Frodsham Solar

Technical Note on Peat Resources

December 2025

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Cubico SUSTAINABLE INVESTMENTS

Revision P01

Technical Note on Peat Resources

CLIENT:	Cubico – Frodsham Solar Limited
PROJECT:	Frodsham Solar
SUBJECT:	Peat Distribution and Thickness
JOB NO.:	GM12793
DATE:	19/12/2025
PREPARED BY:	G Campbell / J Currie (peat modelling)
APPROVED BY:	G Campbell

1 INTRODUCTION

1.1 This stand-alone Technical Note has been prepared to provide further detail to the answer to Item 5 (g) on the agenda for Issue Specific Hearing 1 (ISH1) held on Tuesday 2nd December 2025, building on the oral submissions of Gavin Campbell to the Examining Authority (ExA) during ISH1 and the written summary of those submissions also submitted at Deadline 1.

2 BACKGROUND TO AGENDA ITEM 5 (g)

2.1 Question 5 (g) requires the Applicant to provide the ExA with information to improve its understanding of the information available in respect of peat within the Order limits, the potential for disturbance of that peat; the potential and magnitude of archaeological harm, and whether any potential harm from the construction of foundations and groundworks would be mitigated sufficiently. Specifically the ExA has requested a drawing to show:

- The location and top level of any peat identified in any investigations.
- The locations and levels to which peat has not been found in the investigations undertaken for the proposed development.
- How those levels compare with the levels of the underside of piling, foundations, drainage and cable trenches, and other groundworks.
- The indicative locations proposed for future ground investigations.

3 INTERPRETATION OF DISTRIBUTION OF PEAT

3.1 The following methodology has been used to prepare plans describing the depth and extent of the peat deposits across the site.

- Obtain accurate Lidar data representing the current ground level variation across the site and environs and convert to a greyscale relief plot.
- Review the results of ground investigations from within and around the site comprising project-specific data and third party project data, as set out in ES Appendix 10-1 (APP-096 and APP-097).
- As part of this consider the ground investigation data for accuracy of location (Ordnance Survey Eastings and Northings), ground level (to metres above Ordnance Datum), and geological context (do the logs record peat or organic soil, level of peat i.e. upper or lower peat layer etc.).
- Upload the revised geological (reliable) database into a Geographical Information System (GIS).
- Undertake various geological interpretations including contouring of various surfaces and consider the Project Design foundation parameters and anticipated depth of excavation (2 metres) to form the NBBMA.
- Prepare representative figures to describe the vertical and lateral distribution of the peat within and around the site.

3.2 The ground investigations include:

Project-Specific Data

3.2.1 The results of the investigations are included within Environmental Statement: Volume 2 Appendix 10-1: Stage 1 Geo-Environmental Assessment Part 2 [APP-097]. The investigations comprised:

- Eight (8 No) trial pits and three soakaway tests in the Non Breeding Bird Mitigation Area in Cell 3 [APP-097 pages 302 to 394], to describe the soils, investigate their permeability and contamination status;
- Fourteen (14 No) boreholes and a hand dug trial pit in the east of the site [APP-097 pages 395 to 457] to investigate shallow geology to inform initial project design details

, provide chemical testing and construct standpipe piezometers for groundwater monitoring;

- Nine (9 No) auger bores in the east of the site [APP-097 pages 459 to 495] as part of a peat reconnaissance survey;
- Twenty three (23 No) boreholes in the Non Breeding Bird Mitigation Area in Cell 3 [APP-097 pages 172 to 301] to further investigate the geological variation, contamination status and construct standpipe piezometers for groundwater monitoring;
- Four (4 No) boreholes at the two option BESS areas [APP-097 pages 497 to 523] to investigate the contamination status of the soils.

Third Party Ground Investigation Data

3.2.2 Third party ground investigations also on site include:

- Sixty eight (68 No) windowless sample boreholes and thirty three (33 No) cable percussion boreholes, in situ and laboratory testing to investigate the ground conditions for the Frodsham Windfarm – this work was undertaken by Wardell Armstrong c. 2013/14;
- Sixteen (16 No) boreholes drilled to investigate the ground conditions along the Runcorn Carbon Dioxide Spur Pipeline Development, which crosses the site [Planning Application reference 25/02108/FUL].
- Thirty one (31 No) historic ground investigations held by the British Geological Survey (BGS) on https://mapapps2.bgs.ac.uk/geoindex/home.html

3.3 As shown in Figure 3.1, geological datasets (one dataset being a single investigation point) have been considered. This is a significant amount of geological data and provides the opportunity to carry out a robust interpretation of peat distribution across the site.

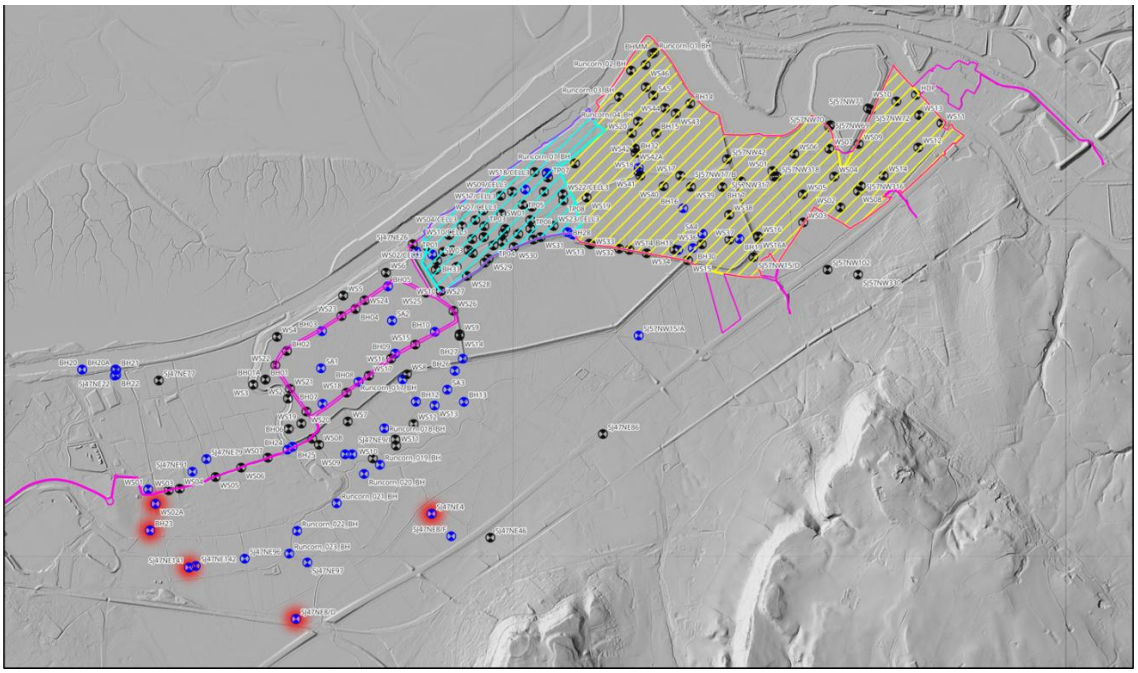

***Figure 3.1**: Image showing exploratory hole locations. Peat is absent in the **Black** coloured positions. Peat is encountered in the **Blue** coloured positions at depth but only shallow peat (within 1.2 metres of the current ground surface) is encountered in the **Blue** coloured positions with red halos positions (SJ47NE141, BH23, WS02A, SJ47NE4 and SJ47NE8/D). LIDAR Composite DTM 2022 - 1m: © Environment Agency copyright and/or database right 2022. All rights reserved. Drawing is for illustrative purposes only and is based on the data obtained at the time of the LIDAR survey/surveys. Drawing uses third-party data. No reliance can be provided for this data and SLR cannot be held responsible for any errors within this data. Boundaries are indicative.*

3.4 Initial conclusions drawn from Figure 3.1 are:

- The project-specific data have not proved peat within the Order limits.
- The third party data has not proved shallow peat within the Order limits.
- Eleven third party datasets have proved deeper peat within the SADA and NBBMA.
- Forty one third party datasets have proved shallow and deeper peat south and south west of the SADA and NBBMA.

3.5 The potential for interaction of foundation excavations and groundworks in the SADA with peat is demonstrated in Figure 3.2.

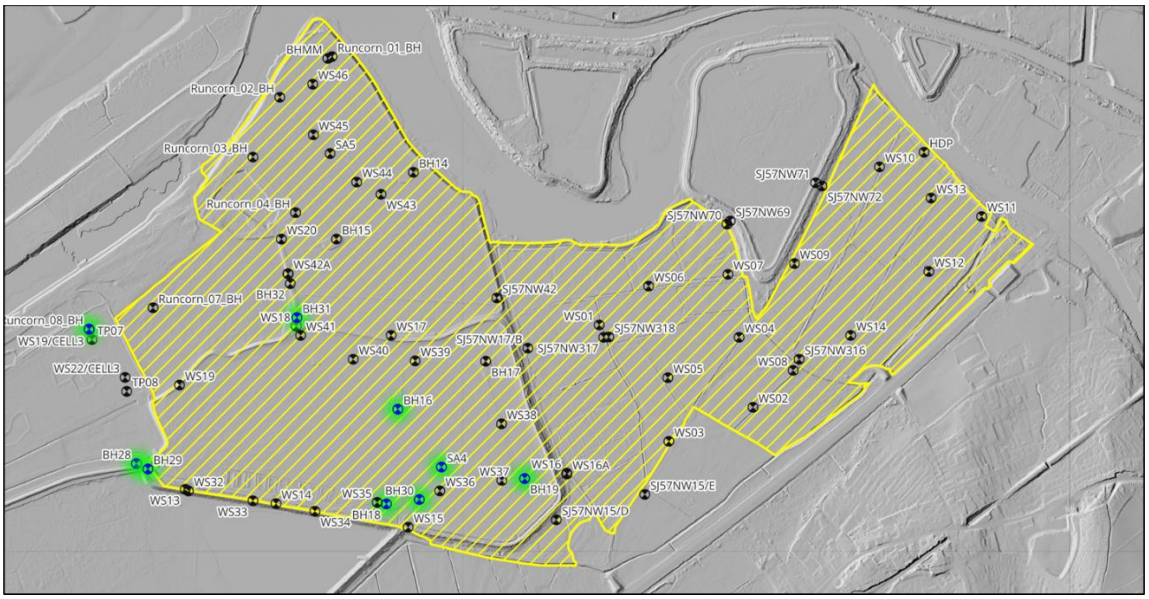

***Figure 3.2**: Image showing exploratory hole locations that contain peat and where peat is present in the top 5m in the Solar Array Development Area (SADA), hatched in yellow. Peat is absent in the **Black** coloured positions. Peat is encountered in the **Blue** coloured with green halos positions below 5m (includes Runcorn_08_BH, SA4, BH28, BH16, BH18, BH19, BH29, BH30 and BH31). No investigations identify Peat being encountered within 5 metres of the existing ground surface. LIDAR Composite DTM 2022 - 1m: © Environment Agency copyright and/or database right 2022. All rights reserved. Drawing is for illustrative purposes only and is based on the data obtained at the time of the LIDAR survey/surveys. Drawing uses third-party data. No reliance can be provided for this data and SLR cannot be held responsible for any errors within this data. Boundaries are indicative.*

3.6 The potential for interaction of excavations and groundworks in the NBBMA with peat is demonstrated in Figure 3.3.

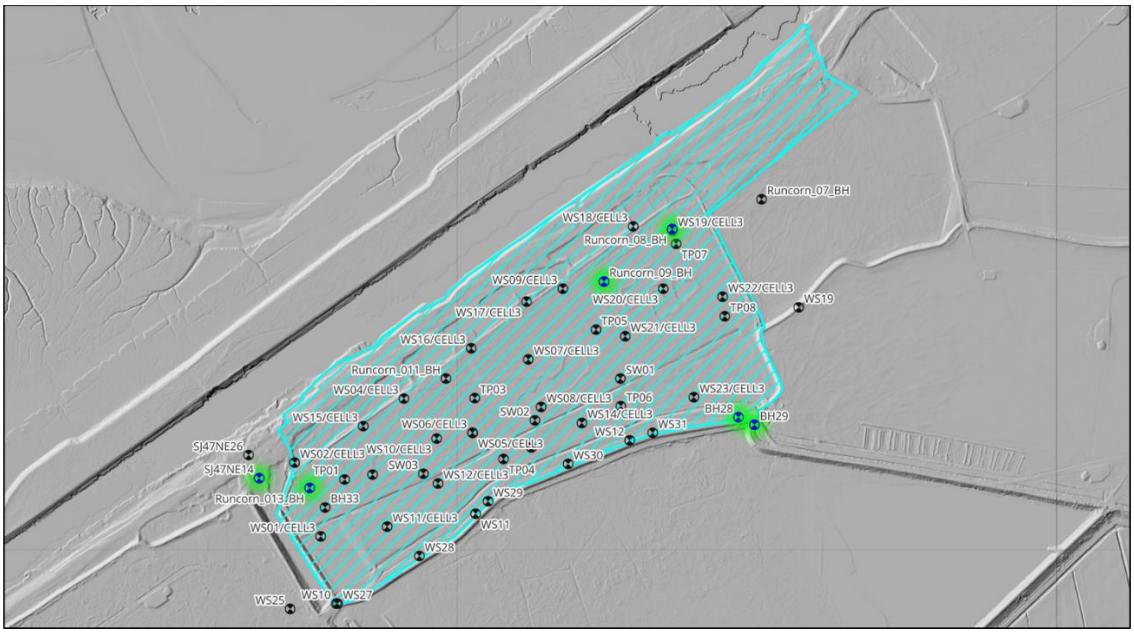

***Figure 3.3**: Image showing exploratory hole locations that contain peat and where peat is present in the top 2m within the Non-Breeding Bird Mitigation Area (NBBMA), hatched in blue. Peat is absent in the **Black**. Peat is encountered in the **Blue** coloured with green halos positions below 2m (includes Runcorn_08_BH, Runcorn_09_BH, Runcorn_013_BH, BH28, BH29 and SJ47NE14). Peat has not been encountered within 2 metres of the existing ground surface. LIDAR Composite DTM 2022 - 1m: © Environment Agency copyright and/or database right 2022. All rights reserved. Drawing is for illustrative purposes only and is based on the data obtained at the time of the LIDAR survey/surveys. Drawing uses third-party data. No reliance can be provided for this data and SLR cannot be held responsible for any errors within this data. Boundaries are indicative.*

3.7 Based upon the proven peat distribution on Figure 3.1, which identifies positions where shallow peat (within 1.2 metres of the current ground surface) is encountered in the Blue coloured positions with red halos, the potential for interaction of drainage or duct excavations and groundworks, in the areas outside the SADA and NBBMA, is limited though potentially may occur to the south west of the NBBMA. This interpretation is generally consistent with the interpretation proposed within the Geoarchaeology Assessment undertaken for the Runcorn Carbon Dioxide Spur Pipeline Development [Planning Application reference 25/02108/FUL].

4 FUTURE GROUND INVESTIGATIONS

4.1 The interpretation of peat distribution in this Technical Note is based on a significant amount of geological data and is considered to be an accurate reflection of the available data and appropriate for the stage of the development. However, as with all ground

investigation, it relies on the interpretation of geology between point locations. Additional investigations of the ground conditions across the site will be needed to inform detailed civils design including additional boreholes, laboratory testing and pull-out tests. The requirements of these investigations will be established by the geotechnical designer for the construction contractor , however for a project of this nature it would not be unreasonable for investigation points to be based on a 25m to 50m grid spacing and the method of investigation selected to determine the presence or absence of peat. The details of this investigation will be able to be considered by stakeholders pursuant to the ground conditions investigations and assessment strategy required by Requirement 17 of the DCO.

4.2 Investigations targeted to confirm the peat distribution across the site will also be undertaken and would form part of the detailed ground investigation campaign . Based upon our assessment of the ground investigation datasets, the broad zones for consideration of peat investigation are presented on Figure 4.1. Should these investigations identify the presence of peat within 5m of the surface and the construction in those locations result in disturbance of the peat identified (directly or indirectly) then a Peat Management Plan would be developed that would specify measures required to mitigate potential impacts on the peat. This is secured within the outline Soil Management Plan (as updated alongside this submission) and outline Construction Environmental Management Plan (as updated alongside this submission).

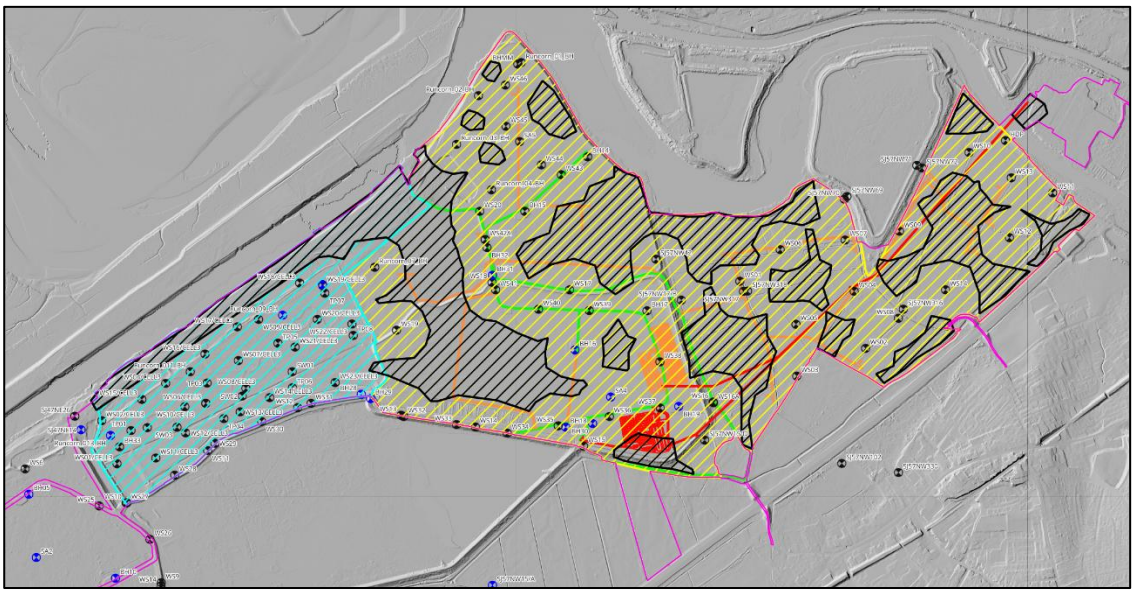

***Figure 4.1**: Image showing approximate areas of potential further investigation (black hatching) of peat resource – potentially up to 6 No. boreholes may be considered within these areas and would form part*

of the developer's detailed ground investigation. LIDAR Composite DTM 2022 - 1m: © Environment Agency copyright and/or database right 2022. All rights reserved. Drawing is for illustrative purposes only and is based on the data obtained at the time of the LIDAR survey/surveys. Drawing uses third-party data. No reliance can be provided for this data and SLR cannot be held responsible for any errors within this data. Boundaries are indicative.