

Archaeological Watching Brief of Land at Abbey Fields, Faversham, Kent

Site Code ABB/WB/16



Report for FR Kent Solar PV Limited

Date of report 29/06/2016

SWAT ARCHAEOLOGY

Swale and Thames Archaeological Survey Company

The Office, School Farm Oast, Graveney Road

Faversham, Kent ME13 8UP

Tel; 01795 532548 or 07885 700 112

info@swatarchaeology.co.uk www.swatarchaeology.co.uk

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Date of report: 29/06/2016



Plate 1. Aerial view of site showing the site prior to development.

(Google Earth 07/09/2013: Eye altitude 2.53km).

1.0 Summary

1.1. From 2nd February to 27th March 2016 Swale and Thames Archaeological Survey Company (SWAT Archaeology) carried out an Archaeological Watching Brief on ground works involved in the build of a new solar farm at Abbey Fields Farm in Kent. (Fig. 2 & Plates 2-8).

1.2. The works were carried out on behalf of FR Kent Solar PV Limited.

1.3. An Archaeological Watch was kept during the machine digging of solar cable routes, temporary access roads and the connection cable to the main grid (Plates 2-8 & Fig. 2).

The archaeological work was undertaken in four main phases.

Phase 1: Excavations for new access tracks and footings of Customer Switchgear, labelled (b) on Figures 1, 2 (Plates 2-3)

Phase 2: Excavation for DNO to POC connection cables, labelled (d) on Figures 1, 2 (Plate 5)

Phase 3: Excavation for new access tracks and footings for inverter, labelled (g) on Figures 1, 2 (Plate 4)

Phase 4: Excavation for cable trenches at array connections (Plates 6-8).

1.4. The objectives of the Archaeological Watching Brief are to provide data on the date, character, quality, survival and extent of any archaeological deposits. In addition the programme of archaeological field assessment and mitigation will include:

A. Determine stratigraphy, and therefore the extent of previous groundworks/extraction across the entire site.

B. Identify any archaeological remains that may be exposed, and impacted upon, by construction works, and to make an assessment of their significance. Archaeological remains of the highest significance should, where possible be preserved in situ.

C. Where deemed acceptable through consultation, ensure the development and delivery of mitigation measures in the form of 'preservation by record' (excavation and recording) for any other archaeological remains revealed.

D. Prepare an archaeological archive of the site, that is reporting and publication of results of the monitoring under archaeological supervision and control, including the treatment and preservation of any finds and/or samples, deposition of the archive at an agreed repository or repositories, and the detailed analysis and publication of results, cross-referencing previous assessments at the site and in the local area, to a proportionate and sufficient level.

1.5. The Planning Application Number for the development is 15/505437/FULL

1.6. Although the archaeological potential has been highlighted by the Principal Archaeological Officer, Kent County Council (KCC), the Archaeological Watching Brief revealed no buried archaeological features, and no archaeological finds were retrieved.

1.7. In addition it was not possible to determine stratigraphy and/or the extent of previous works/extraction across the entire site because little stratification presented itself and every trench watched was dug through natural brickearth and not backfill. However, on watching the trenching of the connection cable (d) Figure 1 in the area north-west of Chambers Crossing it was noted from the levels that all of this field had been brickearthed.

2.0 Introduction

2.1 Planning Background

Planning application 15/505437/FULL was submitted to Swale Borough Council, Kent County Council (KCC) Principal Archaeological Officer requested that an Archaeological Watching Brief be undertaken in order to record any archaeological remains uncovered during the development work. The following condition was attached to the planning consent:

No development shall take place until the applicant, or their agents or successors in title, has secured the implementation of a watching brief to be undertaken by an archaeologist approved by the local planning authority so that the excavation is observed and items of interest and finds are recorded. The watching brief shall be in accordance with a written programme and specification which has previously been submitted to and approved in writing by the local planning authority.

Reason: Such details are required prior to the commencement of development in order to ensure that features of archaeological interest are properly examined and recorded before development takes place.

3.0 Schedule of Visits

An archaeologist suitably experienced attended the site (Dr Paul Wilkinson and Dan Latus SWAT Archaeology) and monitored the excavation works from the 2nd February to 27th March 2016. Attendance on site was dictated by the contractors work programme and a watching brief was maintained throughout the programme of ground excavations.

4.0 Aims and Objectives

4.1. The reason for the monitoring and recording, were to contribute to heritage knowledge of the area through the recording of the archaeological remains exposed as a result of excavations in connection with the ground works.

4.2. A full programme of proposed works by the contractor were made available to SWAT Archaeology before the on-site monitoring took place.

4.3. Confidence Rating

No factors hindered the recognition of archaeological and deposits during the monitoring and recording exercise.

4.4. The precise objectives of the watching brief programme are itemised in the WSI prepared for the site and are:

A. Determine stratigraphy, and therefore the extent of previous groundworks/extraction across the entire site.

B. Identify any archaeological remains that may be exposed, and impacted upon, by construction works, and to make an assessment of their significance. Archaeological remains of the highest significance should, where possible be preserved in situ.

C. Where deemed acceptable through consultation, ensure the development and delivery of mitigation measures in the form of 'preservation by record' (excavation and recording) for any other archaeological remains revealed.

D. Prepare an archaeological archive of the site, that is reporting and publication of results of the monitoring under archaeological supervision and control, including the treatment and preservation of any finds and/or samples, deposition of the archive at an agreed repository or repositories, and the detailed analysis and publication of results, cross-referencing previous assessments at the site and in the local area, to a proportionate and sufficient level.

5.0 Archaeological and Geological Background

5.1. The underlying geology at the site according to the British Geological Survey internet map is Bedrock geology of Seaford Chalk and Thanet Formation, and Superficial Deposits of Brickearth –Clay and Silt Head deposits (BGS <http://mapapps.bgs.ac.uk/geologyofbritain/>). The geology revealed on site was Brickearth (Plate 4).

5.2. The application site is located c.2km to the north east of Faversham, Kent, on currently arable land centred at NGR 602937 161736.

The site is irregularly shaped and lies over all or part of four fields (identified as Fields A – D), divided by an east-west access track (from Abbey Fields), north – south Thorn Creek, and further hedged boundaries.

5.3. The topography of the site is ‘bowl-shaped’, lying at 1m AOD in the east field, rising to 5m AOD in the west field. The site is surrounded by further arable fields and scrub to the north. To the south is a pond fed by natural springs.

5.4. There is a high archaeological potential in the local area (specifically for prehistoric and Roman-period sites). Analysis of historic maps and intrusive work (Canterbury Archaeological Trust 2000, Redfern 2015) indicate that brickearth has been quarried across the whole site during the later 19th and much of the 20th Centuries which will have likely removed archaeological remains across the development area.

5.5. The maximum mapped extent of extraction (1907 OS mapping) is shown on Figure 1. The discrepancy between the extent of extraction as interpreted through the results of intrusive assessments carried out as part of the application for the current scheme and historic mapping is recognised and its resolution a specified aim of the monitoring under archaeological supervision and control.

5.6. See Abbey Fields Farm Archaeological Desk Based Assessment (RSK 2015) for a full assessment of the archaeological potential and analysis of historic maps (5.4).

6.0 Methodology

6.1. The Watching Brief was conducted in accordance with the Archaeological Specification compiled by RSK Environment Ltd (RSK) and it also complied with the Chartered Institute of Field Archaeologists’ Standards and Guidance for Archaeological Watching Briefs (CIfA: 2014).

6.2. The works comprised the observation of all ground works, including the inspection of subsoil and natural deposits for archaeological features and finds.

6.3. The Watching Brief was carried out in four phases according to the needs of the ground contractors from 2nd February to 27th March 2016.

6.4. Excavation of the area was carried out by contractors using a 360 degree machine equipped with a toothless bucket necessary to remove the soil and cut the cable trenches (Plates 2-8).

6.5. All excavation was carried out under the constant supervision of an experienced archaeologist (Dr Paul Wilkinson MCIfA and Dan Latus SWAT Archaeology).

6.6. Where possible if areas of archaeological interest were found they would subsequently be hand-cleaned with the intention of revealing any observed features in plan and section.

6.7. If found archaeological features under threat were to be excavated to enable sufficient information about form, development date and stratigraphic relationships to be recorded without prejudice to more extensive investigations, should these prove to be necessary.

6.8. The archaeological watching brief was carried out in accordance with current IfA Standards and Guidance, (CIfA: 2014), and methodology discussed with the Archaeological Officer KCC.

7.0 Results

7.1 General

No archaeological features or finds were revealed or recovered. The subsoil encountered across the site was the sandy silty clay (brickearth) overlaid by very wet topsoil. No archaeological features were revealed in the natural geology and no archaeological finds retrieved from the topsoil which was swept by a Fisher CZ3D metal detector on all cable runs prior to excavation.

7.2. Phase 1 was watched from the 2nd Feb 2016 with the use of an existing raised causeway as an access road to the site. Switchgear was installed from the 10th Feb and service trenches watched (Plates 2 & 3).

7.3. Phase 2 was watched from 21st March with the cutting of the trench (d) on Figure 1 from just north of the railway line to the site. It was apparent that the first field south of Clapgate Spring had entirely been brickearthed and the plan on Figure two can be updated (Plate 5). No archaeological remains were revealed which is unusual as the pipeline skirted a freshwater spring but it confirms that there has been massive brickearth extraction on the west bank of the spring whereas the east bank is many metres higher and has not been brickearthed.

Of interest the 1907 OS map shows a triangular area to the west of the pipeline route which has not been brickearthed and here the writer as part of field school activities has recovered numerous remains of a Roman building- possibly a temple overlooking the freshwater springs.

7.4. Phase 3 was watched from 17th February with the laying on galvanised steel tracks to facilitate access to the solar array and inverter (Figure 1 (g)). This is in an area which was

intertidal until the building of the sea walls and sluices in the late medieval period. Conditions were difficult and no archaeology was revealed (Plate 4).

7.5 Phase 4 was watched from 14th February for the trenching for cables to the solar panels, no archaeology was revealed (Plates 6-8).

8.0 Finds

No finds were retrieved.

9.0 Discussion

The development site is in an area of archaeological potential. However, no archaeology was revealed as most of the development site has had many metres of brickearth quarried out. However, it will be possible to update the map on brickearth extraction which was one of the aims outlined on the WSI as there were lengths of watched trenching that exposed a sandy chalky quarry backfill whilst other areas had pristine brickearth deposits.

10.0 Conclusion

The Archaeological Monitoring has fulfilled the primary aims and objectives of the RSK Archaeological Specification. As far as it is known no buried archaeological features have been affected as a result of the development. The site archive, correspondence and digital photographs will be retained by SWAT Archaeology until a suitable depository is made available by KCC.

11.0 Acknowledgments

SWAT Archaeology would like to thank FR Kent Solar PV Ltd for commissioning the project. Fieldwork was undertaken by Paul Wilkinson and Dan Latus and the report written by Paul Wilkinson.

Paul Wilkinson, BA (Hons), PhD., FRSA., MCIfA.
29/11/2015

References

HER data (<http://www.kent.gov.uk/ExploringKentsPast>)

IFA (2014) Standards and Guidance for Archaeological Watching Briefs

RSK: Abbey Fields, Faversham. Written Scheme of Investigation for Monitoring under Archaeological Supervision and Control October 2015 Revision 01

RSK: Abbey Fields Farm, Faversham. Archaeological Desk based Assessment June 2015

Appendix 1

Kent County Council HER Summary Form

Site Name: Development of land at Abbey Barns Farm, Faversham, Kent

SWAT Site Code: ABB/WB/15

Site Address: As above

Summary:

Swale and Thames Survey Company (SWAT) carried out Archaeological Watching Brief on the development site above. The site has planning permission for a new solar farm whereby KCC requested that Archaeological Watching Brief be undertaken to determine the possible impact of the development on any archaeological remains.

The Archaeological Watching Brief consisted of site attendance during ground works which encountered no buried archaeological features or artefacts.

District/Unitary: Swale Borough Council

Period(s):

NGR (centre of site to eight figures) 602937 161736

Type of Archaeological work: Archaeological Watching Brief

Date of recording: February to March 2016

Unit undertaking recording: Swale and Thames Survey Company (SWAT. Archaeology)

Geology: Underlying geology is Brickearth Formation

Title and author of accompanying report: Wilkinson P. (2016) Archaeological Watching Brief at Abbey Fields, Faversham, Kent

Summary of fieldwork results (begin with earliest period first, add NGRs where appropriate)

See above

Location of archive/finds: SWAT. Archaeology. Graveney Rd, Faversham, Kent. ME13 8UP

Contact at Unit: Paul Wilkinson

Date: 29/06/2016



Plate 2. View of trench for switchgear (Phase 1)



Plate 3. View showing hand digging to connect switchgear (Phase 1)



Plate 4. The site showing invertor and switch gear (Phase 3)



Plate 5. View of connection cables in quarried brickearth backfill (Phase 2)



Plate 6. View of cable trench array connections (Phase 4)

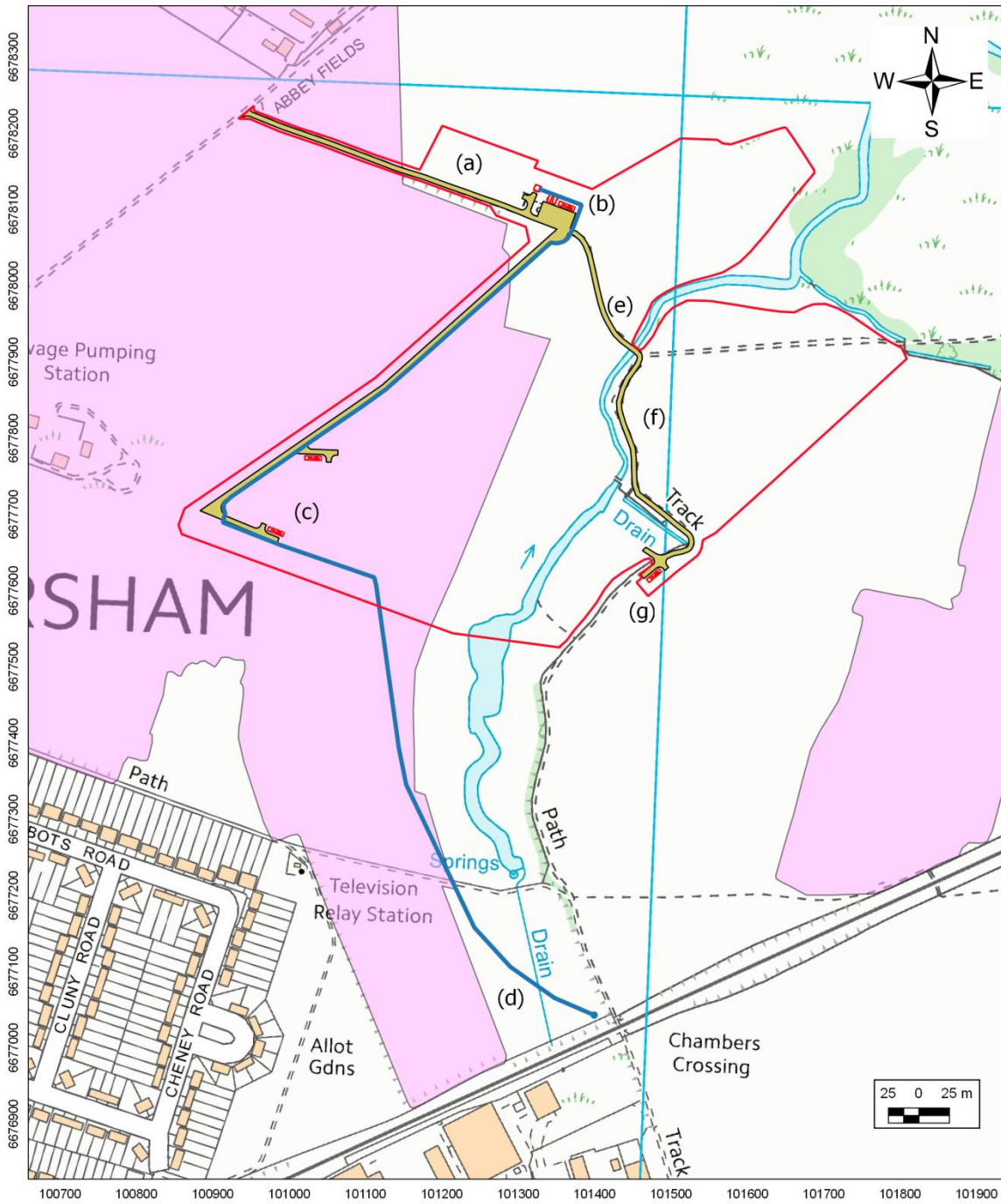


Plate 7. View of cable trench array connections (Phase 4)



Plate 8. View of cable trench array connections (Phase 4)

Figure 1.



Legend

- Development site boundary
- Development access road
- Development building (footings)
- Connection cable - DNO to POC
- Max. mapped extent of clay pit (1907)

Abbey Fields Solar Farm

Figure 2:
Archaeological Mitigation

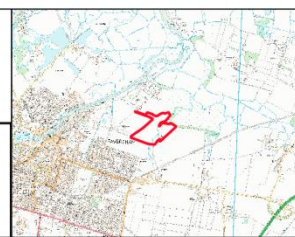


Fig. 1 Archaeological mitigation impact areas

Abbey Fields, Faversham
 Written Scheme of Investigation for Monitoring under Archaeological Supervision and Control
 660578/04/401 Rev01

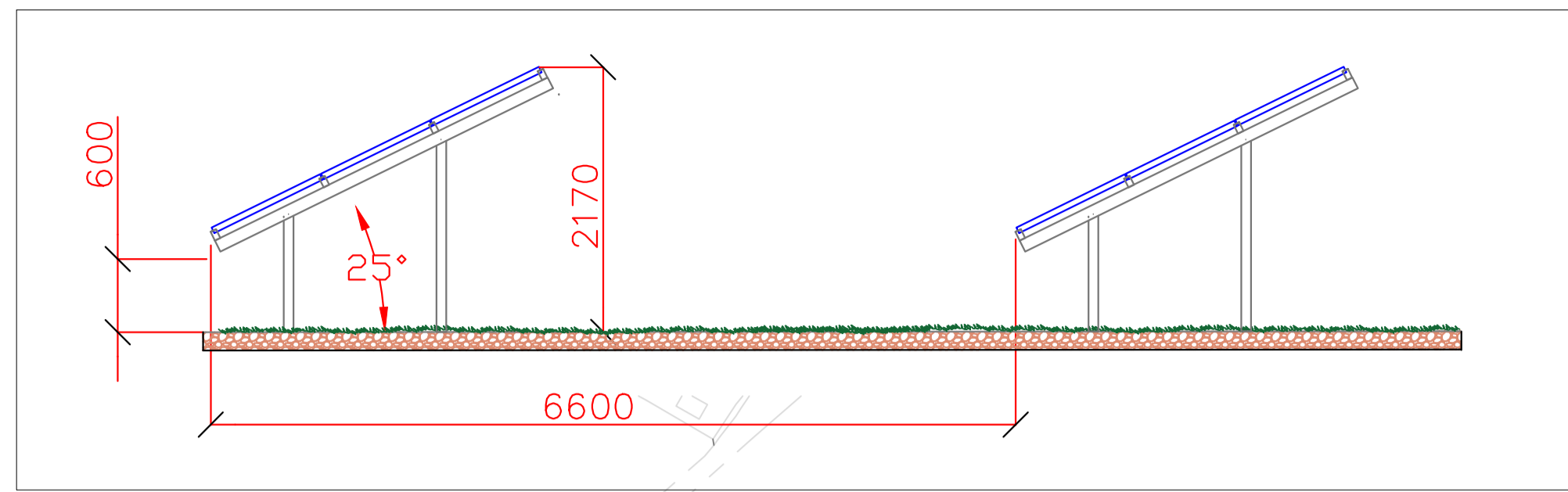
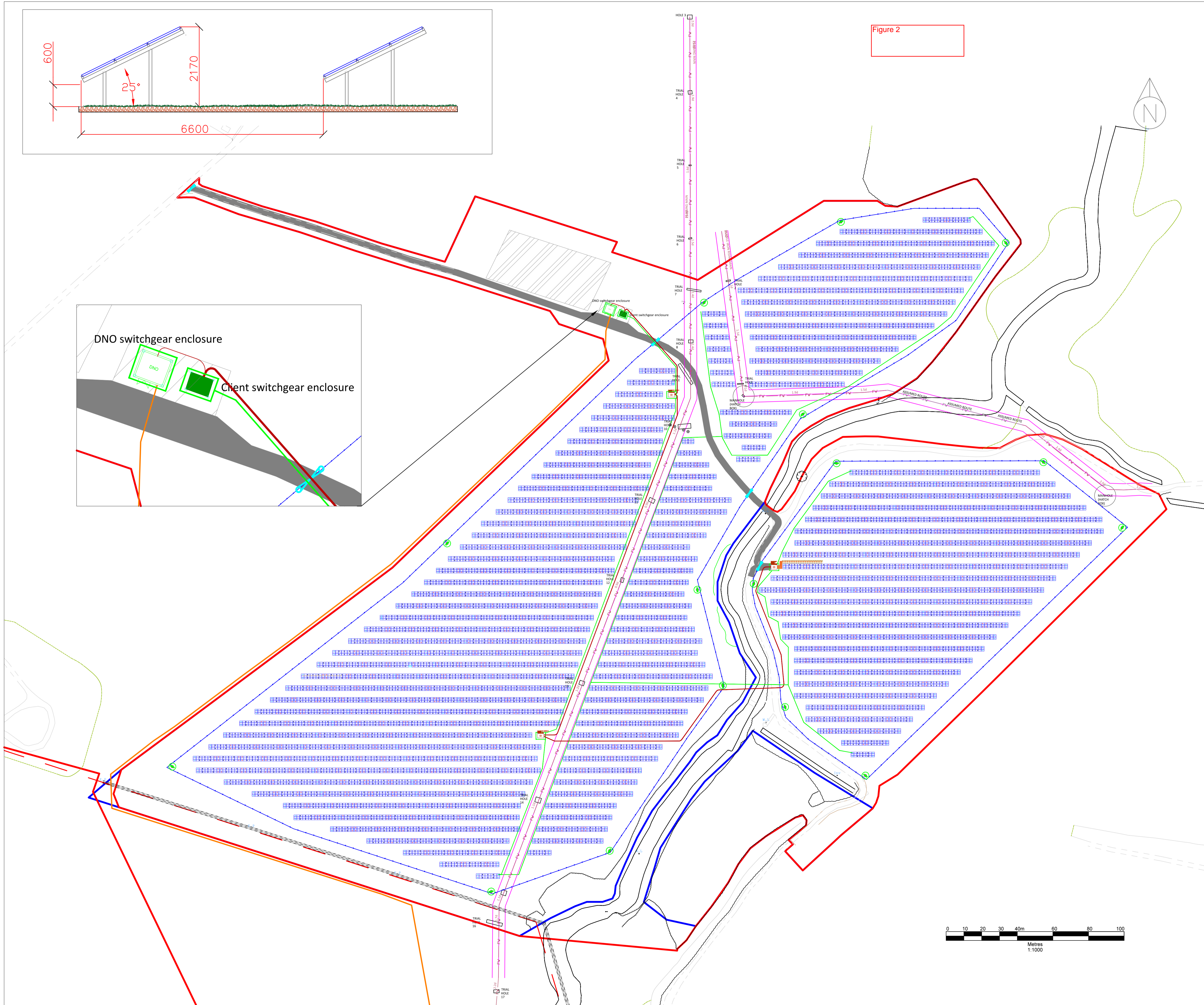
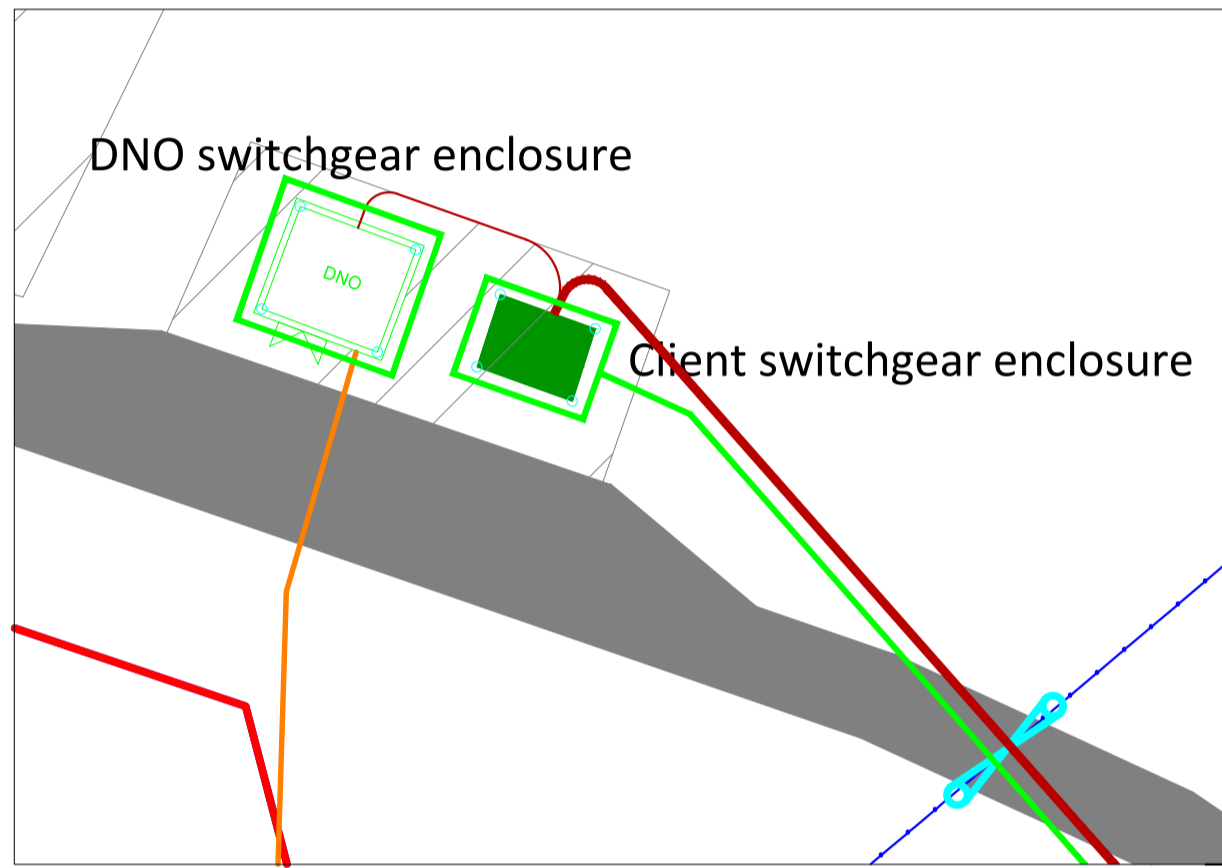


Figure 2



GENERAL NOTES:

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FOR FURTHER DETAILS AND CONSTRUCTION NOTES SEE ALL DRAWINGS AND APPLICABLE NOTES.

BT	Telecom. inspection cover	ST	Stop tap
EP	Elec. pole	STAY	Cable stay
FP	Flagpole	SV	Stop valve
G	Gully	TP	Telegraph pole
GV	Gas valve	VP	Vent pipe
PH	Hydrant	WO	Water outlet
IC	Inspection cover		
KO	Kerb outlet		
LP	Lamp post		
MH	Manhole		
RS	Road sign		

Legend:

	GATE		CCTV CAMERA
	FENCE		DNO SUBSTATION AND METERING ENCLOSURE TBC
	TRANSFORMER SS 1600KVA		SITE BOUNDARY
	PV ARRAY		ACCESS ROAD
	SITE EARTHING		PRIVATE NETWORK HV

PLANT POWER: Total array 4.942MWp (TIC) / 3.96MW (AC)

MODULE: Make: Yingli SolarModel: YGE60 25b (260w)
Type: Poly Crystalline
Total: 19008 Modules
Module dimensions: 1640x990x35mm

INVERTER: Make: SMA Model: MLX 60
Rated Output: 60kW
PHASE TWO Total: 66
Modules per String: 24

STRUCTURES: Make: Solprime Model: Twin Pile LANDSCAPE
Pitch of Panels: 25 degree (3 x landscape)
No of piles TDC
Minimum depth: TBC

FENCED AREA: Total area 8.8 HECTARES / 22 ACRES

GRID REFERENCE: 51°19'13.92"N
0°54'26.33"E
ELEVATION 4 MTS

Notes:

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Rev: A Date: 03-03-2016
Revisions: Road removal

Unit 9, Dunchideock Barton, Dunchideock, Exeter, Devon, EX2 9UA
(t) 01726 218618
www.ethical-power.com

Project Title: ABBEY FIELDS SOLAR
Site address: Abbey Fields Farm, Abbeyfields, Faversham, Kent, ME13 8HX

Description: PV General arrangement

Date: 20-01-2016 Scale: 1:1000@A1
Job No: 1213 Surveyor:
Drg No: :EP1213 GA 20012016revA Drawn: JMM

