

# Archaeological Monitoring and Recording Report: Floodgates Farm, Knepp Castle Estate, Horsham, West Sussex

440V & 11kV Cable Undergrounding

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# Quality Assurance

ADAS Project Code	Accession Code		Planning Application Ref.	OASIS Reference No.	Site Code
1050064 - CEN3050 Knepp Castle Estate	ТВС	N/A	N/A	adasuklt1- 306231	KNEP18

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# **Revision History**

Revision	Date	Amendment



## Summary

In January 2018 ADAS carried out archaeological monitoring and recording for UK Power Networks for groundworks for a new 440V and 11kV underground electricity cable development on land at Floodgates Farm, Knepp Castle Estate, Horsham, West Sussex. The objective of the monitoring was to record all archaeological remains exposed during groundworks for the new cable trench between TQ 16415 21181 and TQ 16371 21459 (Figure 1).

The cable trench was located very close to the Knepp Furnace and had the potential to impact on buried archaeological remains associated with this furnace. Despite the potential for buried archaeological deposits and artefacts to be present in the vicinity of the development, no features or artefacts of archaeological significance were observed during monitoring of the groundworks for the cable trench within the watching brief area.



# Acknowledgements

This archaeological watching brief was commissioned by UK Power Networks, and thanks are due in this regard. Fieldwork was carried out by Stephenie Dalby. The report and supporting illustrations were prepared by Stephenie Dalby, and checked by Diarmuid O'Seaneachain. The archive was compiled by Stephenie Dalby.



### 1 Introduction

### Project Background

- 1.1.1 In January 2018 ADAS carried out an archaeological watching brief for UK Power Networks of groundworks required for a new low voltage 440V underground electricity cable and a new high voltage 11kV underground electricity cable development on land at Floodgates Farm, Knepp Castle Estate, Horsham, West Sussex. The objective of the watching brief was to record all archaeological remains exposed during groundworks for the cable trench works between TQ 16415 21181 (Pole No. 564939) and TQ 16371 21459 (Pole No. 564936) (Figure 1).
- 1.1.2 The works were carried out within the permitted development rights of UK Power Networks (UKPN) under the Electricity Act 1989, and therefore were not subject to a planning application.
- 1.1.3 Mr Mark Taylor, the Local Authority Archaeologist for West Sussex County Council, recommended archaeological monitoring should be carried out on the excavation of the 11kV cable trench and the substation area on the land immediately north of Floodgates Farm in an email communication sent to the client on 27th August 2014.
- 1.1.4 It was considered that this part of the proposed development had particular potential to impact upon unknown buried archaeological remains within the substation area associated with the site of the Knepp Furnace (1588-1604). It was also considered that there was a general potential for Roman pottery to be recovered along the line of the cable trench through this part of the scheme.
- 1.1.5 RSK ADAS Ltd were instructed to prepare a Written Scheme of Investigation (WSI) to carry out the required archaeological works and record any archaeological remains during the monitoring of the groundworks (ADAS 2017).
- 1.1.6 The fieldwork followed the Standard and Guidance for an archaeological watching brief (CIfA 2014), the Management of Archaeological Projects 2 (English Heritage 1991) and the Management of Research Projects in the Historic Environment (MORPHE): Project Manager's Guide (EH 2006).
- 1.1.7 In carrying out this work UK Power Networks complied with their obligations to the historic environment, as outlined in Section 38 and Schedule 9 of the Electricity Act 1989.

#### The Site, Location and Geology

- 1.2.1 The proposed works comprised the excavation of a new 360m long trench for new underground 440V and 11kV electricity cables installed at Floodgates Farm, Knepp Castle Estate, Horsham, West Sussex.
- 1.2.2 The cable trench ran roughly east-west from Pole No. 564939 (TQ 16415 21181) for approximately 60m. From there, the cable trench ran roughly north-south up to Pole No. 564936 (TQ 16371 21459) for approximately 300m, following the field boundary of three paddocks (Plates 1-3)



- (Figure 2). The land along the whole cable trench route was in use as grass pasture. Vegetation surrounding Pole No. 564936 had been cleared prior to work commencing. Excavation in the immediate vicinity of Pole No. 564939 impacted made ground only.
- 1.2.3 The topsoil was sodden along the whole length of the cable trench (The Route), and ground water occurred in the southern section of the Cable Route.
- 1.2.4 Six service pipes were found along the Route, mainly occurring in the southern section of the trench two electricity cables cut numbers [1008] and [1010], three water pipes cut numbers [1012], [1014] and [1016], and a corrugated plastic pipe, cut number [1006].
- 1.2.5 The underlying geology of the development area is recorded as Sandstone of the Weald Clay Formation. This sedimentary bedrock was laid down approximately 126-134 million years ago during the Cretaceous Period. No superficial deposits are recorded. No useful borehole data is recorded in the immediate area (BGS 2017).

## 2 Objectives

## Aims and Scope

- 2.1.1 The aims of this watching brief were:
  - To ensure that any archaeological features/deposits exposed during groundworks associated with the development area were identified, recorded and interpreted to an acceptable standard;
  - To ensure that any significant discoveries of artefactual evidence were recorded and analysed to an acceptable standard;
  - The specific aim of the fieldwork was to identify and record any unknown buried archaeological remains or artefacts that may be associated with the Post-Medieval Knepp Furnace.
  - To ensure that the fieldwork took place within, and contributes to the goals of the South East Research Framework (SERF) for East Sussex, Kent, Surrey and West Sussex (Kent County Council 2007);
  - To report the results as appropriate.

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## 4 Archaeological and Historical Context

#### Introduction

- 4.1.1 The groundworks comprised excavation of a new cable trench for underground 440V and 11kV electricity cables on land at Floodgates Farm, Knepp Castle Estate, Horsham, West Sussex. The development works were carried out between TQ 16415 21181 (Pole No. 564939) and TQ 16371 21459 (Pole No. 564936) (Figure 1).
- 4.1.2 An online search was conducted which assessed the historic environment potential of a 500 m Study Area around the proposed works. The results of this assessment are outlined below. All designated heritage assets are referred to in the text by their Historic England and/or HER reference numbers. Recorded previous archaeological investigations within the 500 m Study Area are referenced by their West Sussex Historic Environment Record (HER) Excavation Index number.
- 4.1.3 There is one Scheduled Ancient Monument (1010765/ MWS3526) with Grade II Listed Building (1180576) at Knepp Castle (1010765/ MWS3526) recorded within 500m of the development. There is also the Knepp Castle Registered Park and Garden recorded to the north of the Route. Four non-designated heritage assets were also recorded within the Study Area.
- 4.1.4 The proposed groundworks are located approximately 300 m to the north of the Knepp Castle Scheduled Monument (1010765/ MWS3526). Originally a natural mound in the floodplain of the River Adur, it was modified to become a roughly oval motte 125 m by 80 m and 4.5 m high. A keep measuring approximately 15 m² stood on top of the motte, of which 9 m of the western wall survives to a height of 12 m. These standing remains are recorded by Historic England as a Grade II Listed Building (1180576).
- 4.1.5 The edge of Knepp Castle Registered Park and Garden (1000519) is located 9 m to the north and west of the northern part of the cable Route (Figure 2). However this Registered Park and Garden was not impacted by the construction of the cable route.
- 4.1.6 The site of the proposed new compact substation is located approximately 55 m to the north of the recorded location of Knepp Furnace (MWS6656). This furnace was operational between 1568-1604 AD, although the exact location is not known with certainty. Some slag has been found to the south-east of Floodgates Farm on the east side of the A24, but it is not uncommon for such waste material to be found some distance from the actual site (Mark Taylor, email communication sent 27.08.2014).



- 4.1.7 The West Sussex HER records limekilns (MWS4896) near Wharf Cottages approximately 119 m to the east of the proposed development. The substation or cable trenches did not impact further associated material or structural evidence for these heritage assets.
- 4.1.8 Roman pottery fragments were discovered during the digging of drainage ditches near Pike Farm (MWS6658) on the east side of the A24. These were reported to the Curator of Worthing Museum in the 1960s, although the lack of an exact location may mean that they were discovered on the west side of the A24 (Mark Taylor email communication sent on 27.08.2014).
- 4.1.9 Knepp Mill (MWS846) is recorded 188 m to the south of the substation site. This is shown as a saw mill on the 1888 Ordnance Survey 6 inch map and is indicated on the 1754 Knepp Estate map.

  Modern mapping tools indicate that this building is currently in ruins (Google 2017).
- 4.1.10 An online search of previous archaeological investigations returned no records within 500 m of the proposed works (Heritage Gateway 2017).

## 5 Methodology

#### Introduction

- 5.1.1 The fieldwork followed the methodology set out within the Written Scheme of Investigation (ADAS 2017). An archaeologist was present during all intrusive groundworks to excavate the new cable trench within the watching brief area.
- 5.1.2 Where archaeological deposits were encountered written, graphic and photographic records were compiled in accordance with the Chartered Institute for Archaeologists Standard and Guidance: Archaeological watching brief 2014.

#### Artefacts, Human Remains, Treasure and Environmental Sampling

5.1.3 No artefacts or human remains were encountered during the watching brief. No archaeologically significant deposits were disturbed by the groundworks, so no environmental sampling was undertaken.

## Post-Excavation Analysis

5.1.4 No archaeological artefacts or deposits were encountered during the watching brief, and therefore no post-excavation analysis was required.

## **Archives and Deposition**

5.1.5 The archive is currently held by ADAS at their offices in Milton Park. No artefacts were recovered during the monitoring and therefore no artefacts will need to be deposited with an approved local museum. A paper archive will be deposited with Worthing Museum and Art Gallery within six



months of the completion of the fieldwork under an accession number which will be issued upon deposition. A summary of information from this project, set out within Appendix C, will be entered onto the OASIS database of archaeological projects in Britain. An OASIS form, ID reference adasuklt1-306231 has been provisionally completed and will be submitted at the time of completion.

#### **ADAS Project Team**

5.1.6 Fieldwork was undertaken by Stephenie Dalby. The report was written by Stephenie Dalby. The illustrations were prepared by Stephenie Dalby. The archive was compiled and prepared for deposition by Stephenie Dalby. The project was managed for ADAS by Diarmuid O'Seaneachain.

## 6 Results

- 6.1.1 This section provides an overview of the monitoring results; detailed summaries of the recorded contexts and finds are to be found in Appendix A.
- 6.1.2 The watching brief area followed the cable trench for the new underground 440V and 11kV Line (Figure 2; Plates 1 13). The ground works consisted of topsoil being stripped from the majority of the cable trench through the paddocks using a mechanical excavator with a flat bladed 1.50m bucket to a depth of 0.15m-0.20m under constant archaeological supervision. Within this stripped area, the cable trench was dug using a mechanical excavator with a flat bladed 0.40m bucket also under constant archaeological supervision. The works were completed over three days (Monday 8<sup>th</sup> to Wednesday 10<sup>th</sup> January 2018). The weather generally consisted of cloudy, dull days Monday and Tuesday and bright sunshine on Wednesday (Plates 1 13).

#### Trench 1

- 6.1.3 Trench 1 measured 360m in length by 0.40m in width and was 1.1m deep. The topsoil (1001) was approximately 0.2m deep and consisted of dark brown grey clayey silt. This overlay a mid-red brown clayey silt subsoil (1002) in the northern section of the cable trench. The undisturbed natural substrate (1003) underlay both of the above and was comprised of compact light red yellow clay. Deposits of naturally occurring ironstone occurred within this layer throughout the Route and occasionally the natural substrate was comprised of a more sandy clay deposit.
- 6.1.4 One feature was noted approximately 2m to the south of Pole No. 564936. This was a cut interpreted as a modern drainage channel [1004], as it was seen to clearly cut through the backfill above a modern land drain, cut number [1018] (Plates 11-13).



6.1.5 No archaeologically significant features or artefacts were observed or recovered from the trench.

## 7 Discussion and Conclusions

- 7.1.1 Although the cable trench was located close to Knepp Furnace no features or artefacts of archaeological significance were observed during monitoring of the groundworks for the new cable trench within the watching brief area. These results indicate that the monitoring methodology used was effective in ensuring that the development resulted in no harm to the historic environment resource.
- 7.1.2 The feature noted next to Pole No. 564936 was interpreted as a modern drainage channel as it was seen to cut a modern land drain in section.
- 7.1.3 The absence of archaeological features recorded during the archaeological monitoring may be attributed to the relatively limited ground impact of the cable trench and due to the impact of agricultural activity in these fields.



### 8 References

ADAS 2017 Written Scheme of Investigation for an Archaeological Monitoring and Recording; Floodgates Farm, Knepp Castle Estate. Unpublished Written Scheme of Investigation.

CIFA 2014 Standard and Guidance: Archaeological Watching Brief.

English Heritage 1991 The Management of Archaeological Projects 2.

English Heritage 2006 The Management of Research Projects in the Historic Environment (MORPHE): Project Manager's Guide.

Kent County Council 2007, Historic Research Framework for East Sussex, Kent, Surrey and West Sussex

#### Online Resources

(BGS 2017) British Geological Survey Geology of Britain Viewer. Available at: http://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html [accessed May 2017].

Google Maps 2017. Available at: <a href="https://www.google.co.uk">https://www.google.co.uk</a> [accessed September 2017].

Heritage Gateway 2017 Available at: <a href="http://www.heritagegateway.org.uk/Gateway/Results.aspx">http://www.heritagegateway.org.uk/Gateway/Results.aspx</a> [accessed September 2017].



# Appendix A: Context Descriptions

## Trench 1

No.	Туре	Description	Length (m)	Width (m)	Depth/ Thickness (m)
1001	Layer	Topsoil	360+	1.50+	0.20
1002	Layer	Subsoil	360+	0.40+	0.30
1003	Layer	Clay with ironstone and sandy deposits (Natural substrate)	360+	0.40+	0.60+
1004	Cut	Modern drainage channel	10+	1.00+	0.40+
1005	Fill	Mid red yellow silty clay fill of [1004] - Lower	0.50	0.50	0.10
1006	Cut	Services – Grey Plastic Pipe	2+	0.30+	0.30+
1007	Fill	Fill of [1006]	2+	0.30+	±0.50
1008	Cut	Services – Black Electric Cable – East	0.50+	0.05	±0.50
1009	Fill	Fill of [1008]	0.50+	0.05	±0.50
1010	Cut	Services – Black Electric Cable – West	0.50+	0.05	±0.50
1011	Fill	Fill of [1010]	0.50+	0.05	±0.50
1012	Cut	Services – Blue Water Cable – South	0.50+	0.05	±0.50
1013	Fill	Fill of [1012]	0.50+	0.05	±0.50
1014	Cut	Services – Blue Water Cable – Mains	0.50+	0.05	±0.50
1015	Fill	Fill of [1014]	0.50+	0.05	±0.50
1016	Cut	Services – Blue Water Cable - North	0.50+	0.05	±0.50
1017	Fill	Fill of [1016]	0.50+	0.05	±0.50
1018	Cut	Services – Modern Ceramic Land Drain		0.50	0.40
1019	Fill	Fill of [1018]	0.50+	0.50	0.40



1020	Fill	Mid yellow brown silty clay fill of [1004] - Upper	0.50	1.00+	0.40
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# Appendix B: The Finds

No artefacts were identified during the course of the archaeological monitoring.



# Appendix C: Oasis Report Form

#### OASIS ID: adasuklt1-306231

<b>Project</b>	details
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Project name Knepp Castle

Short description of

the project

Archaeological Monitoring of a 440V and 11kV 360m cable route on land at

Floodgates Farm, Knepp Castle Estate, Horsham, West Sussex. No

archaeological remains were found.

Project dates Start: 08-01-2018 End: 10-01-2018

Previous/future work No / No

Type of project Recording project

Site status None

Current Land use Cultivated Land 1 - Minimal cultivation

Monument type **NONE None** 

**NONE None** Monument type

Significant Finds **NONE None** 

Significant Finds **NONE None** 

Investigation type ""Watching Brief""

Prompt Electricity Act 1989 Section 36

#### **Project location**

Country England

Site location WEST SUSSEX HORSHAM WEST GRINSTEAD Floodgates Farm, Knepp

Castle Estate

Postcode **RH13 8LH** 

Study area 0 Square metres

Site coordinates TQ 16415 21181 50.977704129327 -0.341535335671 50 58 39 N 000 20

29 W Line

TQ 16371 21459 50.980212128411 -0.342072865896 50 58 48 N 000 20 Site coordinates

31 W Line

#### **Project creators**



Name of Organisation **RSK ADAS Ltd** 

Project brief originator

**RSK ADAS Ltd** 

Project design originator

**RSK ADAS Ltd** 

Project director/manager Diarmuid O Seaneachain

Project supervisor

Stephenie Dalby

Type of

sponsor/funding

body

Electricity Authority/Company

Name of sponsor/funding

body

**UKPN** 

**Project archives** 

Physical Archive

Exists?

No

Digital Archive recipient

Worthing Museum and Art Gallery

**Digital Contents** 

"none"

Digital Media available

"Images raster / digital photography"

Worthing Museum and Art Gallery

Paper Archive recipient

Paper Contents

"none"

Paper Media available

"Context sheet", "Correspondence", "Diary", "Report"

**Project** bibliography 1

Grey literature (unpublished document/manuscript)

Publication type

Title

Archaeological Monitoring and Recording Report: Floodgates Farm, Knepp

Castle Estate, Horsham, West Sussex 440V and 11kV Cable

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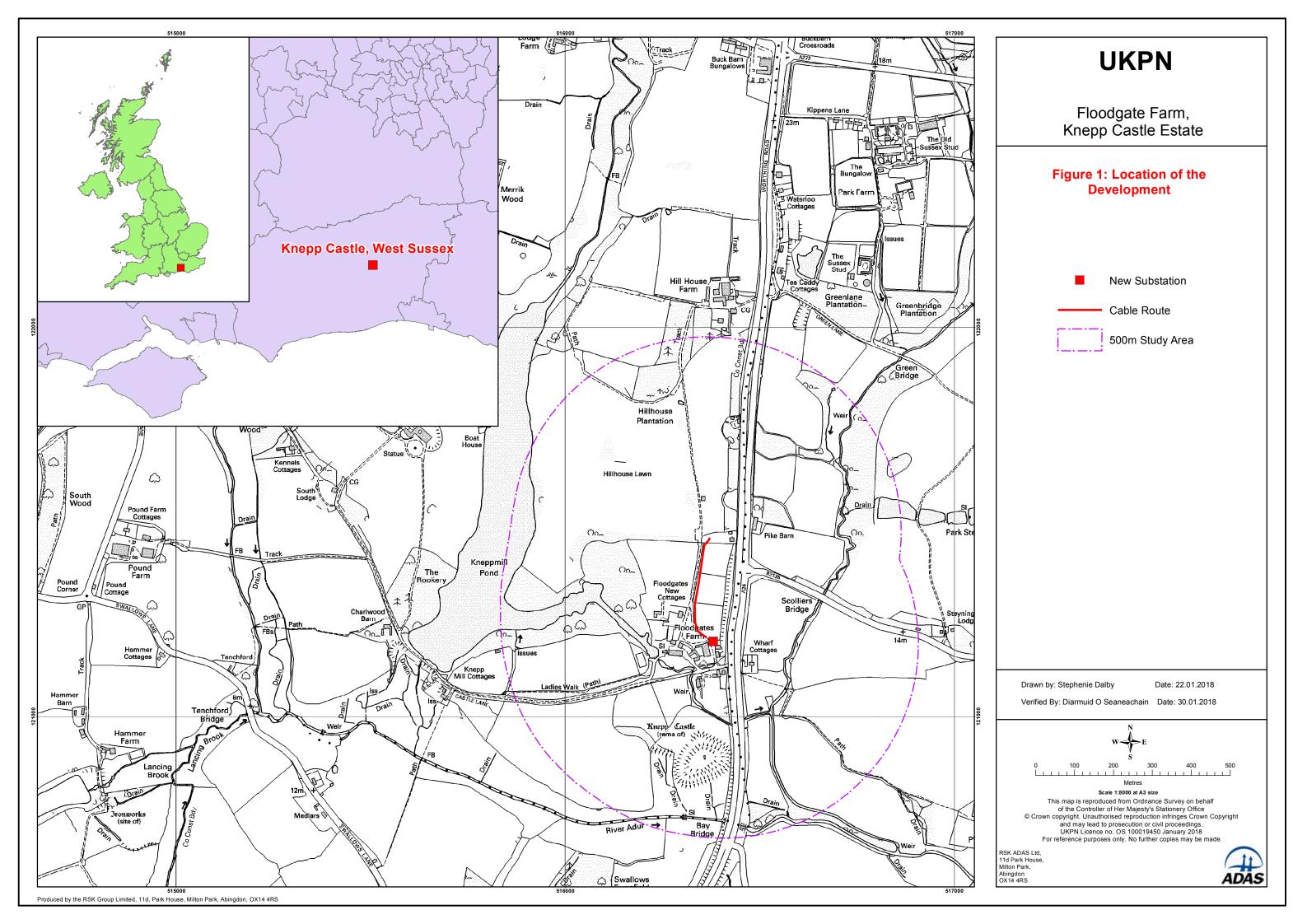
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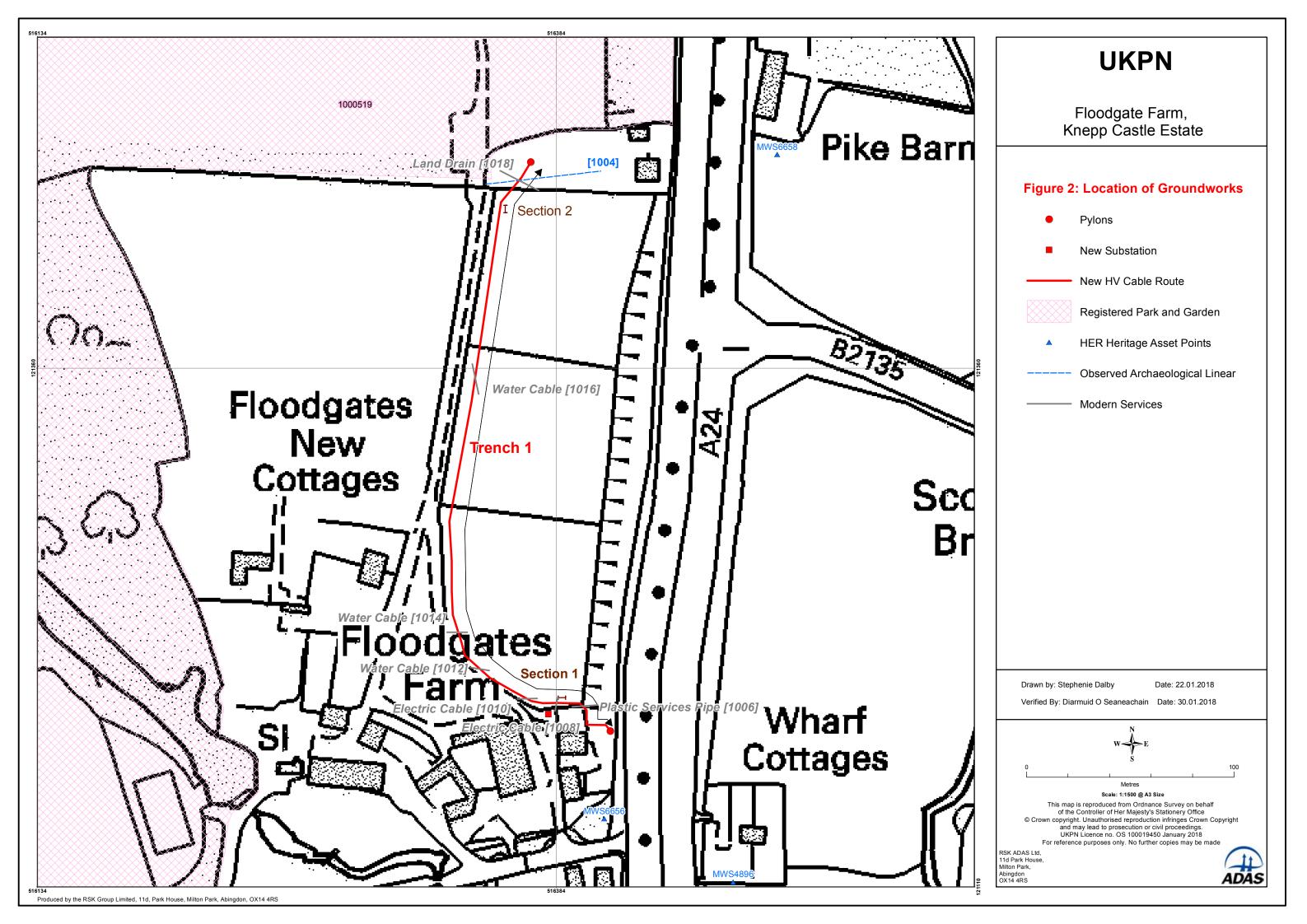
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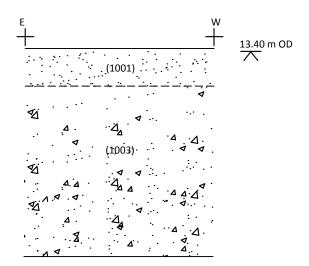
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Entered on 1 February 2018





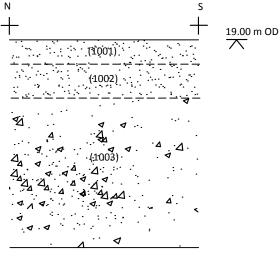




Section 1: North facing section of Trench 1



**Plate 7**: View of the north facing section of Trench 1, looking south



Section 2: West facing section of Trench 1



Plate 10: View of west facing section of Trench 1, looking east

# UKPN

Floodgate Farm, Knepp Castle Estate, Horsham, West Sussex 440V & 11kV Cable Undergrounding

Figure 3: Representative Sections

Legend

Δ ...

. Ironstone nodules

Drawn by: Stephenie Dalby

Date: 23/01/2018

Checked by: Diarmuid O Seaneachain

Date: 30/01/2018



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# **Plates**



**Plate 1:** General view of site of substation location (in front of wooden fence) and transformer pylon (Pole No. 564939) (behind buildings) prior to excavation





Plate 2: View south of Cable Route (alongside fenced field boundary on right) prior to excavation





Plate 3: View north to final pylon (Pole No. 564936) prior to excavation





Plate 4: Topsoil strip at southern end of Route





Plate 5: Topsoil strip at northern end of Route (Pole No. 564936)





Plate 6: View south west of southern section of cable trench during excavation



Plate 7: North facing section of Trench 1 with electric cable [1008], looking south (1m scale)





**Plate 8:** East facing section of cable trench in the central section of the Route, looking west (1m scale)





**Plate 9:** West facing section of cable trench on bank alongside A24 in front of transformer pylon (Pole No. 564939), looking east (1m scale)





Plate 10: West facing section at northern end of cable trench, looking east (1m scale)





Plate 11: View north-east of modern drainage channel [1004], running in front of final pylon (Pole No. 564936)





Plate 12: View west of modern drainage channel [1004]





Plate 13: South-east facing section of modern drainage channel [1004], cutting modern land drain [1018], looking north-west (1m scale)

