



Ms Saffron Loasby

Leicestershire County Council

Planning Ref: 21/01242/FUL

3rd March 2026

Dear Ms Loasby

Solar farm for the generation of up to 40 MW of AC electrical energy, including access tracks, solar panels, transformer cabins and a substation, enclosed within a 2m perimeter 'deer' fence and associated landscaping.

Applicant Response to LLFA Comments (March 2026)

This letter provides the Applicants' response to the conditions imposed by the Lead Local Flood Authority (LLFA) in respect of planning application 21/01242/FUL, dated 23/02/2022 and the decision notice, dated 10/05/2023.

Please find below additional information/clarification of the points raised. Points raised by the LLFA are italicised while the technical response follows.

The response should be read in conjunction with the Flood Risk Assessment produced by Arcus (September 2021).

Decision notice – condition 16

No Development approved by this planning permission shall take place until such time as a surface water drainage scheme has been submitted to, and approved in writing by the Local Planning Authority.

The proposed Development is a solar farm which will introduce a limited hardstanding area of transformers, a small substation and storage containers. The units will be spread across the site and not concentrated in a single area. Impermeable area calculations for the site are provided in Table 1.

Table 1: Impermeable area calculation

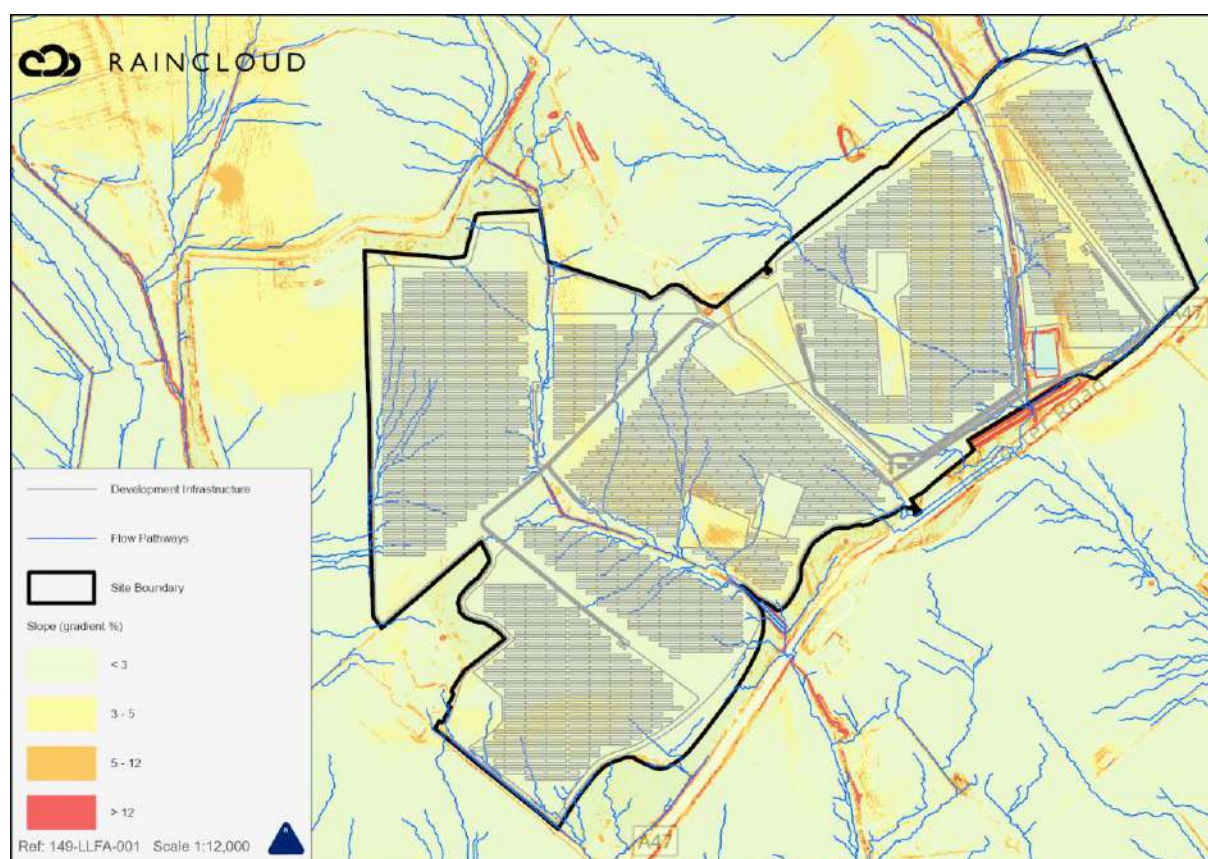
Infrastructure	Area (m ²)	Number of units	Total (m ²)
Transformers	14.71	7	102.97
Substation	65.92	1	65.92
Storage Containers	14.74	3	44.22
<u>Total</u>			<u>213.11</u>

The total impermeable area for the site is 213.11m² and the site area is 662024.28 m². The Development impermeable area equates to a percentage impermeable area 0.032% of the site and therefore have a negligible impact on runoff to the site. The Q_{BAR} for the total impermeable area (concentrated as a single area) is 0.1 l/s further proving runoff from the entire impermeable area would produce a negligible increase in runoff.

As industry standard for solar farm, a rural sustainable drainage strategy (RSuDS) will be adopted and not a formal drainage strategy. RSuDS is a recognised SuDS strategy for rural Development through land management practices such as planting which will 'slow the flow' of runoff onsite.

The site is predominantly located on gently sloping land (< 5% gradient) with small areas of moderate slopes (5 - 12% gradient), as shown in Plate 1. EA guidance¹ recognises runoff from gentle slopes is low therefore runoff from the development is likely to be low as well.

Plate 1: Slope analysis



Research in the United States by Cook & McCuen (2013) outlines that solar panels do not have significant effect on runoff volumes or peak flows, however where ground beneath panels is bare there may be an increase in peak discharge. The Development proposes grassland under the panels and therefore the solar panels will not increase surface water runoff on site.

¹ [https://www.gov.uk/guidance/how-to-do-the-sfi-actions-for-soils#:~:text=Step%201a:%20Assess%20the%20gradient,\(3%2D5%25%20gradient\)](https://www.gov.uk/guidance/how-to-do-the-sfi-actions-for-soils#:~:text=Step%201a:%20Assess%20the%20gradient,(3%2D5%25%20gradient))

Milazzo et al (2023) reviews the role of grassland for erosion and flood mitigation in Europe and provides quantification that permanent grassland mitigates better runoff than arable land.

The EA (2025) published research and analysis of run-off management, the study highlights with high confidence the increase in vegetation cover (e.g. grassland) slows the flow of runoff and increases retention of water.

The site is currently arable land and therefore the use of grassland as a runoff management measure will reduce runoff and soil erosion on site and provide a significant betterment to the existing agricultural scenario.

Further details regarding the planting and landscaping regarding the project are located within the landscape layout (Appendix A).

To provide additional betterment, swales will be located on key surface water flow pathways to capture runoff. The swale locations are provided in Appendix B. Swales will have an approximate surface width 2.5 m, side slope 1:3, depth 0.3 m and base width 0.7m.

Internal tracks will be permeable (type 3 or similar) and therefore will not require a formal drainage system.

If deemed appropriate, gravel strips around transformers, small substation and storage containers can be utilised to capture surface water runoff generated before releasing into the wider site as per the existing scenario. An example of a gravel strip is provided in Plate 2 (infrastructure within the image does not depict infrastructure for the proposed Development).

Plate 2: Gravel strip example





In summary, the proposed solar farm introduces only 213.11 m² of impermeable area, equating to a 0.032% of the site and will therefore have no measurable impact on surface water runoff. The adoption of a RSuDS strategy, permanent grassland cover, permeable internal tracks and strategically placed swales will ensure that runoff rates and volumes are effectively managed. These measures collectively provide a clear betterment over the existing arable land use. The submitted details therefore constitute a suitable surface water drainage scheme for the Development and satisfy the requirements of the LLFA planning condition.

Decision notice – condition 17

No Development approved by this planning permission shall take place until such time as details in relation to the management of surface water on Site during construction of the Development has been submitted to, and approved in writing by the Local Planning Authority.

The following outlines construction practices for managing surface water management during the construction phase of the solar farm and are provided for the main construction activities that may increase surface water.

The most important management decision to avoid adverse effects on surface water is the timing of works. Construction work should take place during dry soil conditions minimising the damage from vehicle movements across the site.

PV Array Installation

Whilst the PV arrays and racking system does not involve the installation of hardstanding, the installation methods could lead to soil compaction if not managed properly.

Installation of the racking system (mounting frame) should only occur when soil conditions are suitable, e.g. dry enough that tyre imprints are not deeper than a specified depth when tracking across land. The Construction Contractor will be responsible for monitoring conditions, in consultation with the Ecological Clerk of Works.

The mounting framework is likely to be delivered by a vehicle with a trailer and is unlikely to cause soil compaction. The racking system will then be pile driven into the ground to a depth of typically 1 to 2 m, depending on ground conditions using similar tracked mini pile driver machinery, as shown in Plate 3.



Plate 3: Mini pile driver examples



The PV modules are likely to be secured to the racking system by hand and therefore soil compaction is unlikely to occur during this stage, as shown in Plate 4.

Plate 4: PV module installation²



² Keele University



Should vehicles cause compaction during the installation of the PV arrays then this will be ameliorated using standard agricultural cultivation equipment, examples include subsoilers, power harrows and rolls.

The amount of restoration work will be subject to the localised impact. When conditions become muddy, this can be recovered once the soils have become dry using a tine harrow and roller or crumble bar.

Temporary Construction Compound

The temporary compound is temporary in nature and therefore will not have a long-term impact on surface water runoff. The temporary compound is expected to be gravel based (preferably type 3) which will allow water to percolate into the ground as per the existing scenario.

The temporary compound is likely to store Development infrastructure and receive the most traffic on the site and therefore is subject to compaction. To capture runoff generated from the compound, a perimeter drain will be installed around the compound; the perimeter will attenuate the surface water runoff from the temporary compound. Typical perimeter drains measure approximately 1 m width and 0.3 to 0.5 m depth.

The temporary compound will be reinstated following construction; enhanced grassland will be established from the reinstatement as per the site landscape plan.

In conclusion, the construction-phase surface water management measures outlined above ensure that the works will not increase runoff, cause soil erosion, or mobilise sediment across the site. All measures will be monitored by the Construction Contractor in consultation with the Ecological Clerk of Works, and the site will be fully reinstated following completion of works.

Decision notice – condition 18

Prior to completion of the Development approved by this planning permission shall take place until such time as details in relation to the long-term maintenance of the surface water drainage system within the Development have been submitted to and approved in writing by the Local Planning Authority. The scheme of long-term maintenance scheme as approved shall thereafter be implemented for the operational phase of the Development.

It is the responsibility of the Development operator to maintain effective drainage measures and rectify drainage measures that are not functioning adequately. The maintenance plan for the swales provided below (Table 2) aligns with the maintenance plans outlined within the SuDS Manual.



Table 2: Long term maintenance schedule for a swale

Maintenance Schedule	Required Action	Typical Frequency
Regular maintenance	Remove litter and debris	Monthly, or as required
	Cut grass – to retain grass height within specified design range	Monthly (during growing season), or as required
	Manage other vegetation and remove nuisance plants	Monthly at start, then as required
	Inspect inlets, outlets and overflows for blockages, and clear if required	Monthly
	Inspect infiltration surfaces for ponding, compaction, silt accumulation, record areas where water is ponding for > 48 hours	Monthly, or when required
	Inspect vegetation coverage	Monthly for 6 months, quarterly for 2 years, then half yearly
	Inspect inlets and facility surface for silt accumulation, establish appropriate silt removal frequencies	Half yearly
Occasional maintenance	Reseed areas of poor vegetation growth, alter plant types to better suit conditions, if required	As required or if bare soil is exposed over 10% or more of the swale treatment area
Remedial actions	Repair erosion or other damage by re-turfing or reseedling	As required
	Relevel uneven surfaces and reinstate design levels	As required
	Scarify and spike topsoil layer to improve infiltration performance, break up silt deposits and prevent compaction of the soil surface	As required
	Remove build-up of sediment on upstream gravel trench, flow spreader or at top of filter strip	As required
	Remove and dispose of oils or petrol residues using safe standard practices	As required



Decision notice – condition 19

No Development approved by this planning permission shall take place until such time as infiltration testing has been carried out (or suitable evidence to preclude testing) to confirm or otherwise, the suitability of the Site for the use of infiltration as a drainage element, has been submitted to and approved in writing by the Local Planning Authority.

The BGS Geology viewer shows the site's bedrock geology is a combination of Gunthorpe Member (mudstone) in the south of the site, Cotgrave Sandstone Member (sandstone) in the centre of the site and Edwalton Member (mudstone) in the north of the site. No superficial deposits are available for the site. Given the site is predominantly located on Mudstone which has a very low permeability, infiltration is not deemed a viable strategy.

The proposed surface water drainage strategy for the site aims to mimic natural processes that exist on the site. A series of swales are to be located on key flow pathways to capture runoff generated and provide a betterment than the existing scenario. The proposed drainage strategy does not utilise an infiltration basin and therefore infiltration testing is not deemed appropriate for the site.

Initial consultation with the Leicestershire County Council agreed in principle that if infiltration was not the methodology adopted, infiltration would not be required. Consultation with the LCC is provided in Appendix C.

I trust that the above information, provides sufficient information, alongside the original SuDS Strategy to address the points raised, and enables the Council to discharge Conditions 16 -19. However, should you or the LLFA require any further information please do not hesitate to contact me.

I look forward to hearing from you in due course.

Yours sincerely,

Liam Nevins

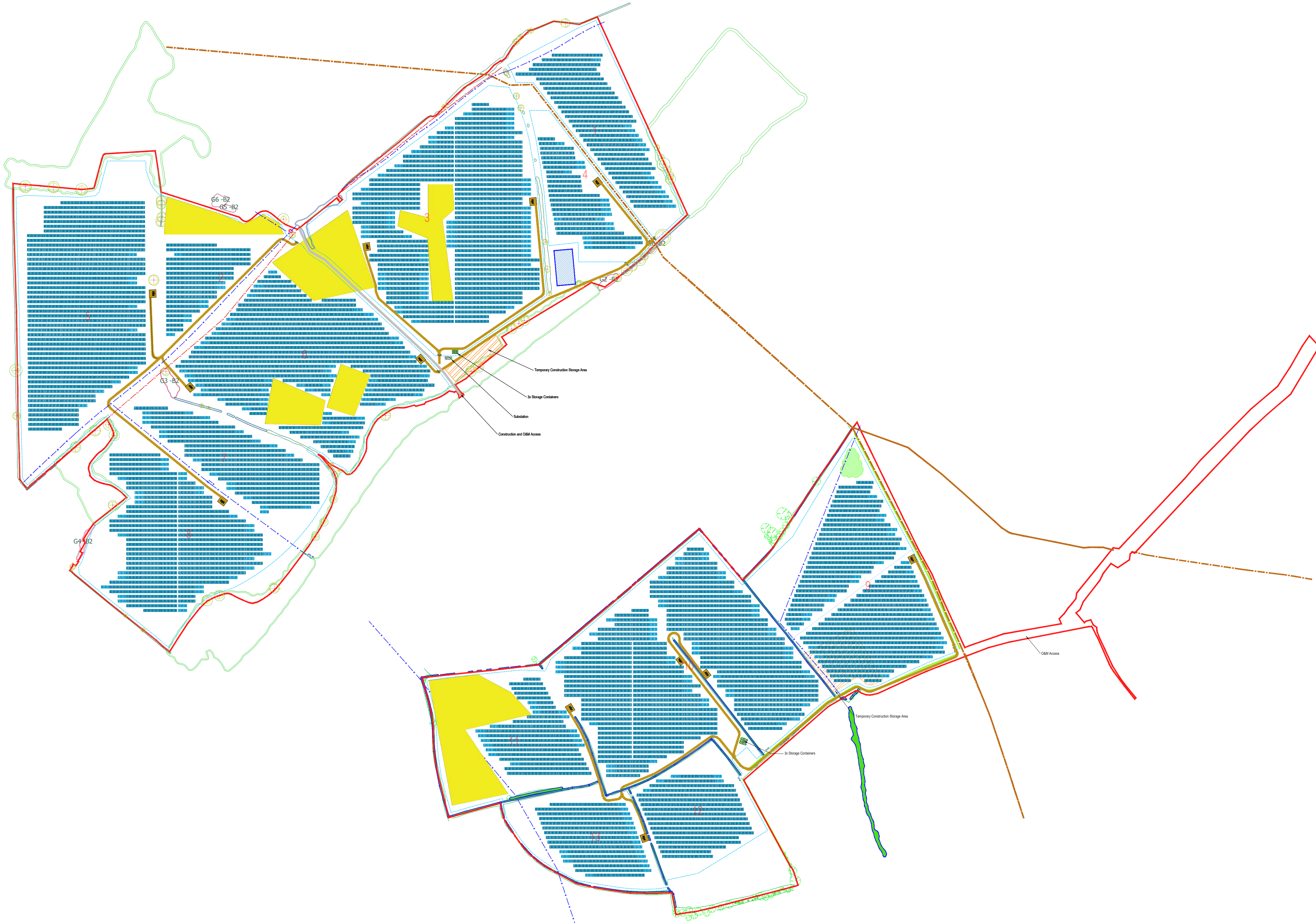
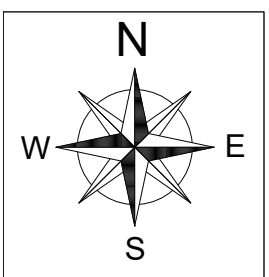
BSc (Hons) MCIWEM C.WEM

Founder & Director



RAINCLOUD

APPENDIX A – REVISED SITE AND LANDSCAPING LAYOUT



- PV Module
JA Solar - JAM66D50-645/GB
645 Wp
- Table with 1 string
26 modules
- Table with 2 strings
52 modules
- Site Boundary
- Transformer Station
MVS8960-LV
- Transformer Station
MVS4480-LV
- Fence
- Gate
- Public Footpath
- Water Main Pipe
- Electrical Cable (LV)
- Unidentified Service
- Archeological Zone
- Existing Hedgerow
- Existing Road
- Internal Road

MAIN DATA PV Clump/Hill Farm

AC Power 61'248,00 kW @30°C
DC Power 77'024,61 kWp
PV Module 119418
@STC: P = 645 Wp
V_{oc} = 49,96 V
I_{sc} = 16,53 A
V_{mp} = 40,36 V
I_{mp} = 15,74 A
Efficiency 23,9 %
n. PV modules: 119418

Strings 4593
26 modules in series Table 2x26: 2133
Table 2x13: 327

Inverter 174 SG350HX
DC: V_{in} = 1,500V
V_{max} = 500-1,500V
I_{max} = 30A*16
AC: P = 352kVA@30°C
V = 850V, 3W+PE (3P)
f = 50/60Hz
pf = 0.8cap... 0.8ind
THDi = <3%

Transformer station MV/LV 2 Type Sungrow MVS8960-LV
10 Type Sungrow MVS4480-LV

No.	645W_2x13_PD	645W_2x26_PD	Modules	Area coverage, %	GCR	Capacity, kWh	Covered Area, m²
1	15	105	5850	36,761	0,563	3773,250	15163,511
2	8	56	3120	26,172	0,563	2012,400	8287,206
3	61	286	16458	35,977	0,563	10615,410	42659,165
4	16	56	3328	33,057	0,563	2146,560	8626,017
5	10	289	15288	41,309	0,563	9860,750	39628,621
6	48	248	14144	36,843	0,563	9122,880	36661,472
7	19	104	5902	37,925	0,563	3806,790	15298,124
8	29	184	10322	41,394	0,563	6657,690	26755,059
9	29	215	11034	40,787	0,563	7697,430	30933,634
10	51	359	19994	40,836	0,563	12896,130	51825,522
11	17	70	4082	20,12	0,563	2632,890	10580,467
12	5	89	4758	37,887	0,563	3068,910	12333,313
13	19	72	4238	35,632	0,563	2733,510	10984,756
Total	327	2133	119418	35,762	0,563	77024,610	309536,866

CLUMP AND HILL SOLAR FARM, LEICESTERSHIRE
Hinckley & Bosworth Borough Council
Blaby District Council

Installation of a solar photovoltaic array/solar with associated infrastructure
77 MWdc

GENERAL CONTRACTOR

SUNNERG | ENERGY & FACILITY MANAGEMENT

SUNNERG LTD
46 Nova Road, Croydon
England, CR0 2TL

26S002

PROJECT ☐ Executive ☒ As-built

EPC Proposed Layout

SCALE	1:4000	FORMAT	FORMAT	PAG.	1	OF	1
DESIGNED BY	A.BRUNO	VERIFIED BY	G.LIPARI	APPROVED BY	G.GABELLONE		

REV	DATE	STATE	COMMENTS
0	09/02/2026	--	FIRST EMISSION
--	--	--	--
--	--	--	--
--	--	--	--
--	--	--	--

DESIGNER

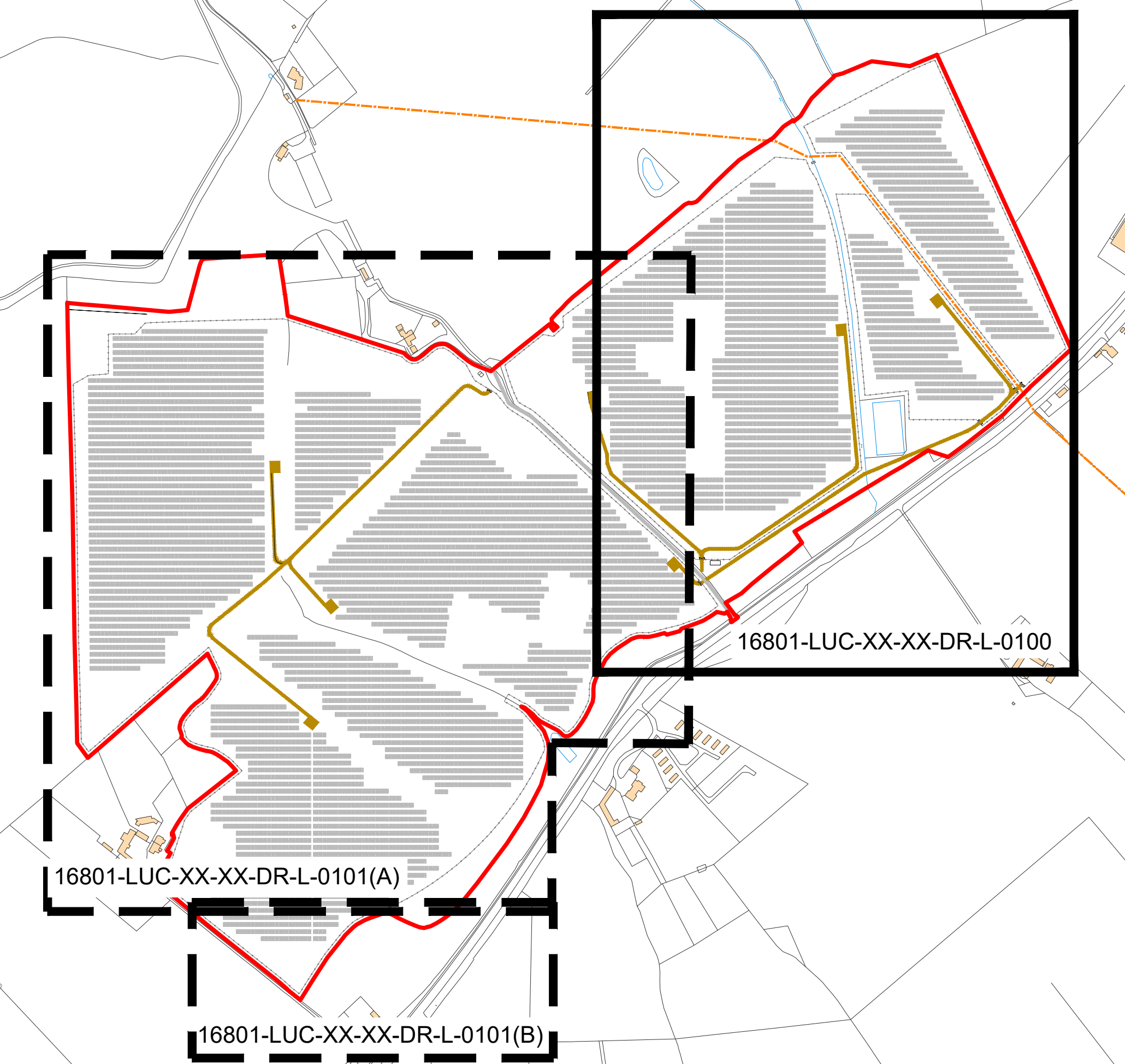
A176 LAB
Think different project

A176LAB srl
Via Madonna dell'Atmore n. 23
91011 Alcamo (TP)
P.IVA 02812750814
Ing. Giovanni Gabbellone

by SUNNERG GROUP Copying of this document and distribution to others and the use or communication of the contents thereof are forbidden without expressed authority of SUNNERG GROUP. Offenders are liable to the payment of damages..

CLIENT

CLUMP FARM SOLAR LIMITED
Ground Floor, Ibis House, Ibis Court
Warrington - WA1 1RL
CRN 12368142



LANDSCAPE PROPOSALS

PROTECTION AND RETENTION OF EXISTING TREES AND HEDGEROW VEGETATION AND OTHER FEATURES

- All existing trees and hedgerows are to be retained and entrancesways utilised unless indicated otherwise;
- During construction and management phases of the project a minimum of 10m exclusion zone from existing ditches, hedgerow and shrub vegetation to avoid any root compaction to existing shrubs and hedges during construction and operation in accordance with Section 6.2 of BS5837:2012;
- The exclusion zone is to include the canopy of all retained mature trees which will be implemented 10m from the trunk, where possible, to limit disruption and to avoid any root compaction to existing trees in accordance with Section 7 of BS5837:2012. In areas where this is not possible a no dig cellular confinement system will be used to ensure that disruption is minimised;
- Existing boundary hedgerows and trees shall be protected and delineated with coloured red and white tape so that it is clearly visible at all times during the construction and management phases of the project and shall be maintained for the full operation period;
- The new gravel access tracks will be located a minimum of 1.0m away from existing hedges and trees in areas which will not impact on the canopy or root protection zones of any existing trees, shrubs or hedgerow vegetation;
- During the construction and management phases of the project no chemicals, including vehicle fuels or lubricants will be left on the site at night and no storage of materials or machinery, parking of vehicles, deposit of excavations of soil or rubble, lighting of fires or disposal of liquids shall take place in any protected areas; and
- All operatives carrying out the works will be briefed prior to the works commencing on the locations, status and protection requirements for all retained vegetation and other features and be made aware of the secure storage and agreed pollution prevention plan. Appropriate pollution control equipment will be made available should accidental spillages occur.

NEW SPECIES-RICH NATIVE HEDGEROW AND HEDGEROW INFILL PLANTING

- All new planting shall be carried out not later than the first planting season following the completion of the works and before the first connection to the grid;
- Plant material to conform to the National Plant Specification and comply with the requirements of British Standards 3936 Specification for Nursery Stock;
- All hedge planting shall be positioned in accordance with the requirements of Table A.1 of BS5837:2012 Trees in Relation to Design, Demolition and Construction (Recommendations);
- Plant handling to be in accordance with HTA Handling and Establishing Landscape Plants, Part 1-111; and
- All planting to comply with the guidelines for setting out as detailed in the general notes and on the drawing.

- The location of any overhead or underground services is to be checked on site by the contractor prior to any works being carried out;
- New hedgerow and hedgerow infill shrubs (in long stretches) to be planted at 300mm centres in double staggered row at 5 plants per 1m;
- Hedgerow in-fill shrubs (in shorter gaps) to be planted at 500mm centres in the mature vegetation bordering and within the site; and
- All new hedgerow and hedgerow in-fill shrubs to be planted in a random mix in same species groups of 5:8 in number.

- All bare root transplants to be notch planted with the addition of slow release fertiliser as directed by the manufacturer's instruction;
- All container grown shrubs to be pit planted with the addition of slow release fertiliser as directed by the manufacturer's instruction;
- Proprietary root dip to be applied to all bare root transplants at time of lifting at nursery and prior to planting;
- All transplants to be protected with bio-degradable shrub guards;
- All container grown shrubs to be protected by bio-degradable tree protectors;
- Weed free zone maintained around base of each shrub. Medium grade mulch (British origin, FSC certified) to a depth of 75mm will also be used to suppress competition from other vegetation at the base of all large trees.

TREE PLANTING

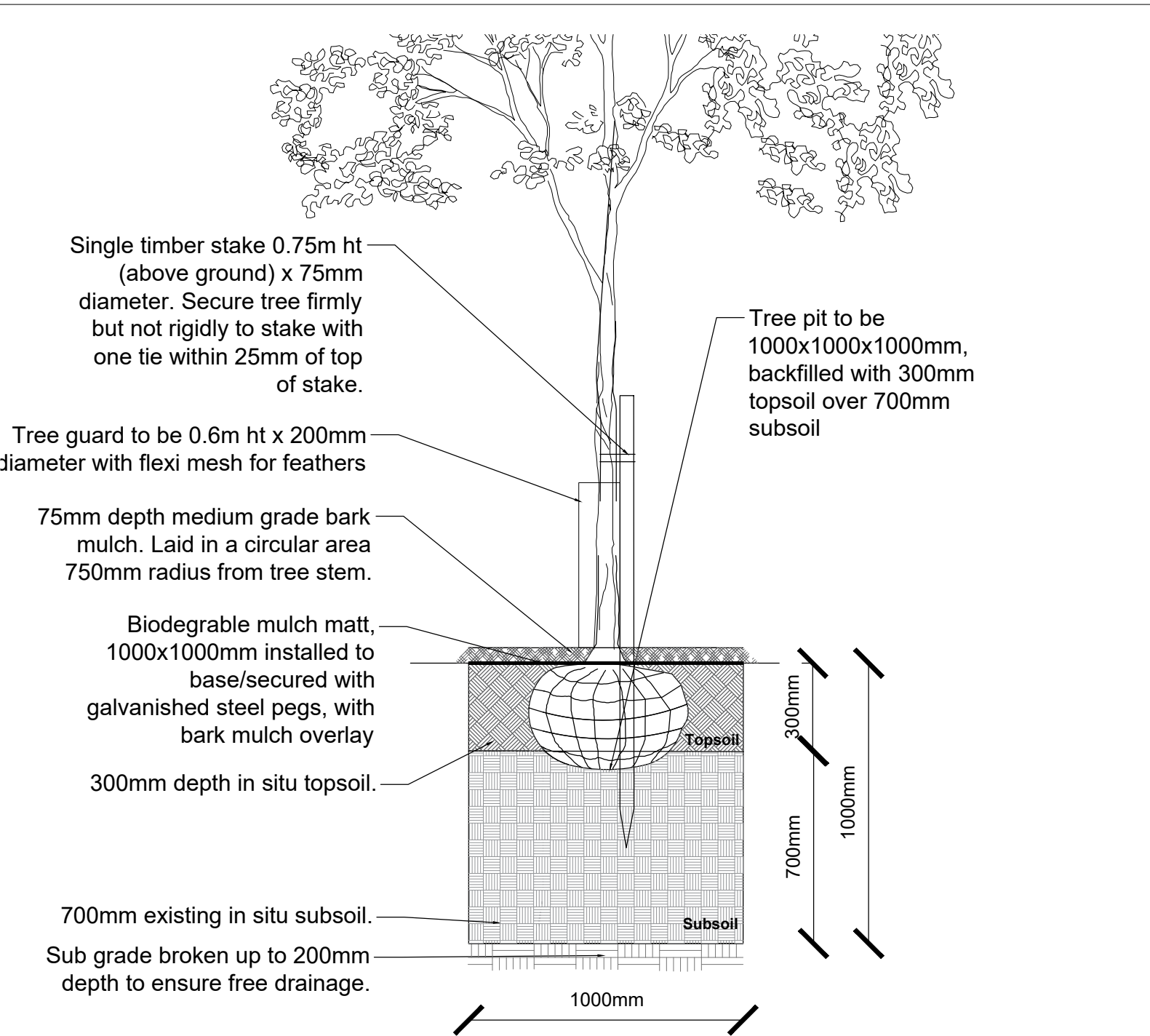
- In new hedgerow feathered bare root trees are to be planted in pits at 7.5m centres in groups of 3-5 of same species with 12-15m gap between groups of trees (hedgerow mix to be planted between the trees) as deep as the root system and at least 30cm wider than its diameter;
- Soil loosened around the edges and bottom of pit to eliminate compaction and improve drainage;
- Pit to be backfilled with topsoil mixed with tree planting compost and slow release fertilizer, as directed by the manufacturer's instruction;
- Each feathered tree to be supported by 1 No. 75mm x 1500mm diagonal softwood timber stake and 1 No. bio-degradable adjustable tree tie. Each feathered tree to be protected with bio-degradable spiral tree guard.

- All trees planted in the wildflower rough grassland area are to be planted in prepared free pits, approximately 300mm greater than root ball/roots and wide enough to accommodate roots when spread. Soil loosened around the edges and bottom of free pit to eliminate compaction and improve drainage;
- Tree pit backfilled with topsoil mixed with compost and slow release fertilizer, as directed by the manufacturer's instruction;
- All selected standard trees are to be protected by a bio-degradable tubular tree guard and should have a minimum 1m diameter circle around the base of the trunk to be maintained free from vegetation and spread with 75mm medium grade mulch (British origin, FSC certified). All mulch to be pest, disease and weed free and shall not have been treated with any additives. Mulch is not to be placed against the stem of the tree; and
- All selected standard trees to be supported by 1 No. 75mm x 1500mm diagonal softwood timber stake and 1 No. bio-degradable adjustable tree tie. Stakes to be well driven into the ground at least a minimum of 300mm into bottom of the tree pit. Stakes to be pressure treated, round, peeled, smooth larch or similar.

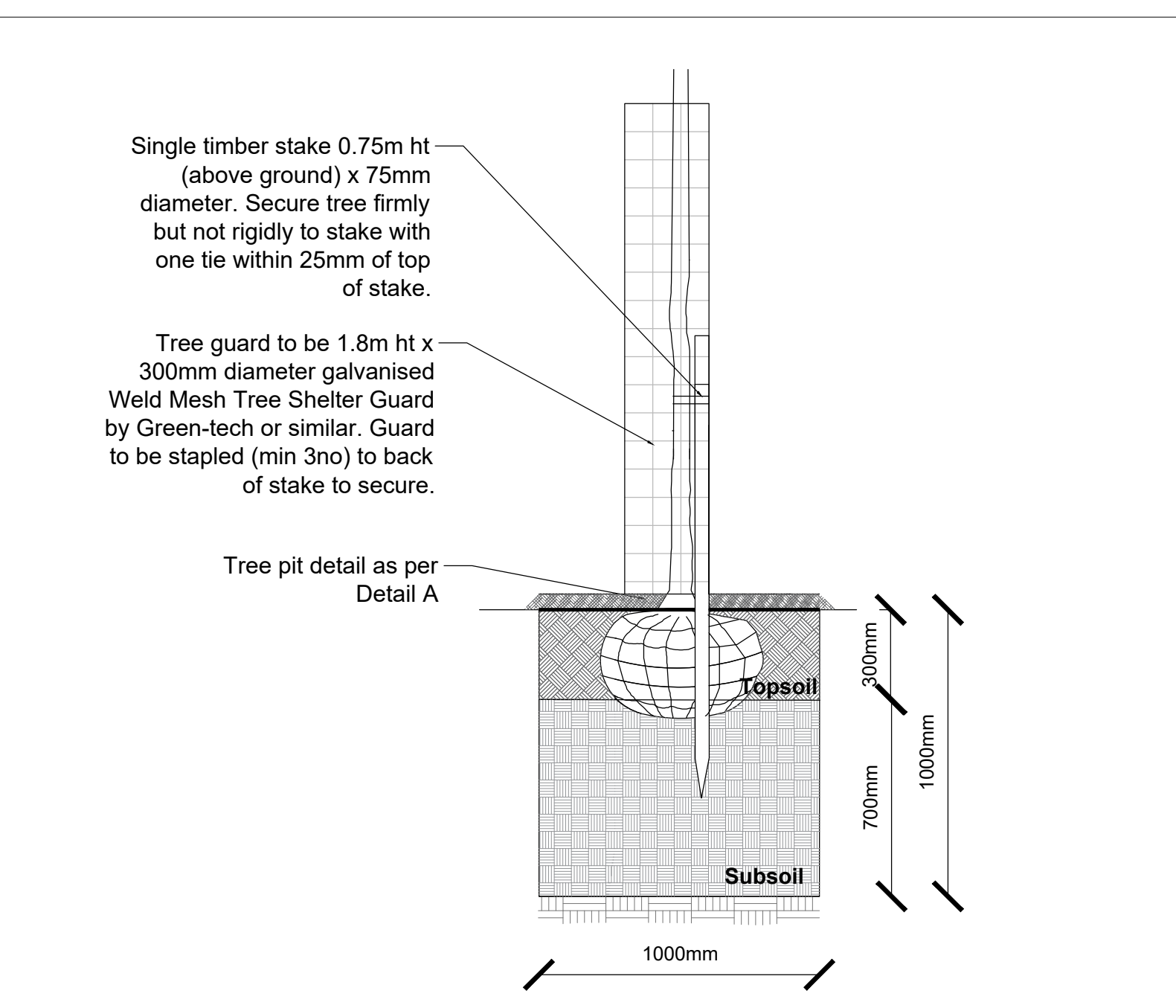
DETAIL PLANT SCHEDULE

Trees	Number	Species	Height	Girth	Specification
4	Acer campestre	1.75 - 2.0m			Bare root; fully furnished feather
20	Acer campestre	3.0-3.5m	10-12cm		Bare-root; Standard
10	Crataegus monogyna	1.75 - 2.0m			Bare root; fully furnished feather
8	Crataegus monogyna	3.0-3.5m	10-12cm		Bare-root; Standard
3	Prunus avium	1.75 - 2.0m			Bare root; fully furnished feather
14	Prunus avium	3.0-3.5m	10-12cm		Bare-root; Standard
6	Quercus robur	1.75 - 2.0m			Bare root; fully furnished feather
14	Sorbus aria	3.0-3.5m	10-12cm		Bare-root; Standard

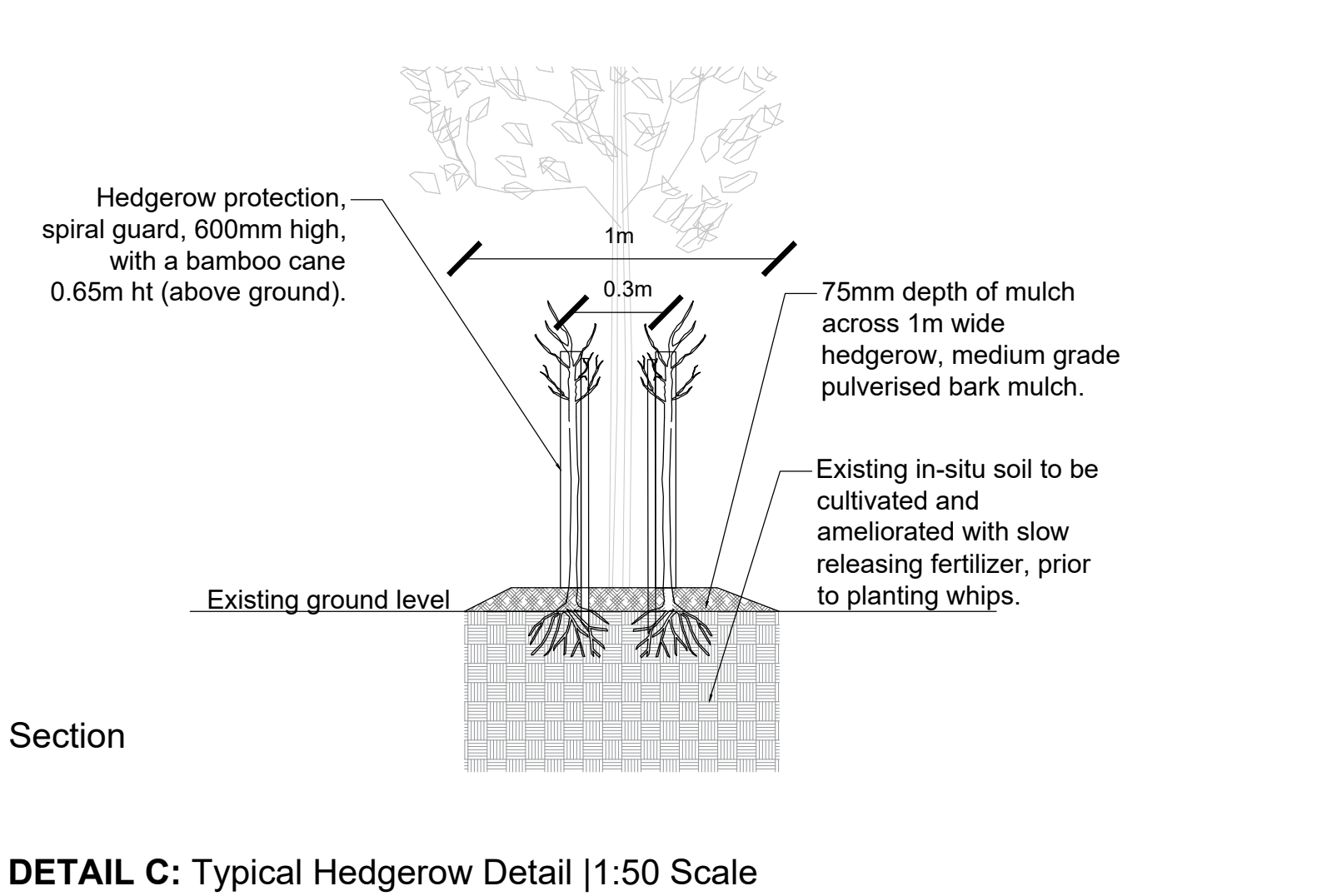
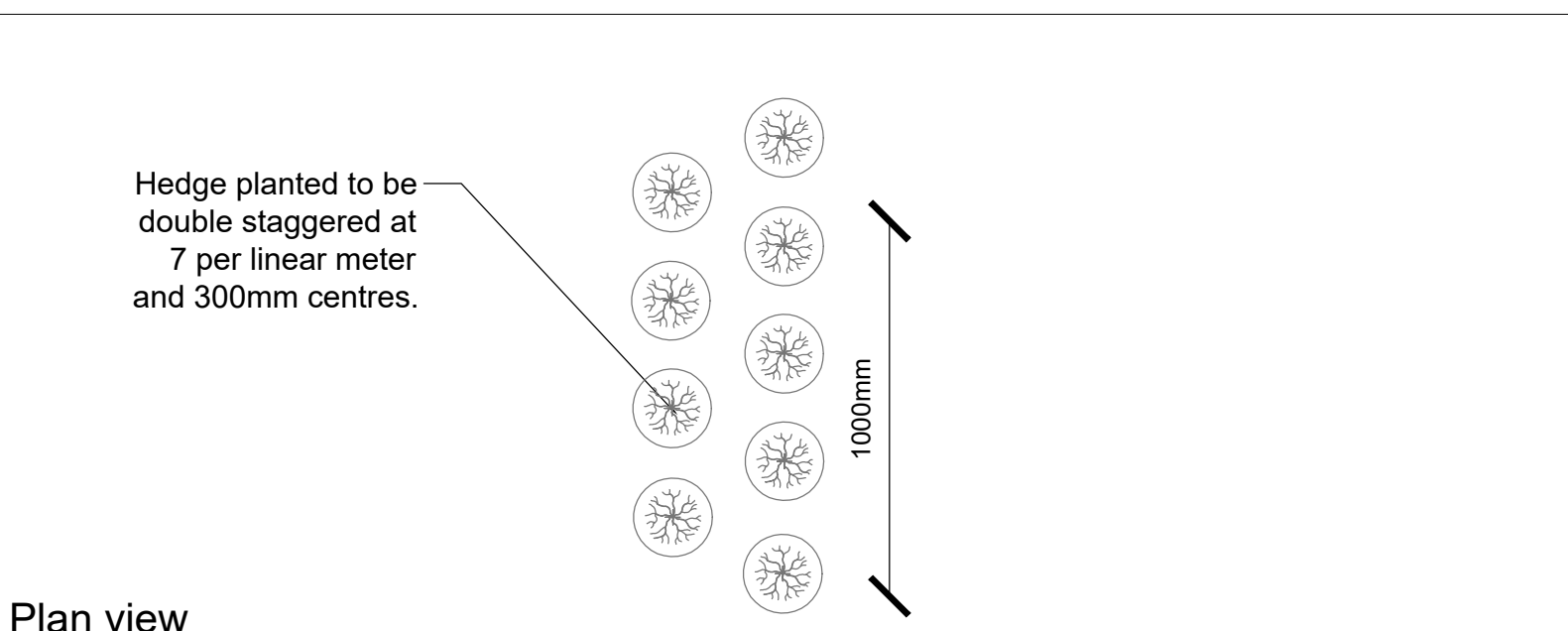
Hedges	Number	Species	Height	Specification
308	Acer campestre	60-80cm Whip; 1+1;		
308	Corylus avellana	60-80cm Whip; 1+1;		
612	Crataegus monogyna	60-80cm Whip; 1+1;		
156	Euonymus europaeus	60-80cm Bare-root; transplant		
308	Ilex aquifolium	40-60cm Containerised; 2L pot		
612	Prunus spinosa	60-80cm Bare-root; transplant		
156	Quercus robur	60-80cm Bare root; transplant		
156	Rosa canina	60-80cm Bare root; transplant		
308	Sambucus nigra	40-60cm Containerised; 2L pot		
156	Viburnum opulus	40-60cm Containerised; 2L pot		



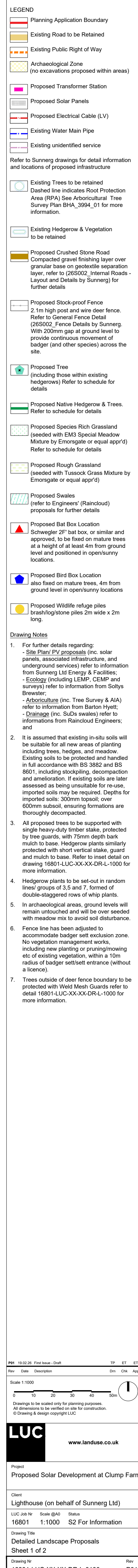
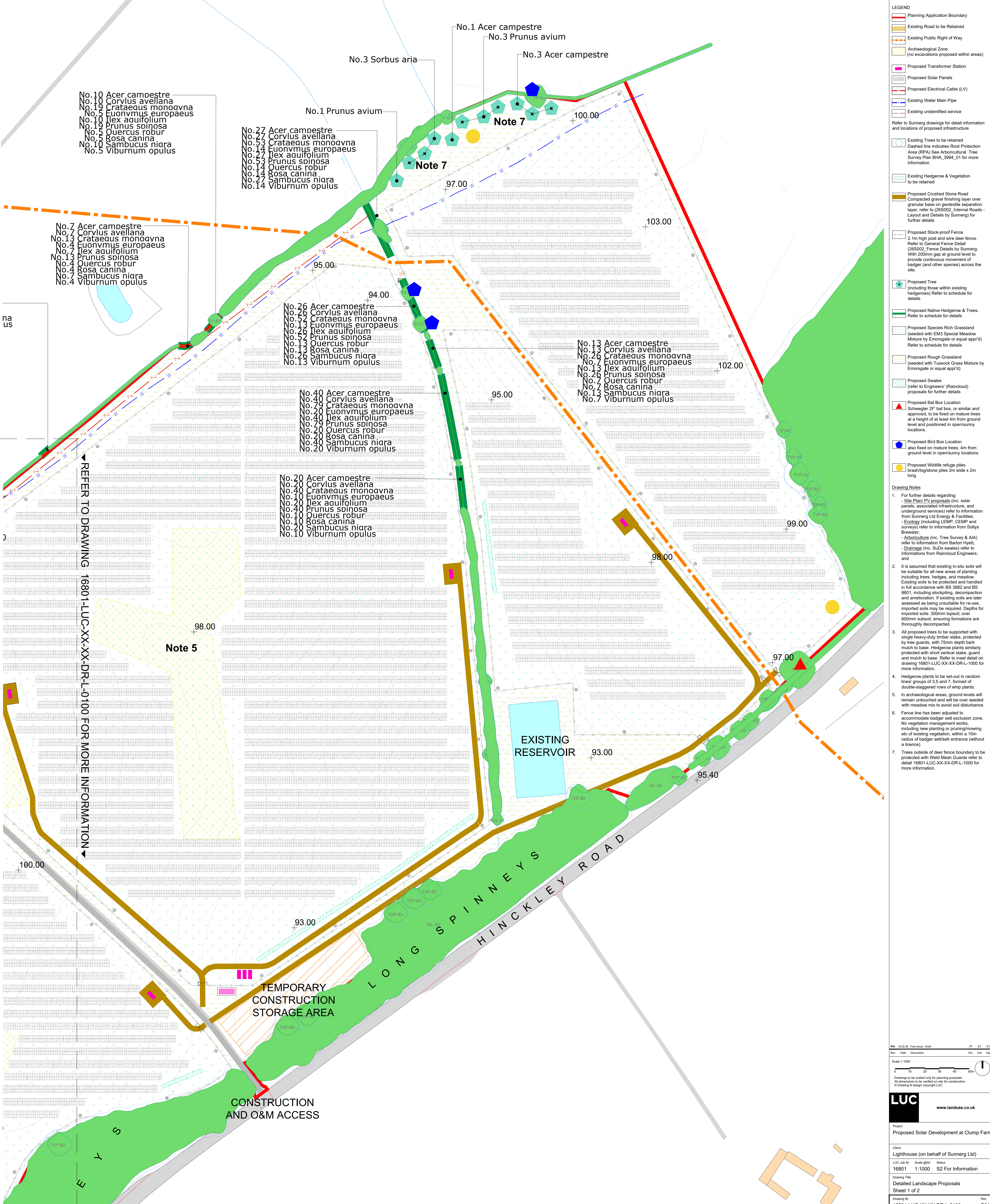
DETAIL A: Typical Tree Pit Detail [1:50 Scale]

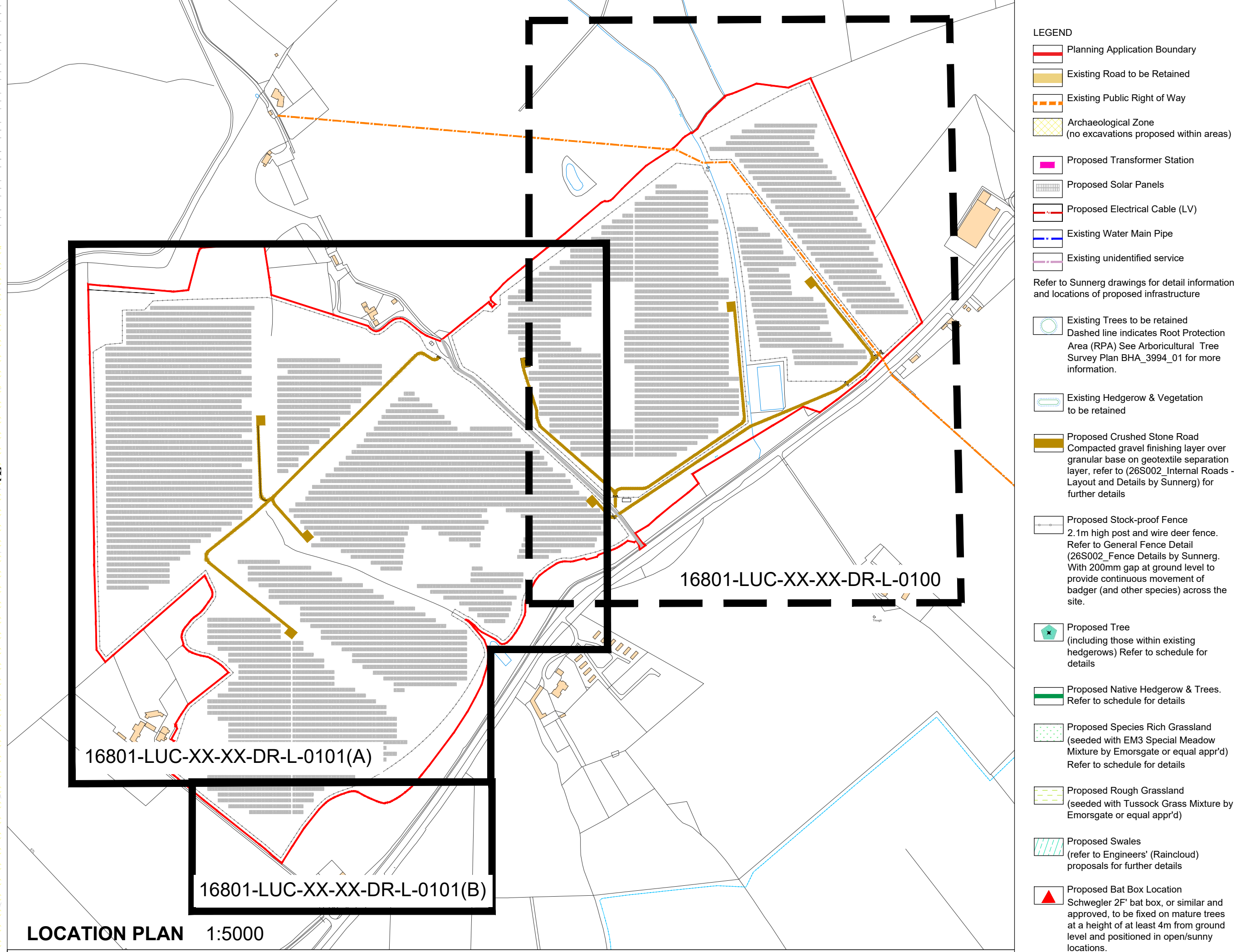
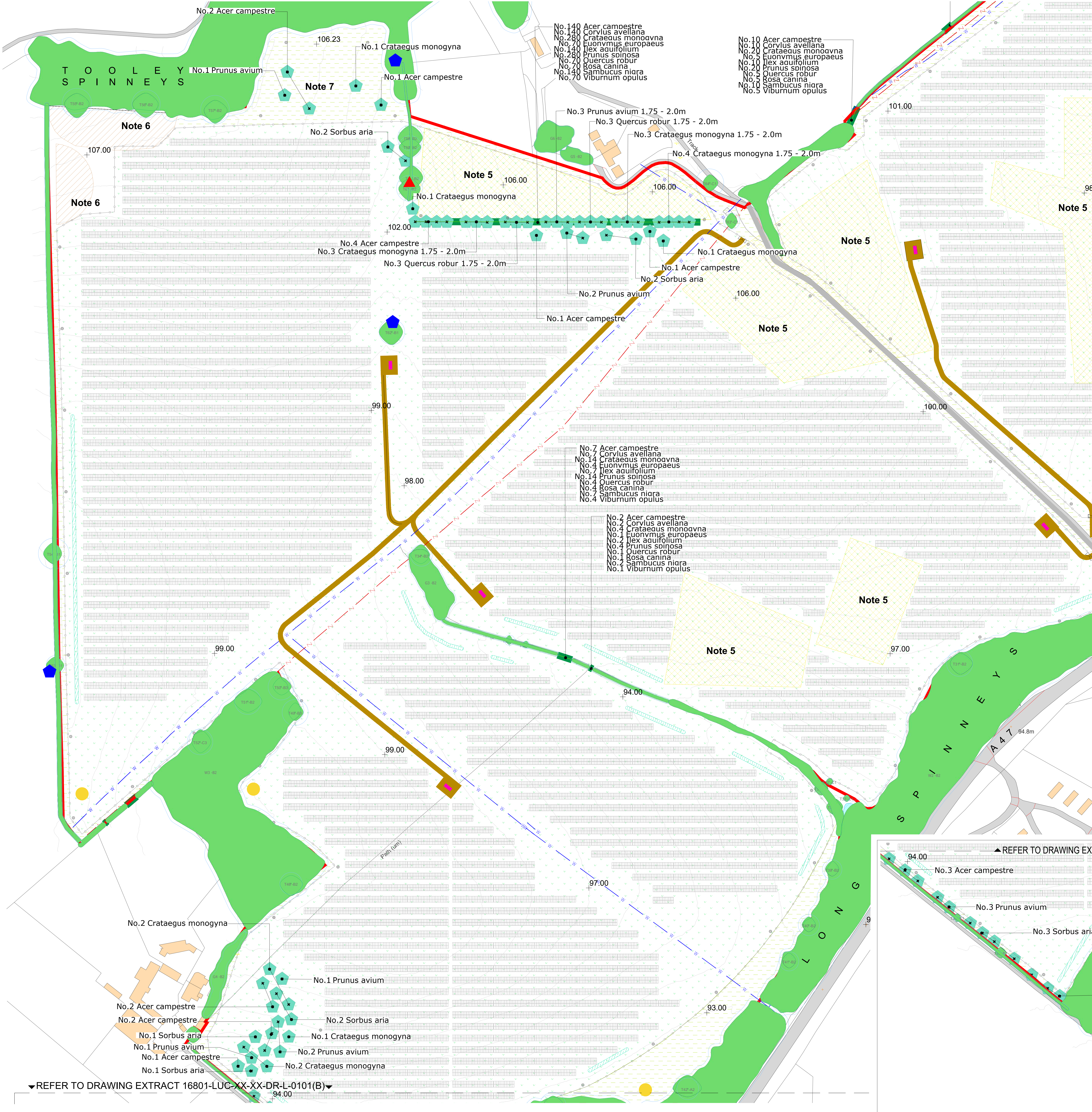


DETAIL B: Typical Tree Pit With Weld Mesh Protection Detail [1:50 Scale]



REFER TO DETAIL LANDSCAPE PROPOSALS SHEET 2 OF 2 16801-LUC-XX-XX-DR-L-0101 FOR LANDSCAPE MANAGEMENT STRATEGY





LANDSCAPE MANAGEMENT STRATEGY

MANAGEMENT OF EXISTING VEGETATION

- Existing hedgerow vegetation to be trimmed when needed approximately every 2-3 years avoiding the bird nesting season (March to July), in the winter months (between September and February inclusive), staggered across the site thereby retaining and encouraging flowerfruit for wildlife;
- Only one third of hedgerows on site to be cut in any one year so that at least some heavily fruiting hedgerows are always present;
- Approximately one third of hedgerows on site will be cut on rotation so as to avoid shadowing;
- The previous hedgerows seasons growth cut back by one third, or more if required to maintain a maximum height of 3.0m for both the internal and boundary hedges;
- Mature trees on the boundary of the site are to be retained. Annual inspection of mature trees undertaken to remove any dead or dying branches (which may impact on safety and the viability of the solar development). No removal of trees/tree branches to take place without an appropriate ecological survey to ascertain any breeding bird or bat presence;
- Any new tree or hedgerow plants which, within a period of five years from the completion of the planting, die, are removed or become seriously damaged or diseased shall be replaced in the next planting season with others of similar size and species; and
- Any existing hedgerow that is removed, uprooted, severely damaged, destroyed or dies throughout the duration of the operation of the solar farm, will be replaced in the next planting season with others of similar size and species and be maintained thereafter.

MANAGEMENT OF NEW NATIVE TREE PLANTING

General

- Ensure that all new trees are firmly bedded in the ground after strong winds and frosts or other disturbances. Regularly inspect all new tree planting e.g. once a month, for the first five years (after which they will be fully established) for any pest damage or vandalism/damage caused by others and to maintain all planted areas in a weed free and litter free condition;
- Prune out any damaged, dead or dying branches and suckers to promote healthy growth and shape;
- Check s guards, stakes and ties of the trees and adjust if necessary in summer and winter. Remove stakes when no longer required, i.e. after 3 years;
- Weed free ring (1 m diameter) to be maintained around each tree for three years after planting (either with herbicide or hand weeding);
- Weeds growing within shelters will be cleared by hand in April, July and September (as appropriate);
- If excessive growth occurs between planting stations it may be necessary to trim or mow between plants;
- Any tree which forms part of the approved landscaping scheme that fails to become established, becomes seriously damaged or diseased, dies or for any reason or is removed, will be replaced in the next planting season with others of similar size and same species;
- Regularly inspect all new trees e.g. once a month, for the first five years (after which they will be fully established) for any pest damage or vandalism/damage caused by others and to maintain all planted areas in a weed free and litter free condition; and
- All new planting to be maintained for 40 year operational period (or for the life of the proposed solar farm).

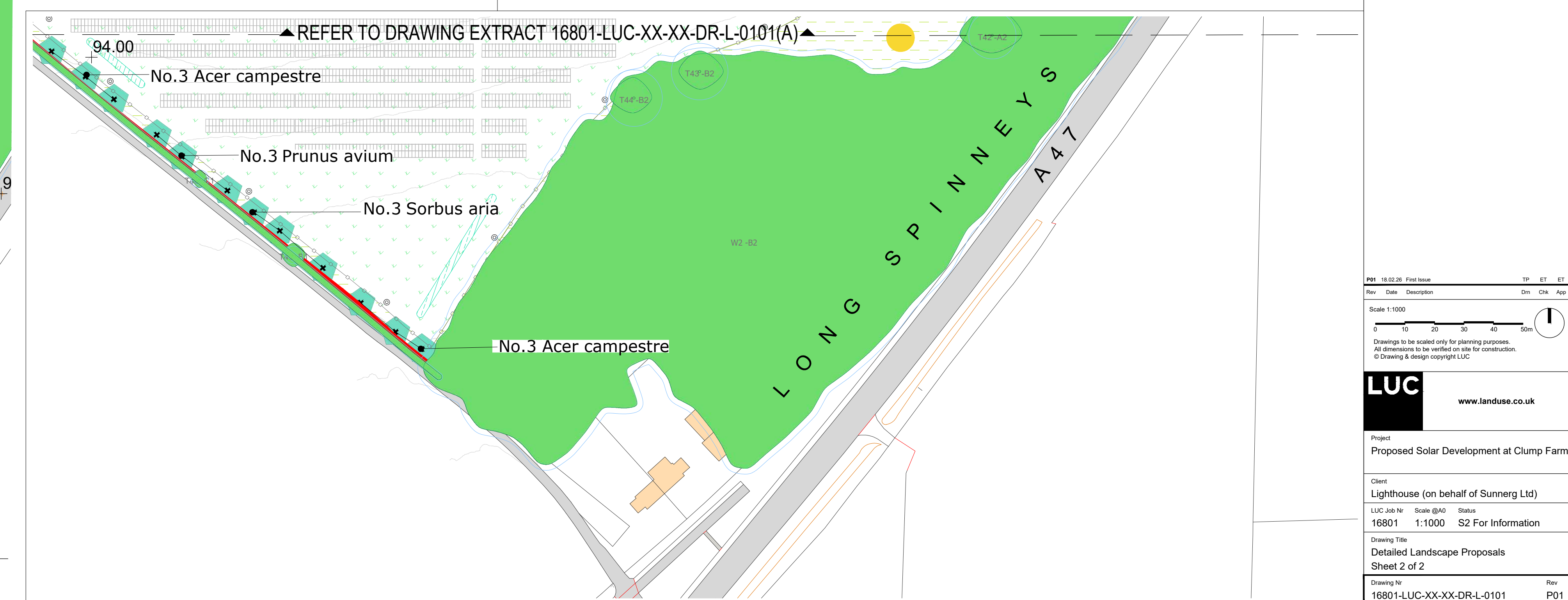
MANAGEMENT OF NEW SPECIES-RICH NATIVE HEDGEROW AND HEDGEROW INFILL PLANTING

- Ensure that all new planting is firmly bedded in the ground after strong winds and frosts or other disturbances;
- Regularly inspect all new shrub planting e.g. once a month, for the first year, for any pest damage or vandalism/damage caused by others and to maintain all planted areas in a weed free and litter free condition;
- Prune out any damaged, dead or dying branches and suckers to promote healthy growth and shape;
- Weed control measures to continue until canopy of plants is closed (either with herbicide or hand weeding);
- Check guards and protectors and replace/remove when required;
- New species-rich native hedgerows and areas of infill planting to have the side branches of the transplants trimmed by half in the spring after the first growing season and then cut lightly in year 3, (between September and February inclusive), avoiding the bird nesting season (March to July), but also retaining fruit during the winter months for wildlife, until the desired height of the hedgerow is reached. Leader stems should not be cut until the desired height of the hedgerow is reached; and
- After 5 years approximately - the previous seasons growth to be cut back by one-third, or more if required, to maintain a minimum height of 3m. Subsequently, to be trimmed when needed in winter avoiding the bird nesting season, approximately every 2-3 years, staggered across the site thereby retaining and encouraging flowerfruit during winter months for wildlife; and
- All new planting to be maintained for 40 year operational period (or for the life of the proposed solar farm).

MANAGEMENT OF GRASSED AREAS

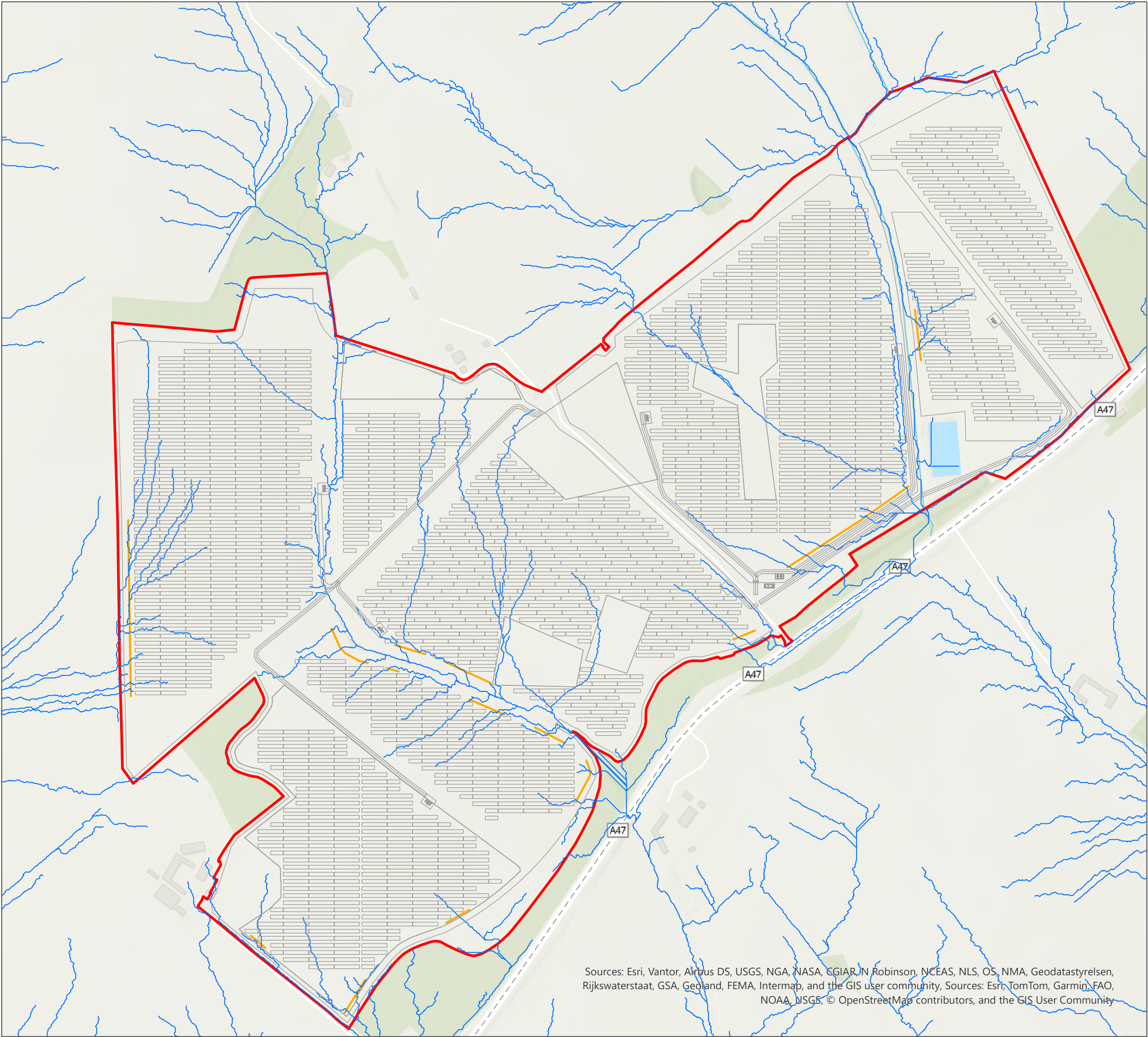
- Following the first seeding, there may be a flush of annual weeds in the spring. This weed growth will be controlled by topping at the end of the first summer in the first year (hay-cut in late July/mid-August);
- In all general areas within the security fence the Special General Purpose Meadow Mixture EM3 will be maintained by a traditional meadow management regime based on 2 cuts per year (a summer hay cut and a later Autumn cut);
- The rough grassland buffers/biodiversity corridors on the margins of the site (between the security fence and site boundary) will be allowed to develop through a sympathetic mowing regime (only cut every 2-3 years). This will allow tussocks and tufts to develop; and
- Both grass types will provide suitable habitat for nesting bumble bees and ground nesting birds, through the summer and invertebrate habitat through the winter. This will also be beneficial to local bird and bat populations. The wild flower margins will be retained uncut between 1st April and 1st September, to allow flowers and grasses to flower and set seed and if undesirable plants seed spot treatment may be required.

REFER TO DETAIL LANDSCAPE PROPOSALS SHEET 1 OF 2 16801-LUC-XX-XX-DR-L-0100 FOR LANDSCAPE PROPOSALS, PLANT SPECIFICATION AND LANDSCAPE DETAILS



APPENDIX B – DRAINAGE LAYOUT

Reproduced from Ordnance Survey digital map data © Crown copyright 2026. All rights reserved. License number 100048606



Sources: Esri, Vantor, Airbus DS, USGS, NGA, NASA, CGIAR, IN Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap, and the GIS user community, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community



- Site Boundary
- Development Infrastructure
- Swales
- Flow Pathways

1:4,500 Scale @ A3
0 0.09 0.17 km



Produced By: CH	Ref: 149-LLFA-001
Checked By: LN	Date: 26/02/2026

Surface Water Drainage Strategy

LLFA response
Clump Farm

APPENDIX C – LLFA CONSULTATION



RAINCLOUD

From: Danielle Degville
To: Charlie Hadden
Cc: Liam Nevins
Subject: RE: Leicestershire LLFA consultation for planning applications 21/01242/FUL and 21/1386/FUL
Date: 19 January 2025 16:02:40
Attachments: image001.png
image002.png
image003.png
image004.png
image005.png

Hello Charlie

In regard to Conditions 17 Hill Farm and 16 Clump Farm, I need to see the individual drainage plans for these sites. I can't provide a general answer for both sites as it depends on different factors such as flow paths on site, local flood risk, topography, etc. and of course what impermeable area on site is being created small buildings, roads, invertors, etc. If you can send me some more information on this then I can have a look over this. The outline drainage strategy provided to the LPA already, topo and location plan would be a good start.

A note from our internal guidance about solar farm surface water drainage plans:
The surface water drainage scheme shall include the utilisation of holding sustainable drainage techniques with the incorporation of sufficient treatment trains to maintain or improve the existing water quality from proposed hard standing areas; demonstrate that engineered pervious areas offer sufficient surface water run-off mitigation; the limitation of surface water run-off to equivalent greenfield rates; the ability to accommodate surface water run-off from hard standing areas on-site up to the critical 1 in 100 year return period event plus a 40% allowance for climate change, based upon the submission of drainage calculations.

In regard to infiltration testing, assuming you are not relying on infiltration for any formal drainage on site then I agree infiltration testing is likely not required. However, I do need to review the outline drainage plans first.

Many thanks,
Dannie

Danielle Degville
Flood Risk Consultant
Infrastructure Planning
Leicestershire County Council

Tel: 0116 305 0001
Email: Flooding@leics.gov.uk

www.leicestershire.gov.uk/environment-and-planning/flooding-and-drainage

From: Charlie Hadden <charlie@raincloud-consulting.co.uk>
Sent: 19 December 2025 11:14
To: Flooding <Flooding@leics.gov.uk>
Cc: Liam Nevins <liam@raincloud-consulting.co.uk>
Subject: Leicestershire LLFA consultation for planning applications 21/01242/FUL and 21/1386/FUL

CAUTION: This email originated from outside of the organisation. Do not click links or open attachments unless you recognise the sender and know the content is safe.

Good morning,

Please can the following email be passed onto LLFA.

The Leicestershire LLFA provided conditions for planning applications Clump Farm Solar Farm (Hinckley and Bosworth Council, LPA ref. 21/01242/FUL) and Hill Farm Solar Farm (Blaby District Council, LPA ref. 21/1386/FUL). The conditions provided are identical wording and are as follows:

Hill Farm

17	No development approved by this planning permission shall take place until such time as a surface water drainage scheme has been submitted to and approved in writing by the District Planning Authority. The development shall be carried out in accordance with the approved drainage details.
18	No development approved by this planning permission shall take place until such time as details in relation to the management of surface water on site during construction of the development has been submitted to and approved in writing by the District Planning Authority. The development shall be carried out in accordance with the approved details.
20	No development approved by this planning permission shall take place until such time as infiltration testing has been carried out (or suitable evidence to preclude testing) to confirm or otherwise, the suitability of the site for the use of infiltration as a drainage element, and the details have been submitted to and approved in writing by the District Planning Authority.

Clump Farm

16	No development approved by this planning permission shall take place until such time as a surface water drainage scheme has been submitted to, and approved in writing by the Local Planning Authority.
17	No development approved by this planning permission shall take place until such time as details in relation to the management of surface water on site during construction of the development has been submitted to, and approved in writing by the Local Planning Authority
19	No development approved by this planning permission shall take place until such time as infiltration testing has been carried out (or suitable evidence to preclude testing) to confirm or otherwise, the suitability of the site for the use of infiltration as a drainage element, has been submitted to and approved in writing by the Local Planning Authority.

Given that the sites are very similar and the conditions are identical, we would like to provide our initial consultation on them together.

Conditions 17 Hill Farm and 16 Clump Farm

The standardised conditions provided are typically applied to residential or commercial developments where significant impermeable areas are introduced. In contrast, the proposed developments are solar farms where 99% or more of the site will be permeable. The limited impermeable area introduced by the PV infrastructure is dispersed across the site and is therefore expected to have a negligible impact on runoff. Significant landscape will be in place from planting, hedgerows and vegetation beneath the PV arrays. The proposed drainage strategy utilises an RSuDS strategy for the sites which is a recognised SuDS strategy for solar farm.

There is a body of academic research supporting the use of land management strategies for reducing runoff. For example:

- Cook & McCuen (2013) outlines that solar panels do not have a significant effect on runoff volumes or peak flows when vegetation is present. Runoff is only increase when ground beneath panels is bare, which is not the case for the sites.
- Milazzo et al. (2023) reviews the role of grassland for erosion and flood mitigation in Europe and provides quantification that permanent grassland mitigates better runoff than arable land.
- The EA (2025) published research and analysis of run-off management, the study highlights with high confidence the increase in vegetation cover (e.g. grassland) slows the flow of run-off and increase attenuation of water. The Sites are currently arable land and therefore the use of grassland as a mitigation measure to reduce runoff and soil erosion will provide a betterment to the existing scenario.

Both sites are currently arable land. Transitioning to permanent grassland will therefore provide a betterment compared to existing conditions.

Based on this evidence, the proposed landscaping and land management measures will slow the flow of runoff from the development and mimic the existing hydrological regime. If the LLFA considers that further mitigation is required, we can provide additional measures such as filter drains every tenth PV row and shallow swales along key flow pathways.

Conditions 20 Hill Farm and 19 Clump Farm

The sites are located on mudstone which has low permeability therefore infiltration is unlikely. The proposed RSuDS drainage strategy is industry standard for solar farms and aims to mimic the existing site conditions but 'slowing the flow' through land management practices as opposed to storing water and releasing at a control rate (typical SuDS feature mechanics). The sites naturally drain to nearby watercourses, and the development does not propose to alter these drainage pathways. Given the underlying geology and the nature of the RSuDS approach, we consider that infiltration testing is unnecessary.

We would be grateful if you could provide feedback on the proposed drainage strategy for both sites, and further clarification on the requirement for infiltration testing in light of the information above.

We would also appreciate confirmation that the proposed strategy can be agreed in principle before we prepare a formal written response. We can then provide a detailed submission

addressing the additional drainage measures and construction-phase surface water management required under Conditions 18 (Hill Farm) and 17 (Clump Farm).

I look forward to hearing from you.

Kind Regards

Charlie Hadden
BSc hons, MSc
Senior Flood Risk
Consultant



☎ 07447642775

🌐 www.raincloud-consulting.co.uk

✉ charlie@raincloud-consulting.co.uk

📍 Marlborough House, York Business Park YO26 6RW

This e-mail and any files transmitted with it are confidential. If you are not the intended recipient, any reading, printing, storage, disclosure, copying or any other action taken in respect of this e-mail is prohibited and may be unlawful. If you are not the intended recipient, please notify the sender immediately by using the reply function and then permanently delete what you have received. Incoming and outgoing e-mail messages are routinely monitored for compliance with Leicestershire County Council's policy on the use of electronic communications. The contents of e-mails may have to be disclosed for requests under Data Protection or Freedom of Information legislation. Details about how we handle information can be found at <https://www.leicestershire.gov.uk/data-protection>

The views expressed by the author may not necessarily reflect the views or policies of the Leicestershire County Council.

Attachments to e-mail messages may contain viruses that may damage your system. Whilst Leicestershire County Council has taken every reasonable precaution to minimise this risk, we cannot accept any liability for any damage which you sustain as a result of these factors. You are advised to carry out your own virus checks before opening any attachment.