to minimise the generation of the emission at source.
  - For complaints relating to an ongoing event monitoring should be undertaken using the methods described in EA's H4 guidance at predetermined monitoring locations and if appropriate at the complaint location.
  - For complaints of odour episodes, lessons learnt from the investigation should be shared with the site management team and the holder of the Mobile Plant Treatment Permit and the knowledge used to inform future works so that the potential for a similar event in the future is minimised.
  - If unacceptable odour episodes are identified as being likely to reoccur under particular weather conditions or at particular locations, then consideration will be given to the restriction of remediation works or alternative methods of working, specifically to mitigate odour emissions and associated offsite impacts.
  - The results and outcome of the investigation will be reported back to the complainant.

# Record Management

7.5.24 The Site Manager will ensure that records required by the OMP are completed and retained. This should be summarised and maintained within a site log book/s.

# Meteorological Conditions

- 7.5.25 The data gathered by the on-site meteorological station will be stored electronically in a location that can be easily accessed for when the data is required. As a minimum, the data stored should include wind speed, wind direction.
- 7.5.26 Forecast data will also need to be gathered at the start of the week, to inform the schedule of works and highlight if meteorological conditions could be a constraint in the works planned for that week. Such data can be obtained from online meteorological resources, such as the BBC (www.bbc.co.uk), the met office (www.metoffice.gov.uk) and metcheck

(www.metcheck.co.uk) websites. This forecast data should be entered into the site log book at the start of each week.

# Odour Monitoring

- 7.5.27 A record of all odour monitoring should be kept for each day of operation. This would include the following information:
  - Date and time.
  - Summary of meteorological conditions.
  - Whether or not evidence of odour detected.
  - If so, where and to what extent (in line with relevant EA guidance).
  - A summary of the operational activities undertaken that day.
  - A description of the remedial actions taken.
- 7.5.28 This information on odour monitoring should be included within the site log book, including monitoring that does not identify abnormal odour conditions.

# **Complaints**

- 7.5.29 A record of all substantiated and unsubstantiated complaints will be recorded and retained on site. The information recorded will include:
  - Date and time of the complaint;
  - Location of where the subject of the complaint occurred;
  - On-site activities undertaken at the time of the subject of the complaint;
  - Meteorological conditions at the time of the subject of the complaint;
  - Whether or not the complaint is substantiated;
  - If so, the remedial action taken.

A summary of all complaints, substantiation and resulting actions should be recorded in the site log book.

# 7.6 Ecology

### Trees

7.6.1 Trees and hedges that are specifically identified to be retained will be clearly identified and are to be protected from construction activity. Retained trees on the site are to be protected in line with British Standard: 5837 "*Trees in Relation to Construction*"

# Invasive Plants

7.6.2 Care will be taken to avoid the spread of Invasive Plants on the Site (as scheduled in the Wildlife and Countryside Act, 1981). If invasive plants are found to be present on the Site, these plants will be disposed of in an appropriate manner.

## 7.7 Protection of water resources and Drainage

- 7.7.1 Works will be undertaken in accordance with approvals from the Environment Agency where appropriate and will adhere to Environment Agency Pollution Prevention Guidelines.
- 7.7.2 All hazardous substances (including liquids and solids) will be stored within impermeable, bunded areas, to remove the risk of migration to groundwater or a nearby watercourse in line with Environment Agency Guidelines.
- 7.7.3 The following list shows measures that will be put in place to prevent pollution and would conform to the best practice policy proposed by the Environment Agency (EA) via the Pollution Prevention Guidelines (PPGs):
  - The handling, use and storage of hazardous materials to be undertaken in line with the EA's Pollution Prevention Guidelines (e.g. PPG2 Above Ground Oil Storage Tanks);
  - Adequately bunded and secure areas with impervious walls and floor for the temporary storage of fuel, oil and chemicals on site during construction;
  - Drip trays to collect leaks from diesel pumps or from standing plant;
  - Oil interceptor(s) fitted to all temporary discharge points and for discharge from any temporary oil storage/ refuelling areas;
  - Development of pollution control procedures in line with the EA's Pollution Prevention Guidelines, and appropriate training for all construction staff;
  - Provision of spill containment equipment such as absorbent material on site.
  - Restrictions on use of unnecessary machinery near adjacent water bodies;
  - The treatment of any runoff from development areas with elevated suspended solids prior to discharge. Approval will be obtained from the EA for any discharges to controlled waters, if necessary. Treatment measures could include perimeter cut-off ditches, settlement lagoons, overland flow and/or settlement tanks;
  - Any disposal of surface water generated on site during construction to controlled waters will require consent from the EA. Wheel wash facilities should not be located too close to surface waters;
  - If dewatering is required along any part of the construction corridor, pumped groundwater will be disposed of appropriately according to EA Pollution Prevention Guidelines;
  - Attenuation ponds within each identified drainage catchment to be constructed first and used to attenuate and store run-off from the site during construction to prevent contamination of the surface and groundwater's.

# Drainage

- Site drainage, including surface runoff and dewatering effluents, will be discharged to sewers where reasonably practicable. Site drainage will meet the requirements for effluent and flood risk standards required by the sewerage undertaker.
- The relevant sections of BS6031:2009 Code of Practice for Earthworks for the general control of site drainage will be followed.

# 7.8 Construction Waste Management

7.8.1 Surplus or waste materials may arise from either material imported to site or from those generated on site. The following plan outlines the procedures that will be put in place.

# Segregation

7.8.2 A specific area shall be laid out and labelled to facilitate the separation of materials for potential recycling, salvage and reuse. Recycling and waste receptacles are to be kept clean and should be marked clearly in order to avoid contamination of materials.

## Site Security

7.8.3 The principal contractor must take reasonable steps to ensure security measures are in place to prevent the illegal disposal of waste at the site.

# Training and Communication

7.8.4 The principal contractor will provide on-site instruction of appropriate segregation; handling, recycling, reuse and return methods to be used by all parties at all appropriate stages of the project.

# 7.9 Contaminated land

- 7.9.1 The level of contamination present in soil and groundwater on the site is sufficiently low that effective communication of health & safety measures will be used in this scenario to minimise the risks to site workers. Measures to reduce the risks posed by contamination (including physical hazards e.g. glass) include, the following:
  - It is recommended that specific precaution be taken to reduce potential exposure in accordance with the principle of 'as low as reasonably practical' (ALARP). This may include appropriate health and safety briefings and training and personal protective equipment (PPE).

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• Provided that adequate health and safety measures are put in place during the site preparation and development phases, the risks to human health are considered acceptable in the short-term. The contractor should assess the risks and put in place the appropriate risk management measures according to the CDM Regulations and HSE Guidance.

### Unknown contamination

- 7.9.2 To address the potential risk from encountering unexpected contamination a watching brief would be maintained during excavation works. The person assigned would be suitably qualified in identifying indicators of contamination.
- 7.9.3 In accordance with best practice where unexpected contamination is encountered work in the area of concern should be halted until a suitably qualified specialist in consultation with the Local Planning Authority can make an assessment. Where remediation is necessary a remediation scheme will be prepared and this CEMP updated accordingly. Following completion of measures identified in the approved remediation scheme a verification report will be prepared.
- 7.9.4 Where materials that are contaminated are to be disturbed then the following measures should be implemented:
  - Provision of personal protective equipment (PPE) to construction personnel, such as gloves, barrier cream, overalls, dust masks, respirators etc. to minimise direct contact with soils. The precise requirements should be determined following an appropriate hazard assessment;
  - Provision of adequate hygiene facilities and clean welfare facilities for all construction site workers; and
  - Monitoring of confined spaces for potential ground gas accumulations, restricting access to confined spaces, i.e. by suitably trained personnel, and use of specialist PPE, where necessary.
- 7.9.5 Any temporary on-site storage of contaminated material should be on impermeable sheeting, covered and with adequate perimeter leachate collection drains to minimise the potential for leachate and run off from the stockpile being generated.
- 7.9.6 The disposal of soil waste, contaminated or otherwise to landfill sites will be avoided or reduced by minimization of the overall quantities of waste generated during construction and by ensuring that excavated material consigned to landfill cannot, as an alternative, be put to use on the site or at an alternative off site location.

- 7.9.7 The following measures will be adopted for the handling and disposal (if required) of contaminated materials:
  - Adherence to Site Waste Management Plan.
  - Follow best practice to minimise the likelihood of accidental release of contaminated soils during handling and transportation.
  - Selection of the most appropriate disposal route for waste materials, e.g. by avoiding traffic routes that go through residential areas.

# 7.10 Excavations / Foundations

- 7.10.1 The design and execution of earthworks including excavations and filling will be carried out to comply with relevant British Standards including BS6031:2009 "Code of Practice for Earthworks", to the effect that the integrity and function of adjacent property including but not limited to Network Rail property will not be adversely affected. The proposed earthworks will not require encroachment into Network Rail land.
- 7.10.2 If piling is to be used on the site, methodology will be first agreed in writing with the Local Planning Authority (Environmental Protection Unit).

# 7.11 Pests / Vermin

7.11.1 Proactive measures will be implemented onsite, to both reduce the risk of pests being attracted by the remediation works, and reduce the risk of pests within the site being displaced to adjacent sites. These measures are described below.

# Pests within the site

- 7.11.2 Dealing with pests within the site should be undertaken as 'good housekeeping' throughout the remediation and reclamation works, including:
  - Regular inspection and cleaning of all site areas, site access roads and drainage channels, to ensure they are clear of any potentially odorous materials, which may be an attractant to pests;
  - Regular inspection for evidence of pests and vermin within the site;
  - Installation and use of a wheel wash system for all vehicles leaving site;
  - The sealing of potentially odorous work areas and storage vessels, when not being worked
  - Preventing the stockpiling of potentially odorous material through suitable material and resource management;
  - Daily inspection of any material stockpiles, to enable the early detection of any malodorous emissions;
  - The locating of the processing area at a location selected to minimise odour risk at nearby sensitive locations; and

- The processing of materials to be undertaken only when absolutely necessary.
- 7.11.3 If pests or vermin become a particular problem on the site, they will be dealt with by an approved specialist contractor and in line with the guidance of the British Pest Control Association (BPCA) and City of York Council.

### Pests migrating to adjacent sites

- 7.11.4 To minimise the risk of pests being displaced from the site onto adjacent sites, prior to works commencing a survey of the site should be undertaken by an approved specialist contractor, in liaison with the pest control contractor for the Tangerine Confectionary production site, the principal contractor and the site owner. This initial inspection will establish the extent and species of pests present on site, any potential sources on or near to the site, and any potential pathways from the site to adjacent sites. This would consider threats from all angles, this being ground based with rodents and insects, as well as airborne with flying insects and birds.
- 7.11.5 Following the initial survey, and where necessary, a summary of actions will be developed focusing on the specific pests identified and the sources, pathways and receptors identified. The summary should identify any pathways that could be restricted (such as repairs, reinforcement or replacement of boundary fences), and provide recommendations to support the pest management during the remediation and reclamation works, such as preferred areas to site stockpiles, and restrictions on working. The summary should also include recommendations for the timing of further inspections throughout the duration of the works to allow any early indication of trending activity requiring further action.
- 7.11.6 The initial survey, and the preparation of the summary of actions, should happen immediately prior to the start of any site works to ensure a representative baseline is established, whilst providing sufficient time to undertake any pre-start mitigation measures.
- 7.11.7 Prior to the works commencing, and as far as reasonably practical, the site should be cleared of pests through a targeted approach, to minimise the risk of migration of pests from the site to adjacent sites.
- 7.11.8 The control of pests could be achieved by a number of different control and monitoring methods as outlined below, these are not exhaustive but represent the likely initial areas and hardware items that would be implemented.
- 7.11.9 *Rodents* Monitoring bait boxes fitted around the active areas of the fence line, in particular where there are neighbouring businesses at risk or residential areas at risk in order to protect them. A typical set up would look

to provide hardware for rodent and insect monitoring along the fence lines adjacent to neighbouring businesses, residential properties and the site welfare compound. Rodent bait points are initially baited with non-toxic blocks to monitor activity, where noted this is immediately switched to toxic for the duration of time activity is present following which these would revert to non-toxic to avoid any un-necessary toxic poison being on site. In addition, liaison should be undertaken with adjacent land owners to encourage them to minimise food sources available on adjacent sites.

- 7.11.10 *Airborne birds* Birds would be monitored for on each site inspection and where activity increases in site or the surrounding area then there are a number of control options depending on the species of birds. This could involve trapping and/or shooting feral pigeons and other general licence birds. Birds can also be controlled with the use of predatory hawks and scare devices as well as nest removal. The biggest issue with birds will be the displacement of birds from the removal of trees on the site, particularly the dense and established trees near Millfield Lane. Hawking is understood to be carried out at the adjacent Tangerine Confectionary production facility, and co-ordination of this control measure with tree removal of the trees to remove the majority of the flock
- 7.11.11 *Insects* Ground based insects are typically monitored with sticky boards and where activity is noted on an inspection corrective action is taken, be that in terms of chemical treatment or removal of breeding site or both. The feasibility of this will be assessed as part of the initial inspection, as many casual ground insects could fill the sticky monitors within days.
- 7.11.12 Airborne insects Fly bags would be used along perimeter fence lines as an attractant to capture flies active in the area, they do not act as a breeding site however just a capture point and allow numbers to be recorded and analysed for additional treatment required, this would be in the form of chemical treatment, breeding site removal, fumigation, even in particularly bad scenarios the use of hessian fences treated with insecticide as a control barrier.
- 7.11.13 The Tangerine Confectionary production site is considered a sensitive receptor, so particular attention will be given to its boundary with the development site. Alongside the measures outlined above, a rodent barrier is proposed to the perimeter fence. This would be in the form of a 1m high galvanized steel sheet fence and be installed prior to any works commencing on the development site.
- 7.11.14 In addition the land bund and acoustic barrier that is to be constructed adjacent to three boundaries of the Tangerine site will be completed within the first 6 months of the remediation and reclamation works commencing.

This should reduce the vermin risk but should also reduce risk from incoming dust to the Tangerine site.

- 7.11.15 For the site servicing and monitoring, a standard service would include attendance every three to four weeks to inspect and check all monitor points and boxes for activity. A report would then be generated advising the findings and any corrective / additional works or treatments required. The corrective or additional works would then either be conducted at the time of the visit or as agreed with the reclamation contractor to suit the site programme. These monthly visits should be undertaken in liaison with the pest control contractor on the Tangerine Confectionary production site (as the principal affected neighbour), to co-ordinate control measures.
- 7.11.16 During the reclamation stage of the works there should also be an in-depth technical inspection by a certified field biologist, as a minimum once every quarter. Following the inspection, an in-depth report would be generated to provide advice on areas of improvement or corrective action required.

# 8 HEALTH & SAFETY

8.1.1 All workers and visitors entering the site will be made aware of, and comply with, national and EU health and safety protocol, in addition to site-specific guidelines that may be issued by the site owner or Principal Contractor for that element of the site works. This will include the completion of necessary plans or statutory forms required by national or EU legislation as it is applicable to the site and the proposed works.

# 9 SITE MANAGEMENT & COMMUNITY RESPONSIBILITY

- 9.1.1 The site owner will appoint a Principal Contractor for the different phases of development; this appointment will require the Principal Contractor to register with the Considerate Constructors Scheme, which requires best practise to be adopted towards site appearance, community liaison, protection of environment, safety and security and value of the workforce. The site will maintain the highest possible standards of construction throughout the site preparation construction.
- 9.1.2 Contact details for the site will be visible and community engagement will be undertaken to keep neighbours informed.
- 9.1.3 The Construction Skills Certification Scheme (CSCS) will be adhered to, ensuring all operatives working on site are competent to fulfil their role.
- 9.1.4 Within further iterations of this CEMP, and when available, contact details for the Principal Contractor will be identified here.

## APPENDIX A: DRAWINGS

Site Boundary Plan AECOM-04034 Rev C

FBSS-URS-XX-XX-DR-GE-00014 Rev P2

APPENDIX B: ODOUR MANAGEMENT PLAN

### 1 INTRODUCTION

This Odour Management Plan (OMP) has been prepared in accordance with the guidance set out within Environment Agency Horizontal Technical Guidance Note H4 – Odour Management (EA, 2011). It is also aims to be in line with the principles described in Institute of Air Quality Management odour guidance (IAQM, 2014), Which states that an OMP should follow basic management system principles:

- Plan Identify sources and appropriate control measures;
- Do Apply those appropriate control measures to the odour sources;
- Check review that control measures are sufficiently controlling odour emissions; and
- Act Review and revise in light of the check.

This OMP therefore contains the following elements, in line with EA and IAQM guidance:

- an assessment of the risk of odour problems.
- appropriate controls (physical and/or procedural) required to manage any risks identified.
- a scheme for monitoring and documenting odour.
- actions, contingencies and responsibilities should any odour issues arise.
- a mechanism for regular review of the effectiveness of odour control measures.

The OMP also includes clear statements to demonstrate that the site owner and contractors understand and accepts their responsibilities. In particular, it shows:

- that the site owner will ensure that any odour control equipment and management techniques are designed, operated and maintained such that they operate effectively to control odour at all times;
- that the site owner, its contractors and subcontractors, are familiar with the characteristics of processes and equipment on site and have identified the areas of risk of emissions from odour;
- how the site owner, its contractors and subcontractors, will reduce or cease operations if necessary to avoid serious odour pollution;
- how the site owner, its contractors and subcontractors, will engage with neighbours to minimise any concerns and complaints; and
- how the site owner, its contractors and subcontractors, will respond to complaints and abnormal incidents.

The OMP is a live document that will be updated in light of any change to the relevant site procedures being undertaken. Any changes to the OMP will be communicated to stakeholders.

### 2 POTENTIAL ODOUR SOURCES

The OMP is concerned with the works associated with the construction of a development platform; land form engineering works and remediation; and reclamation of the site. During the planned reclamation and remediation works, there is the potential for the disturbance, storage and handling of odorous material.

During these works, the following activities will have the potential to generate odours:

- Collection, treatment as necessary and discharge of any perched water from the Made Ground in order to protect the surrounding environment from the potential effects of short term migration during the works;
- Selection and remediation of soils contaminated by hydrocarbons, and / or organic matter and / or ammoniacal nitrogen (representative of ammonia and ammonium) by means of aerobic bioremediation. This to be achieved by static biopiles and / or turned windrows, the particular method or combination of methods being determined based on initial site pilot trials as set out in the Remediation and Reclamation Strategy.

Soil contamination in the Made Ground at the site consists of 'hotspots' of elevated hydrocarbon concentrations including Polycyclic Aromatic Hydrocarbons and Total Petroleum Hydrocarbons in the Made Ground, and ammonia and ammonium in the Made Ground. Putrescible materials (which are a source of ground gases, ammonia and ammonium) are present predominantly within the northern area of the site. The putrescible materials are related predominantly to organic matter derived from sugar beet.

Where Made Ground materials contain hydrocarbon and / or ammoniacal nitrogen contamination at concentrations above the relevant Remedial Target Value, as set out in the Remediation and Reclamation Strategy, and / or contain organic matter concentrations indicative of a source of ground gas then this material will be sentenced for ex-situ aerobic bioremediation. The form of ex-situ bioremediation to be used is anticipated to be the biopile and/or windrow type method. These methods may be used singly or in combination. The choice of methods will be based on an initial site pilot trial. The bio-remediated materials will be used in the bulk earthworks.

Where Made Ground materials, are identified as being contaminated, it shall be segregated and sentenced for appropriate on-site remedial treatment as appropriate to the determinands exceeding the respective Remedial Target Values. Where putrescible materials in the Made Ground are encountered which are a source of ground gas and ammoniacal nitrogen, during excavation works they shall be screened and segregated. These materials will then be treated by inclusion in the bioremediation work and used. The objective of the ex-situ bioremediation will be:

- to treat and allow the use of hydrocarbon and / or ammoniacal nitrogen (representative of ammonia and ammonium) impacted Made Ground soil materials.
- to promote the biodegradation of putrescible materials in the Made Ground to reduce the gassing potential of soil materials and to reduce the potential for ammoniacal nitrogen (representative of ammonia and ammonium) to migrate to the shallow groundwater.
- to reduce ammoniacal nitrogen (ammonia and ammonium) loading of soils.
- to reduce ammoniacal nitrogen (ammonia and ammonium) in pore waters.

The Made Ground materials that undergo ex-situ bioremediation treatment will need to meet relevant compliance criteria set out within the Remediation Strategy for them to be acceptable for use within the earthworks.

### **3 ODOUR SENSITIVE RECEPTORS**

A number of odour sensitive receptors are located in the vicinity of the remediation site and have been summarised in Table 3.1. The receptors listed are representative of other similar receptors in their vicinity, and represent the worst affected odour sensitive locations.

Description	Approximate Distance from Site Boundary	Direction from the Site	Sensitivity
Residential properties on Langholme Drive	<20 m	South	High
Residential properties on Plantation Drive	<20 m	South	High
Residential properties on Princess Drive	<20 m	South	High
Commercial properties on Pyramid Court	<20 m	South	Medium
Commercial properties on Rosetta Way	<20 m	South	Medium
Residential properties on Ouse Lane	<20 m	South	High

### Table 3.1: Nearby Odour Sensitive Receptors

Amarna House Care Home	<20 m	South	High
The Tangerine Confectionary Site	<20 m	South	High
Muddy Boots Nursery and playing fields	<20 m	South	High
Residential properties on Villa Court	<20 m	West	High
Commercial properties on Rose Avenue	30 m	North	Medium
Residential properties on Severn Green	70 m	North	High

### 4 EXISTING OFF-SITE ODOUR SOURCES

In addition to odours which may be reasonably expected to be present in a predominantly urban and commercial area, such as those associated with residential, commercial and industrial processes, there are two other potentially significant sources of odour in the immediate vicinity of the site. Two potentially significant sources of odour in the area are:

- The Tangerine Confectionary production facility, sited adjacent to the southern boundary of the construction site; and
- Acomb Landing Waste Water Treatment facility, <100 m to the northeast of the site.

Sniff tests have been undertaken on and around the site and on the occasions when they were undertaken, they have not identified any markedly noticeable odour where there is relevant exposure surrounding the site.

However, there is the potential that on occasions, particularly during adverse meteorological conditions, odour emissions from these facilities could impact on receptors in the vicinity of the remediation site. If odours detected on the site boundary are attributed to these other sources, then this should not effect the works being undertaken on the British Sugar site.

### 5 ODOUR CONTROLS

The application of good working practices and process control is of fundamental importance in eliminating and minimising the risk of any odours being produced on site and their subsequent release to atmosphere. The management of sources of odour is preferable to the management of the pathways to receptors for both ease and efficiency. The overall aim in the operation of the facility is to apply Best Available Techniques (BAT) at all stages of the remediation operations undertaken on site. For this reason, the facility will be operated and managed in accordance with the accepted hierarchy of preferred controls:

- i. prevent the formation or emission of odorous compounds at source;
- ii. where this is not practicable, minimise the release of odour;
- iii. abate excessive emissions; then
- iv. dilute any residual odour by effective dispersion in the atmosphere.

This section of the OMP details the measures to be implemented on site to control emissions of odour during the remediation and reclamation scheme.

The following general best practice odour control measures should be implemented during the remediation works:

### Good Housekeeping

Training and Awareness:

- Staff at all levels will be provided with the necessary training and instruction in operational control procedures to control odour emissions. Training, awareness and competence will be evaluated on a routine basis to ensure ongoing effectiveness.
- The site will have a regular cleaning regime, the frequency of which will be determined by the site manager, based on the programme of works and the conditions at the time, and the immediate cleaning up of spills will be undertaken.
- Daily inspection and cleaning of all site areas, site access roads and drainage channels, to ensure they are clear of any potentially odorous materials.
- Site management will update nearby sensitive receptors on potentially odour generating activities to be undertaken on a weekly basis, particularly when works are being undertaken in close proximity to them.
- Meteorological conditions and site conditions to be monitored and considered in unison, specifically on days where conditions are such that the risk of odours being transmitted off site is higher.
- When such circumstances occur, work areas will be adapted, where possible, to reduce odour impacts off site as far as reasonably practicable.
- If persistent odours are detected as a result of the remediation works, at locations close to odour sensitive receptors, works will be postponed until meteorological conditions improve and/or corrective action can be implemented.

Excavations:

• Excavations to be undertaken progressively with any dewatering required undertaken ahead of excavation, where practical, to reduce odours and improve the handling condition of soils.

Material Storage and Handling:

- The number of handling operations of potentially odorous materials will be kept to a minimum, ensuring that any such material isn't moved or handled unnecessarily.
- Temporary stockpiles will be located away from site boundary and removed as soon as practical.
- Excavated material to be transported to processing areas as soon as possible.
- Minimising the stockpiling of potentially odorous material through suitable material and resource management, where practicable.
- Minimising the surface area of any such odorous material exposed to air;
- Daily inspection of any material stockpiles, to enable the early detection of any malodorous emissions.
- The inclusion of a quarantine area for the temporary storage of particularly odorous material if immediate treatment is not viable. This should be located as far away as possible from the nearest sensitive receptors, and in a direction that is predominantly upwind of these receptors.
- Prohibition of any unnecessary handling or movement of materials.

Road and Traffic Management:

- Installation and use of a wheel wash system for all vehicles leaving site;
- Sheeting of all outgoing loads;

### Remediation

Material Treatment:

- Temporary cover systems will be utilised to reduce odour generation at any time they are required.
- Biopiles will operate under negative pressure, with drawn air passing through a granular activated carbon or air bio-filter to remove volatiles and odours.
- Where windrows are used to treat contaminated materials, they will be sealed by a fleece cover between turning cycles.
- Windrows will be turned regularly (weekly / fortnightly) to aerate the soils and promote biodegradation, with the the fleece cover being replaced immediately after each turning. Potential odour emissions will only be likely when the cover is removed for turning. The odour associated with each windrow will progressively reduce after each turning event.
- Any lagoons should initially operate at reduced levels where possible to reduce the mobilisation of odours.

- Contaminated ground liquids will be pumped in sealed pipes to treatment systems for immediate treatment or contained storage.
- The locating of the processing area at a location selected to take into consideration odour risk at nearby sensitive locations.
- Material is moved, with minimal delay, from the processing equipment to treatment beds.

Should conditions prove that the measures described above are not sufficient to control odour impacts at sensitive locations beyond the site boundary, then 'additional' control measures will be required, on top of those already being employed at the site.

Additional odour control measures that could be implemented are suggested below. These are indicative and actual measures deployed would depend on site requirements at the time:

- For the treatment of potentially contaminated water on the site, the use of fully abated air strippers could be applied.
- When highly odorous materials are uncovered during the remediation works, that material will be moved to the quarantine area as soon as possible and then covered to control odours from that area.
- If particularly odorous materials are uncovered, these will be treated using static biopiles, which include appropriate odour controls, over windrows, to minimise the risk of odour impacts.
- Where windrows themselves are identified as a source of odour impacting beyond the site boundary, the regular turning of these will be timed to coincide with favourable meteorological conditions.
- If timing the turning of windrows is not successful in reducing odour impacts, consideration will be given to transferring that material to a static biopile, if available at the time.
- If odour issues are persistent, consideration will be given to the movement of treatment areas to a new location further away from the sensitive site boundary locations where issues have been identified, taking into account other nearby sensitive receptors.
- As a last resort, targeted odour suppressants could be applied at any high risk odour activities and near to high risk odour sensitive receptors, providing that it is away from the Tangerine confectionary facility.

### 6 ROUTINE MAINTENANCE AND INSPECTION

This section of the OMP describes how the site owner, its contractors and subcontractors will address the following issues to help maintain the effectiveness of odour controls:

- plant performance.
- planned inspection and maintenance.

Planned maintenance and inspection is crucial to maintaining the effectiveness of odour control measures. The site owner, its contractors and

subcontractors will ensure the good performance of all plant, treatment processes and odour control equipment Details of the equipment and it maintenance schedule will be confirmed following site pilot trials and the choice of remediation process technology. An effective, planned inspection and preventative maintenance regime will be employed on all plant (if required) and equipment, as specified below. This will include:

- a written maintenance programme.
- suitable records of maintenance.

A list of spare parts required for any odour control plant and the procedure for re-ordering will be developed as part of the site Management System and will be based on manufacturers` recommendations of spares required together with standby equipment for some critical items (e.g. fans, pumps).

Daily inspections and cleaning on a daily or weekly basis, depending on conditions and phase of works at the time, of all site areas, site access roads, areas of hard standing and drainage channels will take place, to ensure they are clear of surplus materials that have the potential to cause odour.

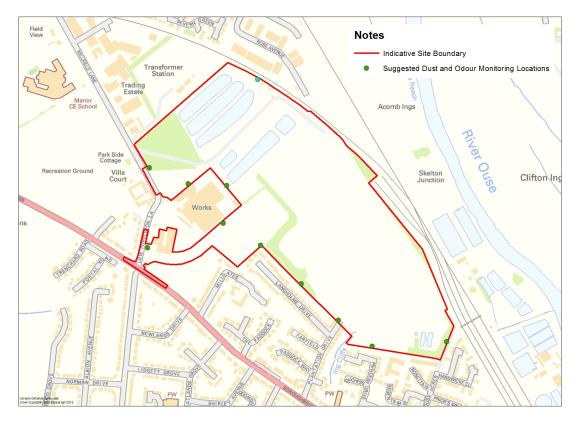
### 7 MONITORING, RECORDING AND REPORTING

This section of the OMP sets out the monitoring procedures that will be implemented, during normal operations, to assess the effectiveness of operational practices to prevent and contain odours, and to assess the nature and extent of any odour problem should it arise.

### Monitoring

The site owner, its contractors and subcontractors will monitor odour emissions from the works in order to ensure releases do not result in impact on amenity at sensitive receptors wherever possible. This monitoring will initially involve a programme of field measurements, using 'sniff' testing', in line with the odour monitoring procedure outlined within the EA's H4 guidance. Tests will be undertaken twice per day (AM and PM) at the monitoring locations that are downwind of activities being undertaken at the time, and at a location on the site that is upwind of the wind direction at the time. Testing will also be undertaken at times when a complaint is received or an odour event is identified by the site owner, its contractors or subcontractors. The location of these unscheduled tests will be at the site boundary closest to where the source of the complaint originated, downwind of this odour event identified, as well as upwind of these incidents. In addition to this, plant processes and equipment will be inspected on a weekly basis to ensure any odorous emissions are being contained and controlled to meet the accepted standards of good practice.

Based on the boundary of the remediation works within the site and the proposed location for remediation plant, odour monitoring should be undertaken as suggested by guidance at the site boundary locations downwind and upwind of potential odour sources at the time. Suggested monitoring locations that are presentative of sensitive odour exposure are provided on the following map.



Monitoring of forecast meteorological conditions will be undertaken daily, with reference to publically available weather forecast information. Real-time meteorological data will be gathered automatically, with average hourly measurements from a site-based meteorological station, to allow the identification of any unfavourable meteorological conditions that could exaggerate or cause odour issues, and to assist with the substantiation of complaints. The data gathered by the meteorological station will be stored electronically and made available as and when required.

The following monitoring data will be recorded in the site diary:

- 'sniff test' results;
- plant process and equipment inspections;
- meteorological conditions; and
- any complaints or community feedback received.

### Complaint Management

Complaint data is recognised by the Environment Agency as the single most important tool for assessing the overall level of odour impacts experienced by members of the public at locations outside the site boundary.

The aim is to deliver a scheme of works that proactively identifies and minimises the risk of adverse odour impacts on the amenity of offsite receptors. However, there is the potential for occasional odour episodes to occur even on well managed sites and such episodes may give members of the local community reason to complain to the site operator, the local authority or the Environment Agency. For any complaint of an offsite odour issue the following actions would be undertaken:

- The site manager will record the complaint details, including the time and the location that the odour episode was experienced at and the time of the complaint. Additional descriptive information should also be logged on the nature of the odour as described by the complainant.
- The site manager or their delegate will investigate the activities ongoing at the time of the complaint and in the event of a complaint relating to an ongoing event apply mitigation as appropriate to minimise the generation of the emission at source.
- For complaints relating to an ongoing event monitoring should be undertaken using the methods described in EA's H4 guidance at predetermined monitoring locations and if appropriate at the complaint location.
- For complaints of odour episodes, lessons learnt from the investigation should be shared with the site management team and the holder of the Mobile Plant Treatment Permit and the knowledge used to inform future works so that the potential for a similar event in the future is minimised.
- If unacceptable odour episodes are identified as being likely to reoccur under particular weather conditions or at particular locations, then consideration will be given to the restriction of remediation works or alternative methods of working, specifically to mitigate odour emissions and associated offsite impacts.
- The results and outcome of the investigation will be reported back to the complainant.

### Site Log Book

A site log book will be maintained on site to include details on all monitoring activity undertaken on the site, as well as details on all complaints brought to the attention of the site management.

### 8 **RESPONSIBILITIES**

The commitment to effectively manage the off-site impacts of odour extends to all employees and sub-contractors. This commitment extends from

policies produced at director level, to the resources available to the competent personnel, to the abilities of the personnel managing odourcritical work tasks. This section describes the responsibility for the management and operation of the facility.

Staff competency and the need for training is continually assessed by site management and supervisors. All staff at the facility will be made fully aware of the need to be constantly vigilant with regard to site odour control and management procedures. Staff responsible for the operation, maintenance or repair of plant will be trained and competent. In order to minimise risk of emissions, particular emphasis will be given during training to:

- general awareness of responsibilities for avoiding odour nuisance;
- minimising odorous emissions during key operations; and
- actions to be taken to minimise emissions during abnormal conditions.

It is the responsibility of the site manager to identify environmental risks that are relevant to each site and determine if a particular activity or service is environmentally significant. Once identified, it is the responsibility of the site manager to highlight the significant aspects to all relevant employees and contractors. The site manager is also responsible for monitoring and managing all activities on site to improve environmental performance.

### 9 ACTIONS AND CONTINGENCIES

In the event that monitoring indicates that odorous emissions from the facility are taking place, the site management team would take the following actions:

- identify the cause/source of the odour;
- check relevant items of equipment in order to identify the possible cause of the malodourous emission;
- · cease the activity causing the malodours emission, if necessary; and
- record the incident and any remedial action taken in the site diary.

### 10 OMP UPDATE AND REVIEW

This OMP is a controlled document, and forms part of the site Management System. It is a live document to be updated as further information on the remediation strategy is made available and in response to any changes in process/equipment that has the potential to affect odorous emissions. Any change to the OMD will be communicated to stakeholders.

In line with the recommendations of the H4 Odour Guidance, a review of the OMP will take place on at least an annual basis. However, the OMP is intended to be a reference during day-to-day operations, and as such would be updated on a more frequent basis should the following occur:

• significant changes are made to the process or operational practices;

- there is a change to the management structure, designation of responsibility or training provision;
- the Environment Agency requests that the OMP is updated, in their role as regulator; or
- complaints are received, which on subsequent investigation result in the identification of further control measures or remedial action, in addition to those set out within this OMP.

APPENDIX C: RISK ASSESSMENT FOR POTENTIAL DUST AND ODOUR IMPACTS DURING SITE REMEDIATION

### Introduction

A risk assessment has been undertaken utilising the approach described in the Environment Agency guidance document H1 Annex A - Amenity & accident risk from installations and waste activities.

The EA guidance document is intended for use to identify risk of harm to amenity. In this Appendix, it has been used to describe risk of harm to the amenity of nearby residential and other amenity sensitive receptors. It has also been adapted, to describe risk to the commercial viability of nearby businesses, including the Tangerine Confectionary production facility.

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
Dust emissions generated from compound setup and operation.	The location of the compound is not yet finalised. This risk assessment makes the assumption that it will be located to the north of the existing sports field, within the Environmental Permit area, approximately 75m to the west of the Tangerine production facility and 200m north of the residential properties on Langholme Drive.	Windblown dust from an easterly direction towards the Tangerine production facility. Windblown dust from a northerly direction towards the residential properties on Langholme Drive.	Regular cleaning regime. Spills will be cleaned up immediately. Dampening down of material stockpiles and wider compound areas. Speed limit of 10mph within compound and on compound access route. Vehicles carrying potentially dusty materials to and from the site compound will be sheeted. Vehicles entering and leaving the site compound will pass through a wheel wash facility.	Dust could potentially reach the Tangerine production facility if it is blowing in an easterly direction and is strong enough to suspend the particulate over such a distance. Dust from this source is less likely to be suspended for a long enough period to impact upon the nearest residential receptors.	Air filtration units at the Tangerine production facility may require more frequent filter changes. Particles may soil staff cars located in the facility's car park. Dust soiling of glossy surfaces, such as car bodywork and windows at the nearest residential properties.	With the application of the mitigation measures listed, the risk of dust emissions associated with the site compound is low. If, during times of abnormally adverse meteorological conditions, impacts are identified at these locations, the frequency and application of control measures will be stepped-up accordingly.
Dust emissions associated with enabling works, such as the removal of vegetation and remaining structures	Enabling works required across the site, with vegetation clearance required within 25m of the Tangerine production facility and the nearest residential properties on Langholme Drive and Low Poppleton Lane. The demolition of structures is also to be undertaken within 25m Langholme Drive and 150m of the Tangerine production facility.	Windblown dust from a northerly direction towards the Tangerine production facility. Windblown dust from a northerly direction towards the residential properties on Langholme Drive	Water suppression will be available. Stripping of structure interiors, prior to the demolition of external walls.; Removal of biological debris prior to demolition. exterior walls and windows should be retained, wherever practicable, as a dust screen. Structures close to sensitive locations should be shielded by dust covers. Demolition spoil will me removed from sensitive areas as soon as possible. Works in close proximity to sensitive receptors will be timed to coincide with favourable meteorological conditions.	The removal of vegetation is unlikely to be a major source of dust. However, due to the proximity of works to nearby receptors, there is the potential for some exposure at times of adverse meteorological conditions. The demolition of remaining structures on the site has a higher risk of generating dust emissions, which is more likely to impact on the nearby residential properties rather than the Tangerine production facility, due to their proximity to these works.	Air filtration units at the Tangerine production facility may require more frequent filter changes. Particles may soil staff cars located in the facility's car park. Dust soiling of glossy surfaces, such as car bodywork and windows at the nearest residential properties.	When these works are undertaken at locations in close proximity of to the Tangerine Confectionary site and nearby residential receptors, the risk of impact would medium. However, the continual application of the control measures described should ensure that the residual risk is low. Works undertaken away from the site boundary will have a low risk of dust impacts occurring, although the control measures suggested will still be implemented as standard working practice on site.

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
Dust emissions associated with excavation	The excavation work will initially focus on the northern areas of the site, from which the recyclable material will be used to then level the southern areas of the site. At some point over the course of the works, excavation related work will be undertaken within 50m of the nearest residential properties and within 25m of the Tangerine production facility.	Windblown dust from a northerly direction towards the Tangerine production facility. Windblown dust from a northerly direction towards the residential properties on Langholme Drive	Dust suppression will be available at all times during excavation works. Excavation works in close proximity to sensitive areas will be undertaken when meteorological conditions are favourable. Excavated materials will be removed form the working area as soon as possible. Crushing or grinding plant, which falls within the definition in Section 3.5 Chapter 3 of the Pollution Prevention and Control (England and Wales) Regulations 2000 S.I.1973, will have the appropriate permit issued. Plant will be maintained according to the procedures set out in the Pollution Prevention and Control Act 1999. A copy of its permit should be held on site. Plant should be fitted with appropriate dust control measures, such as enclosed conveyors, rubble chutes and water suppression, where reasonably practicable.	Excavation works have a high risk of generating dust emissions, due to the abrasive nature of the activities. The risk is intensified due to the proximity of the excavation works to the nearest sensitive receptors.	Air filtration units at the Tangerine production facility may require more frequent filter changes. Particles may soil staff cares located in the facility's car park. Dust soiling of glossy surfaces, such as car bodywork and windows at the nearest residential properties.	When these works are undertaken at locations in close proximity of to the Tangerine Confectionary site and nearby residential receptors, the risk of impact would medium. However, the continual application of the control measures described should ensure that the residual risk is low. Works undertaken away from the site boundary will have a low risk of dust impacts occurring, although the control measures suggested will still be implemented as standard working practice on site.
Odour emissions associated with excavation	As above	Odour is dispersed on the air. Worst-case impacts are most likely during calm or periods of light wind, which are less likely to dilute emissions.	Works to be managed with consideration to meteorological condition at the time. Excavated materials to be moved to the treatment area as soon as possible. Excavations to be undertaken progressively. Dewatering to be undertaken ahead of excavation, where practical, to reduce	The excavation of earth material could disturb, uncover and release potentially odorous material. This could impact on nearby sensitive receptors, during calmer meteorological conditions, or when light winds are blowing towards a receptor. The southern areas of the site, nearest to the majority of	Odour emissions could harm the amenity of residential receptors and the workforce of nearby commercial premises. There is the potential that odour emissions could contaminate	This element of works will last for 10 months. Works undertaken in close proximity to sensitive site boundary locations will have a medium risk of odour impacts occurring. Such periods will be limited, as the majority of excavation work is taking place away from the more sensitive southern boundary. If impacts are detected at sensitive receptor locations, odour control will

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
			odours and improve handling of soils. The stockpiling of odorous materials will be prohibited, with the exception of treatment and quarantine areas. If odorous materials are disturbed, that area will be worked as quickly and efficiently as possible. Spills will be cleaned up immediately. Away from the Tangerine site boundary (to avoid contamination), odour mist sprays will be used at source, as a last resort	sensitive receptors, are likely to experience less disruption, with the majority of excavation works being undertaken away from these locations.	processes undertaken at the Tangerine production facility.	be stepped up, with odorous materials being moved to a designated quarantine area, if movement to the treatment area cannot be undertaken straight away. The continual application of the control measures described should ensure that the residual risk of odour impacting at sensitive receptor locations is low.
Dust emissions associated with stockpiling	There will be two main stockpiles areas at the site. One will be located within the area covered by the Environmental Permit, to the east of the existing sports field area. The second stockpile area will be located to the southeast of the first stockpile area, outside of the area covered by the Environmental Permit. From these planned stockpile locations, the nearest sensitive receptors are the residential properties on Langholme Drive, which are within 25m of the stockpile zone outside of the Environmental Permit area and 50m of the zone	Windblown dust from an easterly direction towards the Tangerine production facility. Windblown dust from a northerly direction towards the residential properties on Langholme Drive	Regular dampening down of stockpiles with onsite water bowsers. Stockpiles dimensions to be managed to reduce risk of dust impacts. Stockpiles to be well managed and maintained. Spills to be cleaned up as soon as possible. Screening the site boundary and or stockpile areas with appropriate hording. The unnecessary handling of materials is forbidden. Temporary stockpiles will only be located away from site boundary, dampened down and removed as soon as practical. Materials retrieved during works close to sensitive areas of the site boundary will be moved to designated stockpile	Due to the proximity of receptors on Langholme Drive to the stockpiles, the probability of exposure would be high, without the application of appropriate mitigation. The distance between the planned stockpile areas and the Tangerine production facility suggests that the risk of exposure would be less. If additional short-term stockpile areas are located closer to the Tangerine production facility site, then the risk of exposure will increase for the duration in which those stockpiles are present.	Air filtration units at the Tangerine production facility may require more frequent filter changes. Particles may soil staff cares located in the facility's car park. Dust soiling of glossy surfaces, such as car bodywork and windows at the nearest residential properties. Also the possibility of an increase in short- term concentrations of $PM_{10}$ .	The remediation works are anticipated to last for duration of 10 months. The main stockpiling of materials will be required during this period. The designated stockpile areas will be located away from the site boundary, so that if they are managed appropriately, the risk of dust impacts will be low. Temporary stockpiles close to the site boundary will have a greater dust risk. However, the creation of such stockpiles will be avoided if possible and only created during favourable meteorological conditions. If unavoidable, they will be maintained in a damp state and moved to a designated stockpiling area as soon as possible. The residual risk of dust impacts occurring as a result of stockpiles is also considered to be low.

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
	within the Environmental Permit area. The Tangerine production facility is located about 190m to the west of the nearest stockpile zone. In addition to the planned stockpile areas there is the potential for other areas of the site to be used as temporary stockpile areas. It is assumed that the locating of such stockpiles will take into account the proximity of nearby sensitive receptors.		areas away from the site boundary as soon as possible; The storing of other potentially dusty materials should be done so away from site boundaries and/or potentially sensitive receptors. Materials, such as construction sand, or any other aggregate on site, should be stored in bunded areas and not allowed to dry out.			
Odour emissions associated with the stockpiling excavated of materials	As above	Odour is dispersed on the air. Worst-case impacts are most likely during calm or periods of light wind, which are less likely to dilute emissions.	Potentially odorous materials will only be stockpile in areas that are located well away from the Tangerine site boundary and any other nearby sensitive receptor. The stockpiling of odorous material will be prohibited away from designated treatment and quarantine areas. If potentially odorous materials cannot be immediately moved to the treatment area, they will be moved to and stockpiled in a quarantine area. Stockpiles will be covered where possible. Spills associated with the stockpiling of materials should be cleaned up immediately. Prohibition of any unnecessary handling or movement of odorous materials.	Due to the proximity of receptors on Langholme Drive to the stockpiles, the probability of exposure would be high, without the application of appropriate mitigation. The distance between the planned stockpile areas and the Tangerine production facility suggests that the risk of exposure would be less. If additional short-term stockpile areas are located closer to the Tangerine production facility site or other sensitive receptors, then the risk of exposure will increase for the duration in which those stockpiles are present.	Odour emissions could harm the amenity of residential receptors and the workforce of nearby commercial premises. There is the potential that odour emissions could contaminate processes undertaken at the Tangerine production facility.	This element of works will last for 10 months. During which, they will be undertaken in a manner to ensure that if odorous materials do require stockpiling, they will be prioritised and treated, covered or removed from site as efficiently as possible. The designated stockpiling areas will be located well away from site boundary locations, so that the application of the odour control measures as described should be sufficient to maintain a low risk of odour impacts occurring. The creation of temporary stockpiles would increase odour risk to medium, although this will be avoided at locations near to sensitive boundaries. If unavoidable, the application of the standard odour controls, along with additional measures, such as the timing of stockpile creation, handling

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
			If additional stockpiles are required, the location should be informed by the proximity of nearby sensitive receptors. As a last resort, odour mist sprays can be used at source, but only when works are away from the Tangerine production facility (to avoid contamination).			and movement to coincide with favourable meteorological conditions, would mean residual odour risk is low.
Odour emissions associated with the removal of perched ground-water	Potentially, this could be required at any part of the site, and could therefore be undertaken within 25m of the nearest residential and commercial receptors	Odour is dispersed by on the air. Worst- case impacts are most likely during calm or periods of light wind, which are less likely to dilute emissions.	The method of treating contaminated groundwater is currently unknown, but will likely involve settlement, flocculation, air stripping, aeration, chemical oxidation, granulated carbon adsorption. The decision of which method will be undertaken will be informed by their risk of generating odour, amongst other factors. Irrespective of which method is used, the groundwater will be pumped to a location that is well away from the nearest sensitive receptors, including the Tangerine site, before treatment. If odorous groundwater is abstracted, this will be worked as quickly and efficiently as possible and treated or moved off-site as appropriate. Spills associated with the removal of perched groundwater will be cleaned up immediately.	The extraction of perched groundwater could release potentially odorous material that could be detected at offsite receptors, during calmer meteorological conditions. Perched ground water is likely to be encountered on a sporadic basis over the course of the remediation works.	Odour emissions could harm the amenity of residential receptors and the workforce of nearby commercial premises. There is the potential that odour emissions could contaminate processes undertaken at the Tangerine production facility.	The risk of odour impacts on sensitive receptors increases with proximity to the source. It is imperative that treatment is undertaken well away from sensitive site boundaries and that any contaminated water encountered there is removed as soon as possible. Groundworks are limited on the southern section of the site, where the majority of sensitive receptors are located, so the risk of odour from this source impacting on these locations should be low. If persistent odour impacts are detected at sensitive receptor locations, from the treatment area, then the method and location of treatment will be revisited.
Odour emissions generated during the draining of	There are a series of Lagoons on the British Sugar site, the nearest of which is located with 25m of the Tangerine	Odour is dispersed by on the air. Worst- case impacts are most likely	The existing lagoons will be dewatered and the silt and sediment at their base will be excavated and will follow the procedures set out under Excavation.	The draining of the lagoons and extraction of silt and sediment could release potential odours that may be detected at offsite receptors,	Odour emissions could harm the amenity of residential receptors and the workforce of	The draining and treatment of lagoon water should have a low risk of odour impacts, as the treatment will be undertaken in an area that is well away from sensitive site boundary

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
lagoons	production facility boundary and approximately 200m from the nearest residential property on New Poppleton Lane.	during calm or periods of light wind, which are less likely to dilute emissions.	The lagoon water will be pumped to an area that is located away from the sensitive receptors for treatment. The lagoons will be emptied and the silt and sediment removed and treated as soon and as efficiently as possible. Lagoons should initially operate at reduced levels where possible to reduce the mobilisation of odours; Works on the draining and excavation of lagoons will be suspended during unfavourable conditions (e.g. calm or light winds blowing towards the nearest sensitive receptors). Spills associated with the draining of the lagoons will be cleaned up immediately.	during calmer meteorological conditions.	nearby commercial premises. There is the potential that odour emissions could contaminate processes undertaken at the Tangerine production facility.	locations. If persistent odour impacts are detected at sensitive receptor locations, from the treatment area, then the method and location of treatment will be revisited. The removal of silt, once the lagoon water has been removed, will have a medium risk of generating odour. Therefore, it is imperative that such works are only undertaken under favourable meteorological conditions and that, the nearest sensitive receptors are liaised with, to identify if and when there is a period when that receptor is less sensitive. Providing that the measures above are adhered to, residual impacts could be reduced so that odour risk is low.
Odour emissions generated during remediation work.	Remediation work is assumed to be undertaken in the site compound, which is currently not fixed. This assessment assumes that the compound will be located to the north of the existing sports field, within the Environmental Permit area, approximately 75m to the west of the Tangerine production facility and 200m north of the residential properties on Langholme Drive. Material will be treated by either windrow or biopile,	Odour is dispersed by on the air. Worst- case impacts are most likely during calm or periods of light wind, which are less likely to dilute emissions.	The remediation work will require the use of both windrows and static biopiles. Windrows will only be used for material that does not require prolonged treatment. Static biopiles will be sealed and operated under negative pressure, and will be fitted with odour control. The aerated floor of each biopile will be regularly cleaned between each use. Windrows will be turned every week or two, to limit the build up of odour, and will be covered between each turn. Both static biopiles and windrows will	The remediation works could release potential odours that may be detected at offsite receptors, during calmer meteorological conditions.	Odour emissions could harm the amenity of residential receptors and the workforce of nearby commercial premises. There is the potential that odour emissions could contaminate processes undertaken at the Tangerine production facility.	This element of works will last for 10 months. During which, it will be undertaken in a manner to ensure that if odorous materials are remediated, they will be prioritised and treated or removed from site as efficiently as possible. The risk of odour impacts occurring should be sufficiently controlled so that it is low, under normal working condition, due to the location of the treatment area away from sensitive site boundary locations and the standard control measures described. If, however, conditions are such that odour impacts do occur, the additional measures could be implemented to

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
Dust emissions associated with the construction of the earth bund.	The bund will be constructed adjacent to the site boundary with the Tangerine production facility. Works will therefore be undertaken within 25m of this receptor, and within 50m of residential receptors on Langholme Drive and Low Poppleton Lane and Millfield Lane.	Windblown dust from northerly, easterly and westerly directions towards the Tangerine production facility. Windblown dust from a north- westerly direction towards the residential properties on Langholme Drive, and a north-easterly direction on Low Poppleton Lane and Millfield Lane.	Carrying out bund construction during dry and/or windy conditions should be avoided if reasonably practicable, having regard to programme and contracting arrangements for the relevant works. Where this is unavoidable, appropriate water suppression to control dust will be available; Plant should be fitted with appropriate dust control measures, such as enclosed conveyors, rubble chutes and water suppression, where reasonably practicable. The bund will be seeded as soon as possible, to provide structural integrity.	Air filtration units at the Tangerine production facility may require more frequent filter changes. Particles may soil staff cars located in the facility's car park. Dust soiling of glossy surfaces, such as car bodywork and windows at the nearest residential properties. Also the possibility of an increase in short-term concentrations of PM <sub>10</sub> .	Air filtration units at the Tangerine production facility may require more frequent filter changes. Particles may soil staff cares located in the facility's car park. Dust soiling of glossy surfaces, such as car bodywork and windows at the nearest residential properties. Also the possibility of an increase in short- term concentrations of PM <sub>10</sub> .	The bund will support an acoustic barrier and will be formed from site materials. The materials will be placed in thin (300mm) layers and compacted (to control settlement). Once the design height has been reached a thin layer of topsoil will be placed for landscaping purposes and the acoustic barrier would be constructed on the summit of the bund. The potential sources of dust generation during these works are from the handling and placement of unconsolidated materials and the re- suspension of particulate matter by the action of the wind once in situ. Providing that the control measures are applied at all times, there should be no more than a low risk of impacts occurring at the Tangerine production facility and the nearby residential areas. During adverse meteorological conditions, the frequency of measures should be stepped up accordingly.

Environmental Management System

# APPENDIX C Environmental Impacts and Controls Plan

### Appendix C Environmental Impacts and Controls Plan

Table 1: Summary of Environment Imp	pacts Potentially Arising from the Waste Depo	sit for Recovery	Operation a	at the Site				
Key Environmental Legislation	<ul> <li>The Environmental Permitting (England</li> <li>Groundwater Regulations 1998</li> <li>Water Resources Act 1991</li> <li>Environmental Protection Act 1990</li> </ul>	& Wales) Regul	ations 200	7				
Processes/ Activities/ Equipment at the Site Key:	Process/ Activity/ Equipment	L	Ν	R				
H – High impact on environment	Baseline Monitoring	-	-	-	-	-	-	-
M – Medium impact on environment	Bench Scale Trials	-	-	-	-	-	-	-
L – Low impact on environment	Site Based Pilot Trials	-	-	L	-	-	L	-
A – Emission to air	Drainage of Existing Ponds	-	М	L	М	L	L	L
W – Emission to water	Excavation, Demolition & Physical Processing of Concrete & Brick	Н	L	М	М	L	Н	L
E – Energy Usage	Excavation and Storage of Waste	Н	М	М	М	М	Н	М
D – Waste disposal	Collection & Treatment of Perched Water	L	М	L	М	L	L	L
L – Land contamination	Aerobic Bioremediation	М	L	L	-	М	М	L
N- Nuisance ( <i>e.g.</i> noise)	Soil stabilisation / Lime Modification	Н	L	М	-	L	Н	Н
R – Resource consumption	Reinstatement and Compaction	М	L	М	-	-	Н	М
	Validation Testing & Aftercare Monitoring	-	-	-	-	-	-	-



### Management System for Remediation Works

Table 2A: Emissio	ons to Air [A]					
Process/ Activity/ Equipment On-Site	Potential Impacts	Is Impact Controlled by Equipment	ls Equipment Included on Maintenanc e Checklist	Is Impact Controlled by Procedure	Person Using the Procedure Received Training?	Comments
Excavation, Demolition & Physical Processing of Concrete & Brick	Airborne dust and asbestos fibre generation	Yes – plant fitted with dust controls measures e.g. enclosed conveyors, rubble chutes & water suppression as required	tbc by Principal Contractor	Yes – traffic management, materials handling, asbestos watching brief, dust controls as well as dust and weather monitoring as per CEMP. PPC permits for relevant crushing & grinding plant. Additional controls / monitoring employed as necessary within updated CEMP.	Yes – as per	Further detail in Outline CEMP including controls (CEMP Section 7.5), odour management plan (Appendix B) and Risk Assessment for odour & dust generation (CEMP Appendix C) with objective
Excavation and Storage of Waste	Airborne dust, asbestos fibre and odour generation	Yes – water for dust suppression available, temporary cover systems as required	tbc by Principal Contractor	Yes – traffic management, stockpile management (size, location, sealing, sheeting), materials handling, asbestos watching brief, dust controls as well as dust, weather and stockpile monitoring as per CEMP. Additional controls / monitoring employed as necessary within updated CEMP.	Outline CEMP	to minimise dust generation at each stage of works. Outline CEMP to be updated following Principal Contractor appointment prior to commencing works.
Aerobic Bioremediation	Odour generation during treatment	Yes – static biopiles for highly malodourous waste to operate under negative	tbc by Principal Contractor	Yes – odour controls and monitoring as per CEMP including appropriate	Yes – as per Outline CEMP	Further detail in Outline CEMP including controls (CEMP Section 7.5), odour



		pressure with vapour treatment (by GAC or bio- filter). Windrows sealed by fleece cover between turning.		location of treatment area, weather & odour monitoring, minimising material movements. Additional controls and quarantine areas employed as necessary within updated CEMP.		management plan (Appendix B) and Risk Assessment for dust generation (CEMP Appendix C) with objective to minimise odour based on Best Available Technique (BAT) approach.
Soil Stabilisation / Lime Modification	Odour generation (notably ammonia) during treatment	Yes – highly malodourous waste to be treated by aerobic bioremediation prior to stabilisation if required, water/mist for odour suppression, temporary cover systems as required	tbc by Principal Contractor	Yes – odour controls and monitoring as per CEMP including appropriate location of treatment area, weather & odour monitoring, minimising material movements. Additional controls and quarantine areas employed as necessary within updated CEMP.	Yes – as per Outline CEMP	Outline CEMP to be updated following Principal Contractor appointment prior to commencing works.
Reinstatement and compaction	Airborne dust, generation	Yes – water for dust suppression available	tbc by Principal Contractor	Yes – traffic management, materials handling, dust controls as well as dust and weather monitoring as per CEMP.	Yes – as per Outline CEMP	Further detail in Outline CEMP including controls (CEMP Section 7.5), and Risk Assessment for dust generation (CEMP Appendix C) with objective to minimise dust generation at each stage of works

Notes:

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Table 2B: En	nissions to Water [W]					
Process/ Activity/ Equipment On-Site	Potential Impacts	Is Impact Controlled by Equipment	ls Equipment Included on Maintenance Checklist	Is Impact Controlled by Procedure	Person Using the Procedure Received Training?	Comments
Drainage of Existing Ponds	Failure of treatment system causing			Yes - Monthly monitoring and		Monitoring of discharge water undertaken as per agreed consent limits to confirm compliance.
Collection & Treatment of Perched water	uncontrolled release of untreated water to groundwater or discharge of poorly treated water to surface water or drainage	required to achieve discharge consent criteria. Oil Water Separator (OWS) to address discharge from temporary oil storage areas. Spill containment equipment available.	tbc by Principal Contractor	maintenance of water treatment system including completion of inspection checklist record. Preventative maintenance regime.	Yes	Further detail in Outline CEMP. Surface Water Management Plan to be prepared by the Principal Contractor including measures to contain and treat, as required, prevent runoff to surface water
Excavation and Storage of Waste	Leaching of soluble contaminants (e.g.	Yes – e.g. temporary storage of contaminated material to be on impermeable	tbc by Principal	Yes – stockpiles and windrows inspected on minimum of weekly	Yes	Further detail in Outline CEMP.
Aerobic Bioremedia tion	Bioremedia bioplies or windrows	sheeting, covered and with perimeter leachate drains	Contractor	basis.	165	



Excavation and Storage of Waste	Spillage of diesel fuel to ground impacting underlying groundwater	Yes – bunds and drip trays to be employed	tbc by Principal Contractor	Yes - Integrity and capacity of storage areas and secondary containment inspected on minimum of weekly basis.	Yes	All storage of oil to comply with English Regulations and Defra / EA guidance for Oil Storage (2015)
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### Management System for Remediation Works

Process/ Activity/ Equipment On-Site	Potential Impacts	Is Impact Controlled by Equipment	Is Equipment Included on Maintenance Checklist	Is Impact Controlled by Procedure	Person Using the Procedure Received Training?	Comments	
Excavation and Storage of Waste	Leaching of soluble	Yes – e.g. temporary storage of contaminated		Yes – stockpiles and		Further detail in	
Aerobic Bioremediation	· · · · · · · · · · · · · · · · · · ·	material to be on impermeable sheeting, covered and with perimeter leachate drains	tbc by Principal Contractor	windrows inspected on minimum of weekly basis.	Yes	Outline CEMP.	
Excavation and Storage of Waste	Spillage of diesel fuel to ground impacting underlying groundwater	Yes – bunds and drip trays to be employed. Spill containment equipment available.	tbc by Principal Contractor	Yes - Integrity and capacity of storage areas and secondary containment inspected on minimum of weekly basis.	Yes	All storage of oil to comply with English Regulations and Defra / EA guidance for Oil Storage (2015)	

#### Notes:

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### Management System for Remediation Works

Waste Produced at Site	Where Does the Waste Go?	Can it go to Recovery/ Recycling?	Is it Being Stored Correctly on Site?	Are Duty-of-Care Requirements Being Met?	Comments
Drainage of Existing Surface Water Ponds Collection & reatment of Perched Water	discharged to foul sewer under a trade effluent consent agreed with the local sewerage undertaker and/or discharged to surface water under a water discharge activity environmental permit from the EA	No	Yes – temporarily stored in a collection tank or lined lagoon prior to any treatment and discharge	Yes	Discharge sampling undertaken to demonstrate compliance with discharge consent
excavation, Demolition & Physical Processing of Concrete & Brick	Waste currently deposited on Site to be recovered in accordance with the Waste Recovery		Yes – within temporary stockpiles which are managed and monitored	Yes	
Excavation and Storage of Waste	Plan and support Remediation and Reclamation Strategy Addendum (Arcadis, 2020). Minimum quantities of waste may be unsuitable for recovery to be segregated for off-site disposal, location tbc	Yes – recovery for use as fill within development platform			-

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Table 2E: Nuis	ance Management	[N]				
Process/ Activity/ Equipment On-Site	Potential Impacts	ls Impact Controlled by Equipment	ls Equipment Included on Maintenan ce Checklist	Is Impact Controlled by Procedure	Person Using the Procedure Received Training?	Comments
Excavation, Demolition & Physical Processing of Concrete & Brick	Airborne dust and asbestos fibre generation	Yes – plant fitted with dust controls measures e.g. enclosed conveyors, rubble chutes & water suppression as required	tbc by Principal Contractor	Yes – traffic management, materials handling, asbestos watching brief, dust controls as well as dust and weather monitoring as per CEMP. PPC permits for relevant crushing & grinding plant. Additional controls / monitoring employed as necessary within updated CEMP.	Yes – as per Outline CEMP	Further detail in Outline CEMP including controls (CEMP Section 7.5), odour management plan (Appendix B) and Risk Assessment for odour & dust generation (CEMP Appendix C) with objective to minimise dust generation at each stage of works. Outline CEMP to be updated following Principal Contractor appointment prior to commencing works.
Excavation and Storage of Waste	Airborne dust, asbestos fibre and odour generation	Yes – water for dust suppression available, temporary cover systems as required	tbc by Principal Contractor	Yes – traffic management, stockpile management (size, location, sealing, sheeting), materials handling, asbestos watching brief, dust controls as well as dust, weather and stockpile monitoring as per CEMP. Additional controls / monitoring employed as necessary within updated CEMP.		



Aerobic Bioremediati on	Odour generation during treatment	Yes – static biopiles for highly malodourous waste to operate under negative pressure with vapour treatment (by GAC or bio-filter). Windrows sealed by fleece cover between turning.	tbc by Principal Contractor	Yes – odour controls and monitoring as per CEMP including appropriate location of treatment area, weather & odour monitoring, minimising material movements. Additional controls and quarantine areas employed as necessary within updated CEMP.	Yes – as per Outline CEMP	Further detail in Outline CEMP including controls (CEMP Section 7.5), odour management plan (Appendix B) and Risk Assessment for dust generation (CEMP Appendix C) with objective to minimise odour based on Best Available Technique (BAT) approach. Outline CEMP to be updated following Principal Contractor appointment prior to commencing works
Soil Stabilisation / Lime Modification	Odour generation (notably ammonia) during treatment	Yes – highly malodourous waste to be treated by aerobic bioremediation prior to stabilisation if required, water/mist for odour suppression, temporary cover systems as required	tbc by Principal Contractor	Yes – odour controls and monitoring as per CEMP including appropriate location of treatment area, weather & odour monitoring, minimising material movements. Additional controls and quarantine areas employed as necessary within updated CEMP.	Yes – as per Outline CEMP	
Reinstateme nt and compaction	Airborne dust, generation	Yes – water for dust suppression available	tbc by Principal Contractor	Yes – traffic management, materials handling, dust controls as well as dust and weather monitoring as per CEMP.	Yes – as per Outline CEMP	Further detail in Outline CEMP including controls (CEMP Section 7.5), and Risk Assessment for dust generation (CEMP Appendix C) with objective to minimise dust generation at each stage of works



Excavation, Demolition & Physical Processing of Concrete & Brick	Noise and	Yes – noise and vibration monitoring	tbc by	Yes – regular (minimum daily) inspections of activities to identify	Yes – as	Principal contractor to manage works in accordance with BS 5228-2009+A1:2014
Excavation and Storage of Waste	tion vibration at agreed boundary locations adjacent to sensitive recentors	Principal Contractor	sources of unacceptable noise and vibration	per Outline CEMP	(Code of practice for noise and vibration control on construction and open sites).	
Reinstateme nt and compaction						

#### Notes:

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Environmental Management System

# APPENDIX D Accident Prevention Plan

Possible Incident and Likelihood of Occurrence	Consequences of the accident to environment	Measures to avoid accident happening	Measures top minimise impact if accident does happen	
Spillages				
Spillages of solid soil amendments - including lime (calcium oxide) and soil nutrients (potassium and magnesium salts)		Ensure contractor observes agreed storage and handling locations and processes informed by COSHH assessments to include suitable and secure storage areas.	See Spill Response Plan in Section 5.3.	
Spillages of liquid diesel fuel and/or diesel impacted rainwater from bunds and drip trays (secondary containment facilities)	Contamination of land, groundwater and watercourses.	All storage of oil to comply with English Regulations and Defra / EA guidance for Oil Storage (2015) Integrity and capacity of storage areas and secondary containment inspected on minimum of weekly basis.	Further detail of protection measures provided within CEMP Section 7.7.	
Spillage of contaminated solid waste or sludges		Ensure contractor observes agreed waste handling procedures using suitable equipment operated by competent personnel Ensure suitable access roads and waste handling & stockpile areas are managed and maintained.	and near-miss incidents to be reported, recorded with investigation undertaken and shared to minimise risk of reoccurrence	
Incident Causing Dust	or Odour Issue			
		Intrusive site investigation undertaken to identify contamination hotspots.		
Failure of handling or storage processes in	Dust, asbestos fibres or odour	Ensure contractor observes agreed waste handling procedures using suitable equipment operated by competent personnel.	See Nuisance Monitoring, (Section 5.4), Complaints Procedures (Section 6) and	
relation to solid waste and/or discovery of unexpected contamination	issue affecting site workers or neighbouring residents	Ensure suitable access roads and waste handling & stockpile areas are managed and maintained.	Outline CEMP (Appendix B) See Unexpected Contamination Response Plan, Section 5.5	
	residents	Potential dust and odour issues to be proactively identified and managed by the Principal Contractor in accordance with the Construction Environmental Management Plan (CEMP)		

### Appendix D Accident Prevention Plan

ARCADIS Design & Consultancy for natural and built assets

		Regular dust and odour monitoring to be undertaken at agreed boundary locations in accordance with the CEMP	
		Stockpiles to be inspected on a minimum of weekly basis to ensure these are not a source of nuisance dust and odour	
Failure of Plant and/ or	r Equipment		
Releases of untreated perched groundwater or lagoon water; due to faulty pipe work, valves, overpressure, blockages, pump failure, severe weather and so on.	Contamination of land, drains, groundwater and watercourses.	Monthly monitoring and maintenance of water treatment system including completion of inspection checklist record. Preventative maintenance regime. Surface Water Management Plan to be prepared by the Principal Contractor including measures to contain and treat, as required, prevent runoff to surface water	See Spill Response Plan in Section 5.3.
Vandalism			
	Contamination of land, drains, groundwater and watercourses.	Storage and Security requirements within the CEMP will be followed	See Spill Response Plan in Section 5.3.
Unauthorised entry and tampering or malicious damage to		Secure boundary fencing around the site will be maintained throughout the development.	Additional temporary security fencing
waste recovery plant/ equipment and/or fuel storage		Secure, hard-standing space will be designated by the Principal Contractor for the storage of plant and materials.	will be erected around hazardous or restricted areas of site works as required.
Fire			
Fire	Smoke and pollution, Firewater causes contamination of land, groundwater and watercourses.	Maintain tidy site and minimise storage of combustible materials. No smoking on-Site. Suitable fire extinguishers to be available within or near welfare facilities, site offices and storage areas.	See Fire Emergency Procedures, Section 5.6



Environmental Management System

# APPENDIX E Accident Reporting Form

Section 1 - Initial Classification (to be completed by person initially reporting incident and reviewed by Team/Service Leader)							
Incident Type (Please tick all that apply)	✓	Applicable Reporting Escalation Process Flowchart	Minimum Level of Investigation Required				
Fatality		А	3				
Hospitalisation / Major Injury / Recordable Occupational III Health		В	3				
Medical Treatment Case		В	2				
First Aid Treatment Case / Minor Occupational III Health		В	1				
Dangerous Occurrence / Major Asset Damage / Major Environmental Incident		С	3				
Near Miss / Minor Asset Damage / Minor Environmental Incident		С	1				

Section 2 – Incident Details (to be completed by person initially reporting incident and reviewed by Team/Service Leader)							
Date of Incident:		Time of Incident:					
Date Reported:		Project Number: (If applicable)					
Name of Reporting Person:		Name of Injured Person(s): (if applicable)					
Location where Incident Occurred:							

**Description of Incident:** (to be completed by the Injured Person/Reporting Person)

Details of Injury Sustained: (if applicable)

Details of First Aid / Follow Up Treatment: (if applicable)

Details of Immediate Action Taken:

Details of Any Supporting Documentation (i.e. witness statements, risk assessments, training records etc.)

Details of Level 2 or 3 Investigation Team: (if applicable – Level 1 investigation is achieved by full completion of this report form)



Root Cause Category	Root Cause Factors	<ul> <li>✓</li> </ul>
	Did not recognise the risk	
	Did not have the required skill or competence	
Training & Competency	Did not have suitable experience or knowledge	
	Has not completed the required training	
	Training was inadequate or ineffective	
	Did not use TRACK	
	Did not use Stop Work Authority	
	Not familiar with SHE standards, policies or procedures	
Adherence to SHE standards, safe practices and expectations	Did not follow SHE standards, policies or procedures	
	Inadequate project planning & review	
	Inadequate schedules & resources	
	Poor behavior tolerated by supervisors and co-workers	
	Employer or supervisor did not support SHE standards, policies or procedures	
	Improper use of tools or equipment	
Availability of SHE standards,	No SHE standards, policies or procedures available	
practices and procedures	Inadequate SHE standards, policies or procedures	
	Inadequate management establishment	
	Inadequate communications of SHE expectations	
Communications	Inadequate communications of SHE culture	
Communications	Inadequate team communication during meetings (pre-start / project review)	
	Inadequate communication regarding the management of change	
	Inadequate communication with the Client	
Tools & Equipment	Proper tools or equipment unavailable	
	Tools or equipment damaged	
	Tools improperly maintained or calibrated	
Factors out of our control	Natural forces	
	Third party involvement	

Would it be beneficial for the lessons learnt from this incident to be communicated as a Safety Share

Yes/No

Section 4 – Action to Prevent Reoccurrence (completed by Team/Service Leader and reviewed by HoCS & RSHEM)			
<b>Corrective / Preventative Action</b> (Use Section 3 Root Causation Analysis to assist in identifying actions)	Actionee	Target Date	Completion Date

Head of Client Service sign off (confirming identification of root causes, actions to prevent reoccurrence are sufficient, and the incident has been suitably investigated)			
Name:	Signature:	Date:	
Regional SHE Manager sign off (confirming identification of root causes, actions to prevent reoccurrence are sufficient, and the incident has been suitably investigated)			
Name:	Signature:	Date:	



Recordable Incident:		Non - Recordable Incident:	
Fatality		First Aid Case	
Hospitalisation		Minor Occupational III-Health	
Major Injury		Near Miss	
Lost Workday Case No. of Days		Minor Asset Damage	
Restricted Workday Case No. of Days		Minor Environmental Incident	
Medical Treatment Case			
Recordable Occupational III-Health			
Dangerous Occurrence			
Major Asset Damage			
Major Environmental Incident		Motor Vehicle Accident	
Incident Associated With:			
Biological		Mechanical	
Chemical		Motion	
Driving		Pressure	
Electrical		Personal Safety	
Environmental		Radiation	
Gravity		Sound	
Injury Type: (if applicable)			
Abrasion		Bruising	
Laceration		Strain, sprain, or tear	
Puncture		Dislocation	
Burn (hot surface or chemical)		Fracture	
Scald (hot liquid)		Other (specify):	
III-Health			
Body Part Affected: (if applicable)			
Head or neck		Eye	
Ear, nose or throat		Respiratory tract	
Back, shoulders or upper body		Arm or wrist	
Hand		Torso	
Leg or ankle		Foot	

Group Health & Safety / Environmental Manager sign off (confirming identification of root causes, actions to prevent reoccurrence are sufficient, and the incident has been suitably investigated)		
Name:	Signature:	Date:



Environmental Management System



## **Arcadis Complaints Form**

Details of Complainant	Name:		
	Address:		
	Telephone Number:		
Date of Complaint			
Time Complaint was Mad	e		
Describe nature of compl	aint (what happened,	when, who was involved etc.?)	
Was anyone else aware o	f the issue? If so, whe	o? (e.g. neighbours, the site staff etc.)	
Does the complaint relate to our remediation works?			
What immediate actions h	ava haan takan ta xa	a lua tha a amplaint?	
what immediate actions r	What immediate actions have been taken to resolve the complaint?		
Has there been any significant pollution/ environmental damage?			
Name of Person Complet	ing Form:		
Signature:			
Date:			

Continue overleaf or on separate sheet if you do not have enough room.





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