4. FLOOD RISK MITIGATION

4.1 **Section 3** has identified the sources of flooding which could potentially pose a risk to the site and the proposed development. This section of the FRA sets out the mitigation measures which are to be incorporated within the proposed development to address and reduce the risk of flooding to within acceptable levels.

Sequential Arrangement

4.2 The Site has been sequentially arranged such that no development is located within all ancillary equipment is located entirely within Flood Zone 1 and areas at very low risk.

Exception Test

4.3 The requirement to undertake an Exception Test is based upon the vulnerability of the proposed development and Flood Zone status as outlines in **Table 4.1**.

Table 4.1: Flood Risk Vulnerability and Flood Zone 'Compatibility'

Flood risk vulnerability classification		Essential Infrastructure	Water Compatible	Highly Vulnerable	More Vulnerable	Less Vulnerable
Flood Zone	Zone 1	✓	✓	✓	✓	✓
	Zone 2	✓	✓	Exception Test Required	✓	✓
	Zone 3a	Exception Test Required^	✓	×	Exception Test Required	✓
	Zone 3b Functional Floodplain	Exception Test Required*	✓*	×	×	×

^In Flood Zone 3a essential infrastructure should be designed and constructed to remain operational and safe in times of flood.
*In Flood Zone 3b (functional floodplain) essential infrastructure that has passed the Exception Test, and water compatible uses should be designed and constructed to; remain operational and safe for users in times of flood, result in no net loss of floodplain storage, and not impede water flows and not increase flood risk elsewhere.

4.4 As the proposed development is classified as 'Essential Infrastructure' and is located within Flood Zones 1, the development is considered to be suitable without the need for an exception test.

Watercourse Easements

4.5 In line with the Warwickshire county council SFRA, an appropriate easement should be applied from the top of bank of all watercourses for maintenance access.

Fencing

4.6 The proposed fences around the perimeter of the proposed development should be designed such that water can flow freely through the fence where possible, particularly within the regions indicated to be at risk of flooding. They should be appropriately inspected and maintained following flood events, especially to prevent the accumulation of debris.

Development Levels

4.7 It is recommended that the ancillary equipment associated with the solar development are raised 150mm above the external ground level, along with being set back from the ditches/areas impacted by pluvial source.

4.8 External levels adjacent to the ancillary equipment should be profiled away from the equipment to provide further mitigation against the residual risk of flooding.

Flood Resilient/Resistant Construction

4.9 The solar panels are raised and therefore are expected to be protected in the event of a potential out of bank flows. They are not expected to impede pluvial/fluvial flows. An assessment of the fluvial and surface water flood depths and extents has been undertaken, these are anticipated to be within the appropriate easement from the top of banks and the UOW channels. With this in mind, the proposed minimum 600mm clearance between the ground level and underside of the lowest part of the solar panel, (see sections shown in **Appendix 3**) is considered appropriate.

Detention Basins

4.10 Following further dialogue with Fillongley Flood Action Group and the LLFA, a series of detention basins have been proposed alongside the UOWs that run through the site. It is proposed that these basins will provide an element of storage during periods when there are increased water levels within the UOWs. This in turn reduces the volume of water passing through the UOWs at any one time, compared to the existing, thus they are intended to provide betterment on flows passing downstream.

4.11 The basins will drain down once levels within the watercourses permit them to discharge the volume they are holding, this is subject to detailed design.

4.12 The exact basin sizes and their location is to be confirmed at the appropriate juncture through the discharge of conditions design stage.

4.13 The basins provide additional mitigation to the swales, which were already incorporated within the layout.

Surface Water Drainage Considerations

4.14 An assessment of the surface water drainage regime has been undertaken in a Drainage Strategy (DS, reference: NFW-BWB-ZZ-XX-RP-CD-0001_DS) which accompanies this FRA.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 This FRA has been prepared in accordance with requirements set out in the NPPF and the associated PPG. The FRA has been produced on behalf of Enviromena Project Management UK Limited in respect of a planning application for a proposed temporary solar farm located at Nailcote Farm, Warwickshire.

5.2 This FRA is intended to support a full planning application, the level of detail included is commensurate and subject to the nature of the proposals. This FRA (dated April 2024) will be resubmitted to the live planning application "PAP/2023/0071". Therefore, the flood risk guidance at the time of the planning application validation (24/02/2023) has been used within this updated FRA.

5.3 The flood risk and drainage details have been approved with conditions by the LLFA, following review of the P06 version of the FRA and DS, with the application subsequently going to planning committee.

5.4 Following various discussions, including with the LLFA and Fillongley Flood Action Group, further details were worked up with regard to the incorporation of natural flood management within the proposals.

5.5 The FRA and DS was originally approved by the LLFA, who have since indicated that betterment was provided from the measures initially proposed.

5.6 However, following the discussions with the key parties, the proposals have been amended such that they now go above and beyond typical planning requirements for a solar site such as this one, with the introduction of the detention basins across the site, further reducing runoff rates into watercourses and ditches.

5.7 The LLFA's position on the development proposals remains unchanged, with them approving the scheme, with conditions.

5.8 This report demonstrates that the proposed development is at an acceptable level of flood risk, subject to the recommended flood mitigation strategies being implemented. The identified risks and mitigation measures are summarised within **Table 5.1**.

Table 5.1: Summary of Flood Risk Assessment

Flood Source	Risk & Proposed Mitigation Measures
Fluvial/Pluvial	The Site is wholly within Flood Zone 1. There are several areas of low to high-risk flows associated with the Bourne Brook and UOWs that flow through the Site. Flows within the UOWs are shown to be constrained to the channel. The proposed development should be set 8m back from the top of bank of Bourne Brook, the UOW and all ditches. It is recommended that all ancillary equipment is raised 150mm above the surrounding area and set back from areas impacted by pluvial sources, to deter water ingress. External levels adjacent to the ancillary equipment should

	be profiled away from the equipment to provide further mitigation against the residual risk of flooding. The proposed fencing around the development should be hydraulically 'permeable' where possible, particularly around regions of the Site which are at risk of flooding. Additional detention basins are proposed alongside UOWs, in order to provide additional storage and betterment, in relation to flood risk.
Other Flood Risk Sources.	Other flood risk sources including, groundwater, sewer and reservoirs have been assessed and are considered to be at low risk such that specific mitigation is not deemed to be required.
Impact of the Development	The proposed development is anticipated to have a negligible impact on the existing floodplain and flow routes located within the site. The proposed solar arrays located within the site are considered to be 'permeable' in terms of flood water displacement and impedance. The anticipated impact from the development is considered to be negligible; however, a more detailed assessment is provided within the accompanying DS.
This summary should be read in conjunction with BWB's full report. It reflects an assessment of the Site based on information received by BWB at the time of production.	

5.9 In compliance with the requirements of NPPF, and subject to the mitigation measures proposed, the development could proceed without being subject to significant flood risk. Moreover, the development will not increase flood risk to the wider catchment area as a result of suitable management of surface water runoff discharging from the site.

APPENDICES

Appendix 1: LLFA Response

SENT BY EMAIL

Flood Risk Management
Warwickshire County Council
Shire Hall
Warwick
Warwickshire
CV34 4RL
Tel: 01926 412982
FRMPlanning@warwickshire.gov.uk
www.warwickshire.gov.uk

FAO Jeff Brown

03 April 2024

Dear Mr Brown

PROPOSAL: **Construction of a temporary Solar Farm providing 47.7 MW output, to include the installation of ground-mounted solar panels together with associated works, equipment, and necessary infrastructure**

LOCATION: **Land 800 Metres South Of Park House Farm, Meriden Road, Fillongley**

The Flood Risk Management Team as Lead Local Flood Authority have been asked to provide a brief report on their stance for the planning application 'Land 800 Metres South Of Park House Farm, Meriden Road, Fillongley'. As part of our role as statutory consultee in the planning process, we are consulted by Local Planning Authorities (in this instance North Warwickshire Borough Council) to comment on all 'major' applications from a flood risk and surface water drainage perspective.

Location

The proposed development site is on the land 800 meters south of Park House Farm, Meriden Road, Fillongley. The site is directly north of the M6 motorway and at its northern most boundary approximately 1km from the centre of Fillongley Village.

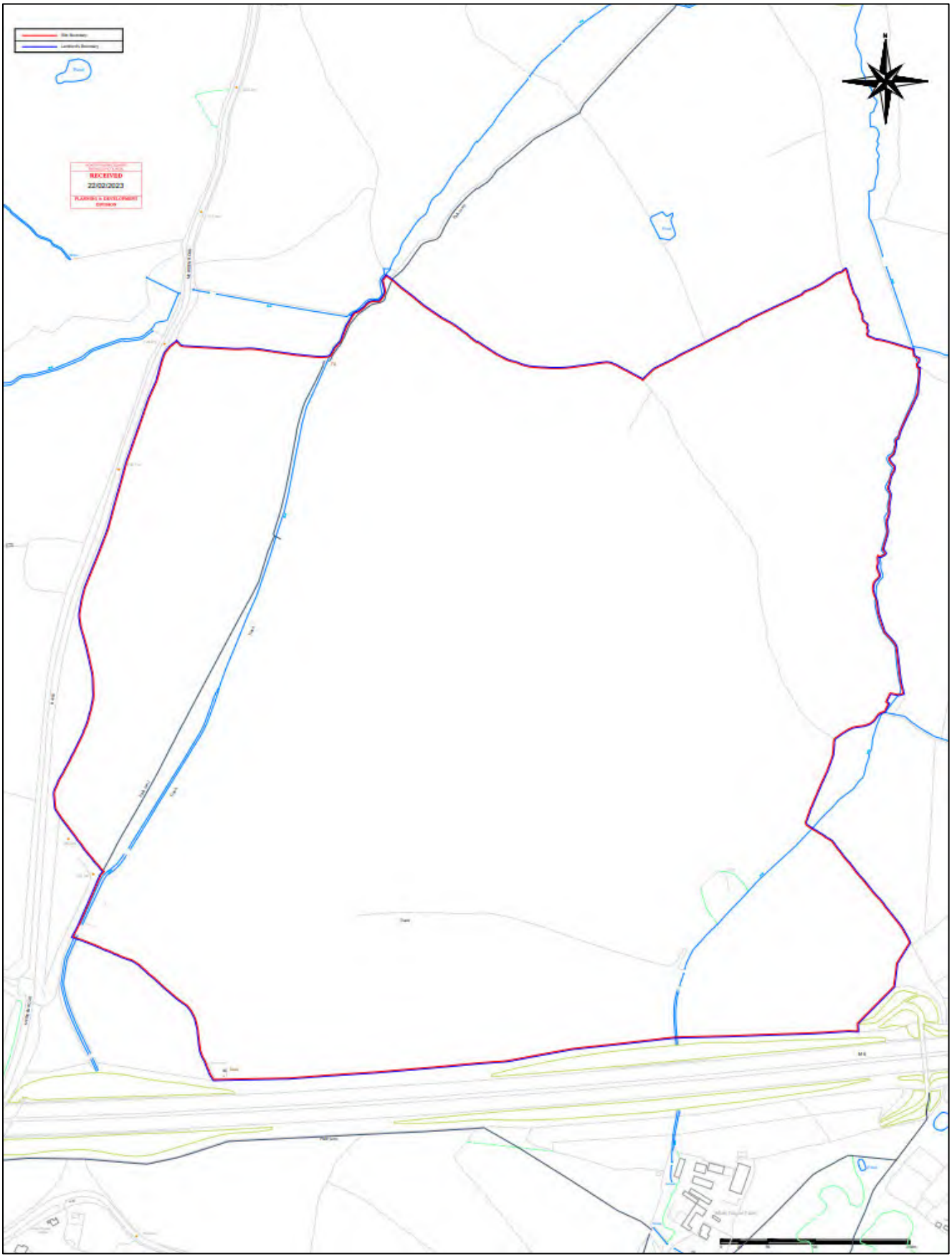


Figure 1: The red line boundary of the proposed solar farm, Fillongley.

LLFA Stance on the Development

The LLFA has been consulted on the proposed development since March 2023 and provided their last formal response on 27 October 2024. During this time the LLFA had multiple meetings with the applicant to discuss our initial objection and a telephone call with the Fillongley Flood Group to discuss their concerns with the proposal. Based on the information submitted in October 2024 the LLFA had no objection subject to the following conditions.

Condition

No development shall take place until a detailed surface water drainage scheme for the site, based on sustainable drainage principles has been submitted to and approved in writing by the Local Planning Authority in consultation with the LLFA. The scheme shall subsequently be implemented in accordance with the approved details before the development is completed. The scheme to be submitted shall:

1. *Undertake infiltration testing to clarify whether or not an infiltration type drainage strategy is an appropriate means of managing the surface water runoff from the site.*
2. *Provide drawings / plans illustrating the proposed sustainable surface water drainage scheme. The strategy agreed to date may be treated as a minimum and further source control SuDS should be considered during the detailed design stages as part of a 'SuDS management train' approach to provide additional benefits and resilience within the design.*
3. *Provide detail drawings including cross sections, of proposed features such as infiltration structures, attenuation features, and outfall structures. These should be feature-specific demonstrating that such the surface water drainage system(s) are designed in accordance with 'The SuDS Manual', CIRIA Report C753.*
4. *Provide detailed, network level calculations demonstrating the performance of the proposed system. This should include:*
    - *Suitable representation of the proposed drainage scheme, details of design criteria used (incl. consideration of a surcharged outfall), and justification of such criteria where relevant.*
    - *Results should demonstrate the performance of the drainage scheme including attenuation storage, potential flood volumes and network status. Results should be provided as a summary for each return period.*
5. *Provide plans such as external levels plans, supporting the exceedance and overland flow routeing provided to date. Such overland flow routing should:*
    - *Recognise that exceedance can occur during any storm event due to a number of factors therefore exceedance management should not rely on calculations demonstrating no flooding.*

Reason

To prevent the increased risk of flooding; to improve and protect water quality; and to improve habitat and amenity;

Condition

A Verification Report for the installed surface water drainage system for the site based on the approved Flood Risk Assessment (NFW-BWB-ZZ-XX-RP-YE-0001_FRA) has been submitted in writing by a suitably qualified independent drainage engineer and approved in writing by the Local Planning Authority prior to site completion and subsequent use. The details shall include:

1. *Demonstration that any departure from the agreed design is in keeping with the approved principles.*
2. *Any As-Built Drawings and accompanying photos*
3. *Results of any performance testing undertaken as a part of the application process.*
4. *Copies of any Statutory Approvals, such as Land Drainage Consent for Discharges etc.*

5. *Confirmation that the system is free from defects, damage and foreign objects.*

Reason
To secure the satisfactory drainage of the site in accordance with the agreed strategy, the NPPF and Local Planning Policy.

Condition
Prior to completion and subsequent use of the development shall take place until a detailed, site specific maintenance plan is provided to the LPA in consultation with the LLFA. Such maintenance plan should

1. *Provide the name of the party responsible, including contact name, address, email address and phone number*
2. *Include plans showing the locations of features requiring maintenance and how these should be accessed.*
3. *Provide details on how surface water each relevant feature shall be maintained and managed for the life time of the development.*
4. *Provide details of how site vegetation will be maintaining for the lifetime of the development.*
5. *Be of a nature to allow an operator, who has no prior knowledge of the scheme, to conduct the required routine maintenance.*

Reason
To ensure the future maintenance of the sustainable drainage structures.

Informatives for the next stage of design
As outlined within the condition, the strategy should be treated as a minimum at this stage of the design. Further consideration should be given during the next stage of the design to incorporate additional, localised source control SuDS as part of a 'SuDS management train' approach to provide water quality, amenity and bio-diversity benefits and increase the resilience within the design. Reference is also made to our Flood Risk Guidance for Development[i] (updated June 2023) with more details and examples of SuDS which can be incorporated at later stages of design.

At the 'discharge of condition' stage proposals for surface water drainage should be approaching a level of detail suitable for tender or construction. Documentation should show the drainage scheme including SuDS features, specific details (e.g. standard details or cross sections) and demonstrate the performance and of the system through calculations and exceedance management respectively. Such scheme should be in line with the original planning application/permission and where significant changes are made, justification should be provided.

Whilst the applicant had demonstrated the principles of an acceptable surface water management strategy for the proposed site, further information is still required to be submitted to the LLFA as detailed above before any development can take place. If the LLFA is not satisfied with the information submitted, they will not recommend that the Local Planning Authority (LPA) discharge the conditions.

Decision Meeting
The Board deferred determination on Monday 04 March 2024, on the grounds that clarification was required of the LLFA's response on the potential flood impacts arising from the development. The Flood Group circulated a letter on the morning of the Monday 04 March 2024, outlining their concerns with the proposed development. The applicant met the Group's

representatives on site later on in the afternoon, however requested a second site visit was carried out with the LLFA present.

At the Board meeting there were concerns that the LLFA had not visited the site and therefore the formal responses submitted by the LLFA were “desk-based”. The LLFA have no obligation to visit proposed development sites prior to reviewing the application. A decision was made that the LLFA would make an exception for this site given the relationship between the team and the Flood Action Group. It should be noted that this is not something the team typically do.

LLFA’s Requirements and the Applicant Response.

Whilst it is widely considered that greenfield solar farms have negligible impact regarding surface water runoff, the LLFA raise a number of points in Warwickshire County Council’s ‘Flood Risk & Sustainable Drainage Local guidance for developers’. The key points from this document and the applicant’s response and/or requirements are as follows:

- **Infiltration Testing**

Infiltration testing was carried out on site at 7 locations mutually agreed by the applicant and LLFA. The results of the infiltration testing showed that surface water naturally drains from the site via infiltration at varying rates.

- **Attenuation Features**

The LLFA require multi-functional above ground surface water attenuation features to be incorporated into the sites drainage scheme, with the purpose of capturing runoff from the solar panels. Ideally gravel filter trenches positioned under the drip line of each solar panel would be proposed to capture and store runoff from the panels. However, at a minimum there is a requirement to include above ground swales positioned strategically around the development to capture surface water runoff from the solar panels as water flows downslope.

The applicant has proposed the latter in that surface water runoff from impermeable areas will be captured by the proposed cut off swales located upstream from any offsite receptors of surface water runoff. Surface water captured by runoff swales will slowly infiltrate into the ground.

It is proposed that the interception swales will have 1:4 internal side slopes with a maximum design water depth of 300mm. The material excavated to install the swales will be applied to the downstream edge of the features to create an earth bund.

The proposed swales have been positioned outside of Flood Zone 3 and are also not anticipated to adversely displace any existing floodplains within the site as no level raising will be associated with the construction of the swales.

The inclusion of the swales within the development will act to provide a betterment to the existing surface water runoff rate and volume that will leave the site onto surrounding land and watercourses post-development.

- **Watercourse buffer strips**

Within the ‘Flood Risk Recommendations’ section of the SFRA it states that ‘An appropriate buffer strip must be maintained along fluvial corridors respectively, to ensure that maintenance of the channel can be undertaken;’. This has been agreed with the applicant.

- **Construction activities and soil compaction**

The applicant has stated they aim to restrict vehicular movements on site to designated access tracks. In doing so, the risk of soil compaction is minimised and limited to specific locations. The vehicular access tracks are also proposed to be permeable.

- **Vegetation management**

The applicant has specified what type of vegetation will be planted across the site and will provide details of how this will be maintained. The ideal situation is that vegetation is grassed and is kept reasonably high or grazed by livestock. Good vegetation cover will limit the transfer of sediments and slow the flow of water. The LLFA are waiting further details of how this will be maintained appropriately on site to ensure that no debris enters the watercourses.

Fillongley Flood Action Group

Following on from the COVID-19 pandemic, the Flood Risk Management Team at Warwickshire County Council contacted Fillongley Parish Council in February 2022 expressing our desire to reengage and to support the Flood Action Group in order to improve community engagement. Since then the LLFA have had a close working relationship with the group, attended the village on numerous occasions and held multi-agency meetings to discuss flood related issues with other partners. Therefore, as stated by the Flood Action Group, we as a team are aware of the flood risk in Fillongley.

One of the primary concerns of the Flood Action Group which the LLFA are fully aware of is the build-up of debris at the trash screen situated next to The Manor House Pub in the village. As part of our formal response, we have included a maintenance condition which requires the applicant to provide an in-depth site-specific plan providing details of how surface water and each feature will be maintained and managed for the lifetime of the development, along with details of who is responsible. This also includes a sub-point of how vegetation will be maintained. If during any point, there are concerns that the site is not being maintained as agreed, the LLFA will be able to contact the parties responsible to ensure that all works are being carried out.

LLFA's Site Visit

As previously stated the LLFA have no requirement to attend site visits for proposed developments, however an exception for this site was made.

An updated Landscape Strategy was presented to the LLFA on arrival at the site visit. This had not been submitted to the LLFA for review as the changes made did not have an impact on the proposed drainage strategy. It is worth noting that the updated Landscape Strategy Plan illustrated additional hedgerows and vegetation planting across the site which further mitigate flood risk by slowing the flow off run off travelling across the site towards the watercourses.

The Flood Action Group discussed possible Natural Flood Management (NFM) measures including attenuation ponds, that could be installed within the development site boundary. The LLFA would be willing to support the group in any future projects moving forward. Although mitigation measures here would not eliminate flood risk to Fillongley village, they may reduce the risk by an unknown quantity by holding back the volume of water entering the watercourses at times of significant rainfall. Any NFM projects would need to be discussed and agreed with

the landowner, It is believed that the applicant (Environmena) will take over ownership rights for the lifetime of the development.

Summary
A site visit to the land 800 meters south of Park House Farm, Meriden Road, Fillongley was made on Monday 18 March 2024 with attendance from the LLFA, the applicant (Enviromena), the drainage designers (BWB) and members of Fillongley Flood Action Group. The attendees walked the boundary of the site and discussed various concerns from the Flood Group, these were largely addressed on site by the applicant with the exception of a small number of questions which were taken away.

The LLFA were requested in attendance due to the Flood Groups concern that the no objection subject to conditions response submitted by the LLFA to the LPA on the 27 October 2023 was based solely on 'desk-based' assessment. The LLFA have no formal requirement to undertake site visits, however it was felt that the site visit was benifital for all parties to better understand the concerns of Fillongley Flood Action Group.

The National Planning Policy Framework (NPPF) and supporting Planning Practice Guidance (PPG) provides the overarching national policy and guidance relating to flood risk and sustainable drainage. It states that when determining any planning applications, local planning authorities should ensure that flood risk is not increased elsewhere.

Given this the LLFA position remains unchanged following on from the site visit to the proposed development site. The applicant has addressed all of the LLFA's points adequality at this stage in the planning process. Further details and information are still required to be submitted. If the LLFA are not satisfied with the information submitted, they will not recommend that the Local Planning Authority (LPA) discharge the conditions and no development should take place.

Yours sincerely,

Scarlett Robertson
Flood Risk Management Officer

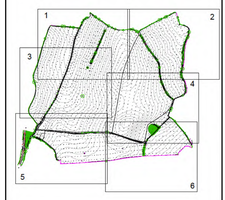
Appendix 2: Topographical Survey

Station Coordinates			
Station Name	Eastings (m)	Northings (m)	Height (m)
BWB01	427107.293	285586.147	137.020
BWB02	427131.275	285693.351	133.907
BWB03	427147.832	285812.084	136.132

Notes

1. Do not scale this drawing. All dimensions must be checked/ verified on site. If in doubt ask.
2. This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.
3. All dimensions in metres unless noted otherwise. All levels in metres unless noted otherwise.
4. Any discrepancies noted on site are to be reported to the engineer immediately.
5. No scale factor has been applied to this survey, therefore the os coordinates are to be treated as arbitrary . Please refer to survey station information below for on site control establishment.
6. All coordinates and height data relate to OSGB36(15). Control stations are coordinated by means of GPS receiving real time corrections via OS smart net.
7. All manhole data is collected from ground level therefore discrepancies may occur. More accurate data is only achievable via confined space entry.
8. OS license number: 100022432

Key Plan



Legend

OS Buildings		Contour Lines	
Surveyed Buildings		Inspection Chamber	
Building		Flow direction and pipe diameter	0.25
Wall		Station and Name	1
Kerb Channel Line		Monitoring Borehole	BH 1
Top of Kerb		Tree / Bush / Sapling	
Edge of Surface		Area of Vegetation/ Extent of Tree Canopy	
Top of Bank		Hedge	
Bottom of Bank		Body of Water	
Canopy / Overhang		Body of Water from OS	
Line Marking		Spot Level	50.00
Centre Line		Assumed Surface Water Drainage Line	
Watercourse Centre Line		Surface Water Drainage Line	
Barrier			
Fence			
Gate			
Overhead Powerline			
Overhead Utilities			

AP	Anchor Point	FBW	Fence Barbed Wire	LB	Litter Bin
BG	Back Gully	FCB	Fence Closed Board	LP	Lamp Post
BO	Bollard	FCL	Fence Chain Link	MH	Manhole
BS	Bus Stop	FEL	Fence Electric	Mkr	Service Marker
BT	British Telecom	FMP	Fence Metal Panel	PB	Post Box
C	Crest	FMR	Fence Metal Railing	PT	Post
CL	Cover Level	FOB	Fence Open Board	RE	Rodding Eye
CMP	Cable Marker Post	FPW	Fence Post & Wire	SP	Sign Post
		FSP	Fence Steel Palisade	ST	Stop Tap
CCTV	Security Camera	FWM	Fence Wire Mesh	SV	Stop Valve
CTV	Cable TV	FFL	Finished Floor Level	TCB	Telephone Call Box
DC	Drainage Channel	FP	Flagpole	THL	Threshold Level
DK	Drop Kerb	Gas	Gas	TL	Traffic Light
DP	Down Pipe	GV	Gas Valve	TP	Telegraph Post
Elec	Electric	GY	Gully	TS	Traffic Signal
EP	Electricity Post	Ht	Height	UTS	Unable to Survey
ER	Earth Rod	IC	Inspection Chamber	WL	Water Level
FH	Fire Hydrant	IFL	Internal Floor Level	WM	Water Meter
FL	Floodlight	IL	Invert Level (as a reduced level)	WO	Wash Out

Rev	Date	Details of issue / revision	Drw	Rev
P1	15.12.22	First Issue	BC	05

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- Manchester | 0161 233 4260
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Client

Enviromena Project Management UK Limited

Project Title

Nailcote Farm, Warwickshire

Drawing Title

Existing Site Plan Sheet 1 of 6

Drawn:	B. Connelly		Reviewed:	D.Smith	
BWB Ref:	221748.00	Date:	15.12.22	Scale@A0:	1:500

Drawing Status

Information

Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
NFW-BWB-00-01-DR-G-001	**S2**	**P1**

Station Coordinates			
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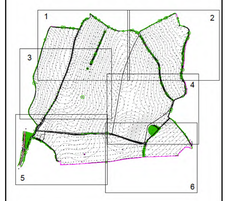

Legend

OS Buildings
Surveyed Buildings
Building
Wall
Kerb Channel Line
Top of Kerb
Edge of Surface
Top of Bank
Bottom of Bank
Canopy / Overhang
Line Marking
Centre Line
Watercourse Centre Line
Barrier
Fence
Gate
Overhead Powerline
Overhead Utilities
Contour Lines
Inspection Chamber
Flow direction and pipe diameter
Station and Name
Monitoring Borehole
Tree / Bush / Sapling
Area of Vegetation/ Extent of Tree Canopy
Hedge
Body of Water
Body of Water from OS
Spot Level
Assumed Surface Water Drainage Line
Surface Water Drainage Line

AP	Anchor Point	FBW	Fence Barbed Wire	LB	Litter Bin
BG	Back Gully	FCB	Fence Closed Board	LP	Lamp Post
BO	Bollard	FCL	Fence Chain Link	MH	Manhole
BS	Bus Stop	FEL	Fence Electric	Mkr	Service Marker
BT	British Telecom	FMP	Fence Metal Panel	PB	Post Box
C	Crest	FMR	Fence Metal Railing	PT	Post
CL	Cover Level	FOB	Fence Open Board	RE	Rodding Eye
CMP	Cable Marker Post	FPW	Fence Post & Wire	SP	Sign Post
		FSP	Fence Steel Palisade	ST	Stop Tap
CCTV	Security Camera	FWM	Fence Wire Mesh	SV	Stop Valve
CTV	Cable TV	FFL	Finished Floor Level	TCB	Telephone Call Box
DC	Drainage Channel	FP	Flagpole	THL	Threshold Level
DK	Drop Kerb	Gas	Gas	TL	Traffic Light
DP	Down Pipe	GV	Gas Valve	TP	Telegraph Post
Elec	Electric	GY	Gully	TS	Traffic Signal
EP	Electricity Post	Ht	Height	UTS	Unable to Survey
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FH	Fire Hydrant	IFL	Internal Floor Level	WM	Water Meter
FL	Floodlight	IL	Invert Level (as a reduced level)	WO	Wash Out

Rev	Date	Details of issue / revision	Drw	Rev
P1	15.12.22	First Issue	BC	DS

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Client
Enviromena Project Management UK Limited

Project Title
Nailcote Farm, Warwickshire

Drawing Title
Existing Site Plan Sheet 2 of 6

Drawn:	B. Connelly		Reviewed:	D.Smith	
BWB Ref:	221748.00	Date:	15.12.22	Scale@A0:	1:500

Drawing Status
Information

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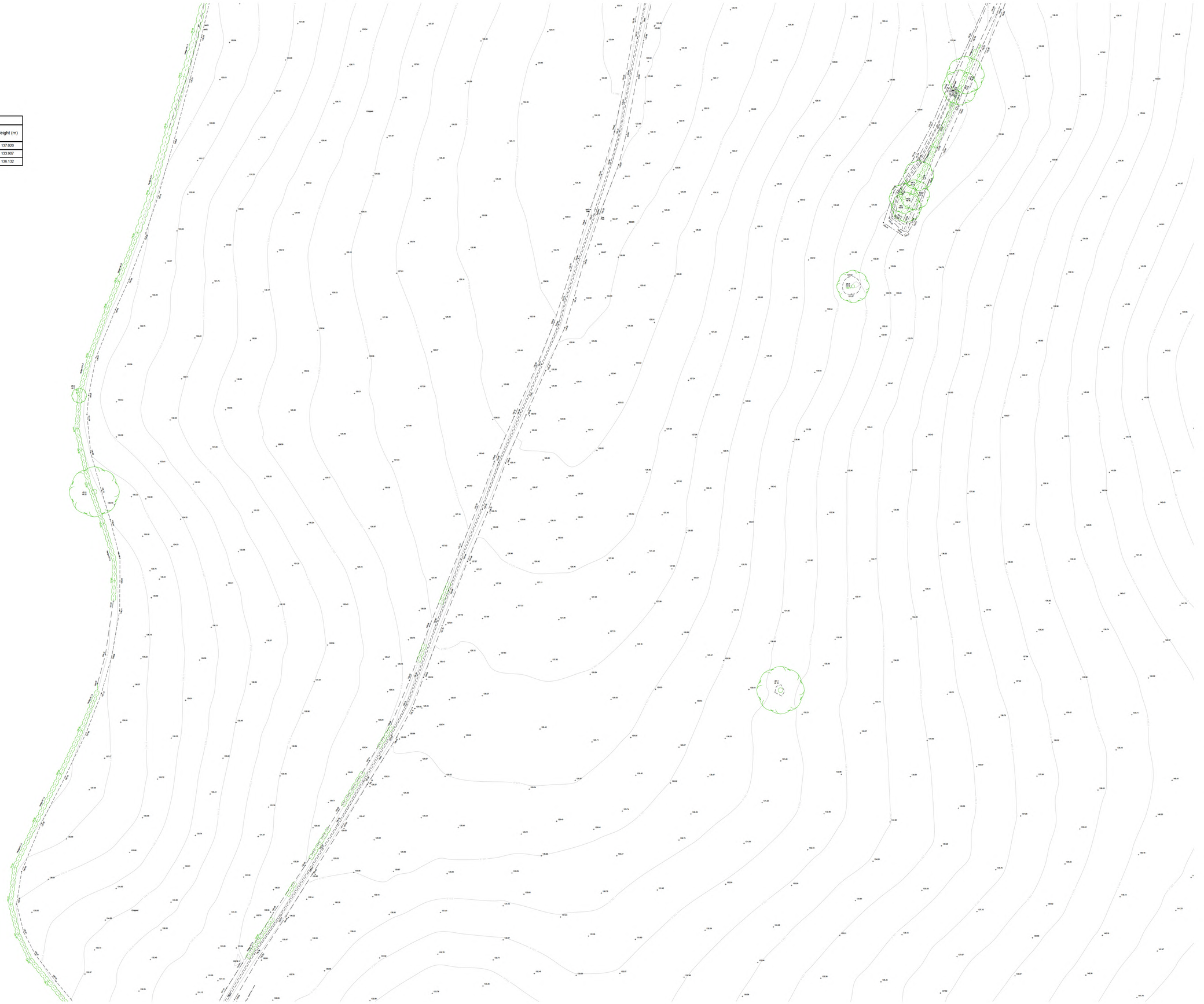

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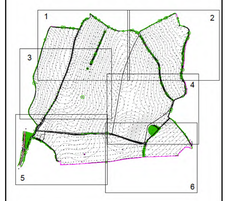
8. OS license number: 100022432

Key Plan



Legend

OS Buildings
Surveyed Buildings
Building
Wall
Kerb Channel Line
Top of Kerb
Edge of Surface
Top of Bank
Bottom of Bank
Canopy / Overhang
Line Marking
Centre Line
Watercourse Centre Line
Barrier
Fence
Gate
Overhead Powerline
Overhead Utilities

Contour Lines
Inspection Chamber
Flow direction and pipe diameter
Station and Name
Monitoring Borehole
Tree / Bush / Sapling
Area of Vegetation/ Extent of Tree Canopy
Hedge
Body of Water
Body of Water from OS
Spot Level
Assumed Surface Water Drainage Line
Surface Water Drainage Line

AP	Anchor Point	FBW	Fence Barbed Wire	LB	Litter Bin
BG	Back Gully	FCB	Fence Closed Board	LP	Lamp Post
BO	Bollard	FCL	Fence Chain Link	MH	Manhole
BS	Bus Stop	FEL	Fence Electric	Mkr	Service Marker
BT	British Telecom	FMP	Fence Metal Panel	PB	Post Box
C	Crest	FMR	Fence Metal Railing	PT	Post
CL	Cover Level	FOB	Fence Open Board	RE	Rodding Eye
CMP	Cable Marker Post	FPW	Fence Post & Wire	SP	Sign Post
		FSP	Fence Steel Palisade	ST	Stop Tap
CCTV	Security Camera	FWM	Fence Wire Mesh	SV	Stop Valve
CTV	Cable TV	FFL	Finished Floor Level	TCB	Telephone Call Box
DC	Drainage Channel	FP	Flagpole	THL	Threshold Level
DK	Drop Kerb	GA	Gas	TL	Traffic Light
DP	Down Pipe	GV	Gas Valve	TP	Telegraph Post
Elec	Electric	GY	Gully	TS	Traffic Signal
EP	Electricity Post	Ht	Height	UTS	Unable to Survey
ER	Earth Rod	IC	Inspection Chamber	WL	Water Level
FH	Fire Hydrant	IFL	Internal Floor Level	WM	Water Meter
FL	Floodlight	IL	Invert Level (on a reduced level)	WO	Wash Out

Rev	Date	Details of issue / revision	Drw	Rev
P1	15.12.22	First Issue	BC	05

Issues & Revisions

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London | 020 7407 3879
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Client
Enviromena Project Management UK Limited

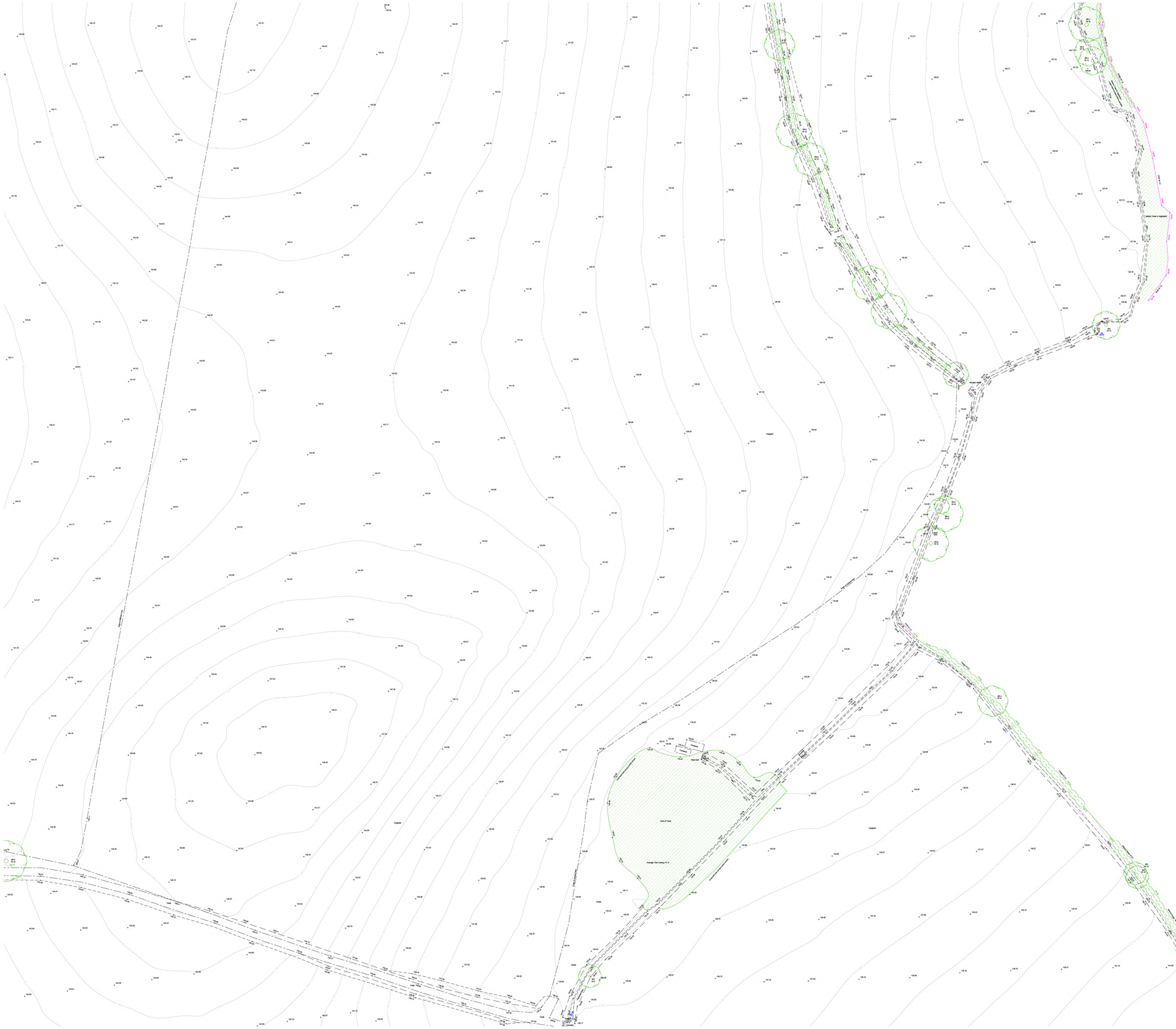
Project Title
Nailcote Farm, Warwickshire

Drawing Title
Existing Site Plan Sheet 2 of 6

Drawn:	B. Connelly	Reviewed:	D.Smith	
BWB Ref:	221748.00	Date:	15.12.22	Scale@A0: 1:500

Drawing Status
Information

Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
NFW-BWB-00-03-DR-G-001	S2	P1



Notes

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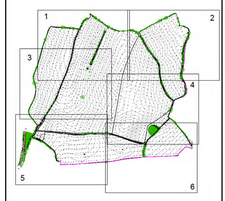
Key Plan



Legend

OS Buildings
Surveyed Buildings
Building
Wall
Kerb Channel Line
Top of Kerb
Edge of Surface
Top of Bank
Bottom of Bank
Canopy / Overhang
Line Marking
Centre Line
Watercourse Centre Line
Barrier
Fence
Gate
Overhead Powerline
Overhead Utilities

Contour Lines
Inspection Chamber
0.25 Flow direction and pipe diameter
1 Station and Name
BH 1 Monitoring Borehole
Tree / Bush / Sapling
Area of Vegetation/ Extent of Tree Canopy
Hedge
Body of Water
Body of Water from OS
50.00 Spot Level
Assumed Surface Water Drainage Line
Surface Water Drainage Line

AP	Anchor Point	FBW	Fence Barbed Wire	LB	Litter Bin
BG	Back Gully	FCB	Fence Closed Board	LP	Lamp Post
BO	Bollard	FCL	Fence Chain Link	MH	Manhole
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BT	British Telecom	FMP	Fence Metal Panel	PB	Post Box
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CCTV	Security Camera	FWM	Fence Wire Mesh	SV	Stop Valve
CTV	Cable TV	FFL	Finished Floor Level	TCB	Telephone Call Box
DC	Drainage Channel	FP	Flagpole	THL	Threshold Level
		Gas	Gas	TL	Traffic Light
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ER	Earth Rod	IFL	Internal Floor Level	WM	Water Meter
FH	Fire Hydrant	IL	Invert Level (on a reduced level)	WO	Wash Out
FL	Floodlight				

Rev	Date	Details of issue / revision	Drw	Rev
P1	15.12.22	First Issue	BC	DS

Issues & Revisions

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Client
Enviromena Project Management UK Limited

Project Title
Nailcote Farm, Warwickshire

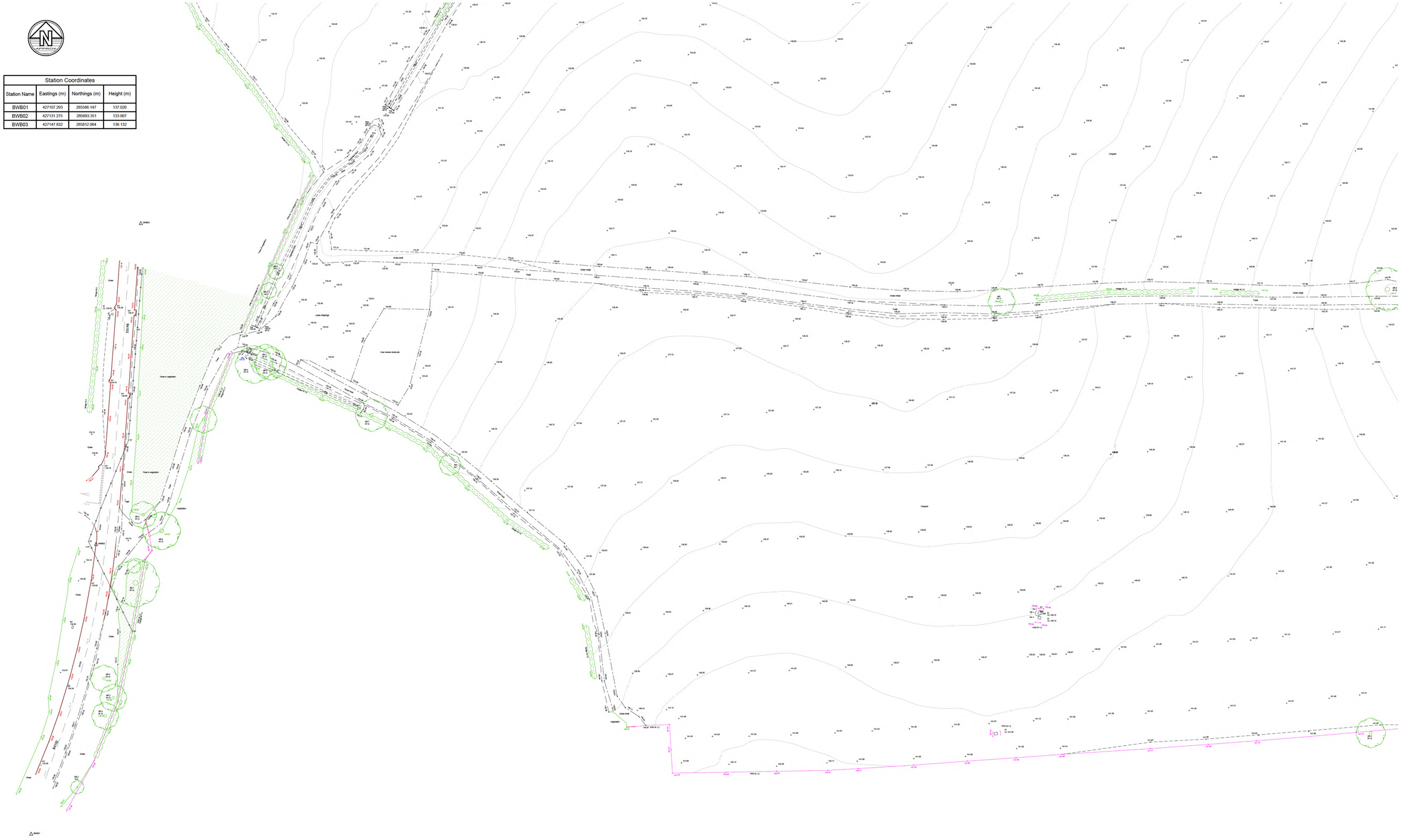
Drawing Title
Existing Site Plan Sheet 4 of 6

Drawn:	B. Connelly		Reviewed:	D.Smith	
BWB Ref:	221748.00	Date:	15.12.22	Scale@A0:	1:500

Drawing Status
Information

Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
NFW-BWB-00-04-DR-G-001	S2	P1

Station Coordinates			
Station Name	Eastings (m)	Northings (m)	Height (m)
BWB01	427107.293	285586.147	137.020
BWB02	427131.275	285693.351	133.907
BWB03	427147.832	285812.084	136.132



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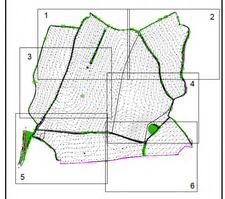
Key Plan



Legend

OS Buildings		Contour Lines	
Surveyed Buildings		Inspection Chamber	
Building		Flow direction and pipe diameter	0.25
Wall		Station and Name	1
Kerb Channel Line			BH 1
Top of Kerb		Monitoring Borehole	
Edge of Surface		Tree / Bush / Sapling	
Top of Bank			
Bottom of Bank		Area of Vegetation/ Extent of Tree Canopy	
Canopy / Overhang		Hedge	
Line Marking			
Centre Line		Body of Water	
Watercourse Centre Line		Body of Water from OS	
Barrier		Spot Level	50.00
Fence			
Gate		Assumed Surface Water Drainage Line	
Overhead Powerline			
Overhead Utilities		Surface Water Drainage Line	

AP	Anchor Point	FBW	Fence Barbed Wire	LB	Litter Bin
BG	Back Gully	FCB	Fence Closed Board	LP	Lamp Post
BO	Bollard	FCL	Fence Chain Link	MH	Manhole
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CCTV	Security Camera	FWM	Fence Wire Mesh	SV	Stop Valve
CTV	Cable TV	FFL	Finished Floor Level	TCB	Telephone Call Box
DC	Drainage Channel	FP	Flagpole		
		Gas	Gas	THL	Threshold Level
DK	Drop Kerb	GV	Gas Valve	TL	Traffic Light
DP	Down Pipe	GY	Gully	TP	Telegraph Post
Elec	Electric	Ht	Height	TS	Traffic Signal
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ER	Earth Rod	IFL	Internal Floor Level	WL	Water Level
FH	Fire Hydrant	IL	Invert Level (on a reduced level)	WM	Water Meter
FL	Floodlight			WO	Wash Out

Rev	Date	Details of issue / revision	Drw	Rev
P1	15.12.22	First Issue	BC	DS

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Client

Enviromena Project Management UK Limited

Project Title

Nailcote Farm, Warwickshire

Drawing Title

Existing Site Plan Sheet 5 of 6

Drawn:	B. Connelly		Reviewed:	D.Smith	
BWB Ref.	221748.00	Date:	15.12.22	Scale@A0:	1:500

Drawing Status

Information

Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
NFW-BWB-00-05-DR-G-001	**S2**	**P1**

Station Coordinates			
Station Name	Eastings (m)	Northings (m)	Height (m)
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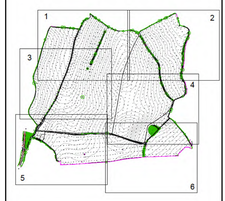

Legend

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Surveyed Buildings
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Kerb Channel Line
Top of Kerb
Edge of Surface
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Body of Water
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Rev	Date	Details of issue / revision	Drw	Rev
P1	15.12.22	First Issue	BC	DS

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Client
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Project Title
Nailcote Farm, Warwickshire

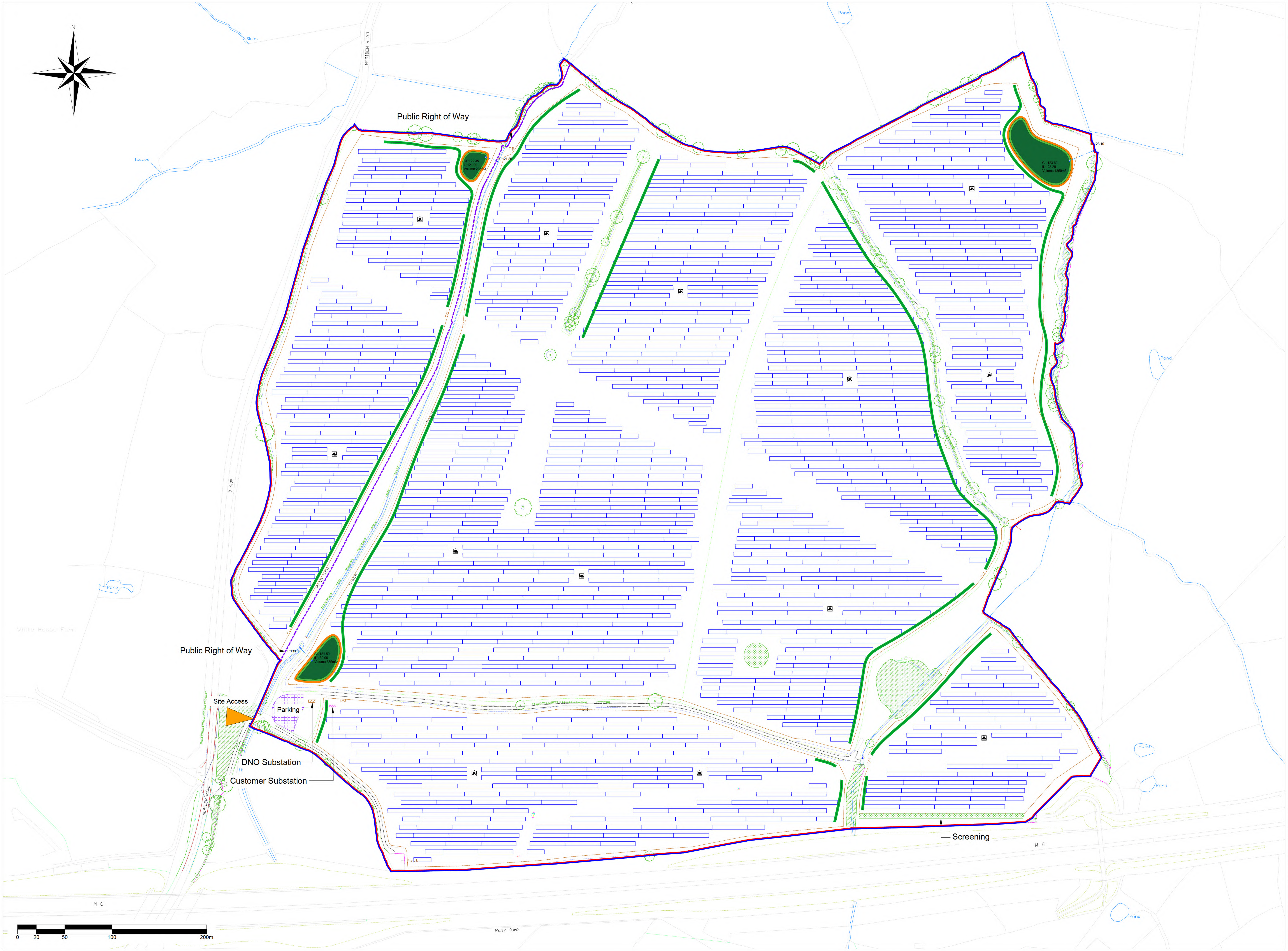
Drawing Title
Existing Site Plan Sheet 6 of 6

Drawn:	B. Connelly	Reviewed:	D.Smith
BWB Ref:	221748.00	Date:	15.12.22
Scale@A0:	1:500		

Drawing Status
Information

Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
NFW-BWB-00-06-DR-G-001	**S2**	**P1**

Appendix 3: Proposed Development and Sections Plan



LEGEND

- Landlord Boundary
- Site Boundary
- Site Access
- Fence
- PV Array
- Transformer Station
- DNO Substation
- Customer Substation
- Public Right of Way

REV	DESCRIPTION	BY	DATE
E	Drawing updated using General Layout RevQ	CC	10/04/24
D	Drawing updated using General Layout RevP	CC	16/01/24
C	Drawing updated using General Layout RevO	CC	10/01/24
B	Drawing updated using General Layout RevN	AMS	06/11/23
A	Drawing created using General Layout RevM	CC	20/10/23

ENVIROMENA

COMPANY DETAILS
Enviromena Project Management UK Ltd,
15 Diddenham Court, Grazeley,
Reading, RG7 1JQ
T: +44 330 107 1415

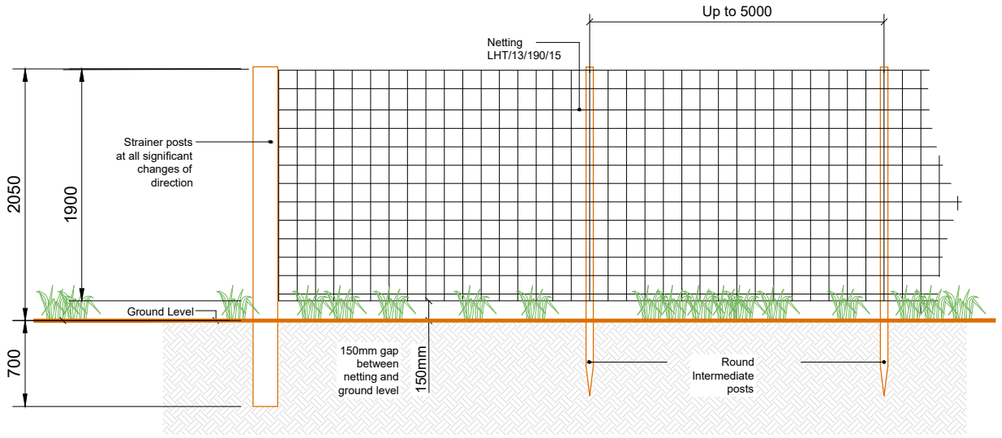
SITE ADDRESS
Nailcote Farm
Nailcote Lane
Berkswell
Coventry
CV7 7DE

PROJECT
Fillongley Solar

TITLE
Planning Layout

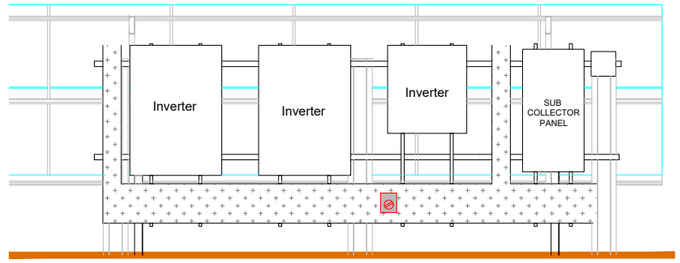
NUMBER		REVISION	
P007039-09-PlanningLayout		E	
SCALE (A0)	SHEET	DRAWN	APPROVED
1:1250	1 OF 1	CC	AMS

SECURITY FENCE DETAIL
(DEER FENCE)



Scale 1:50 @A3

NORTH ELEVATION
(rear - showing typical inverter arrangement)



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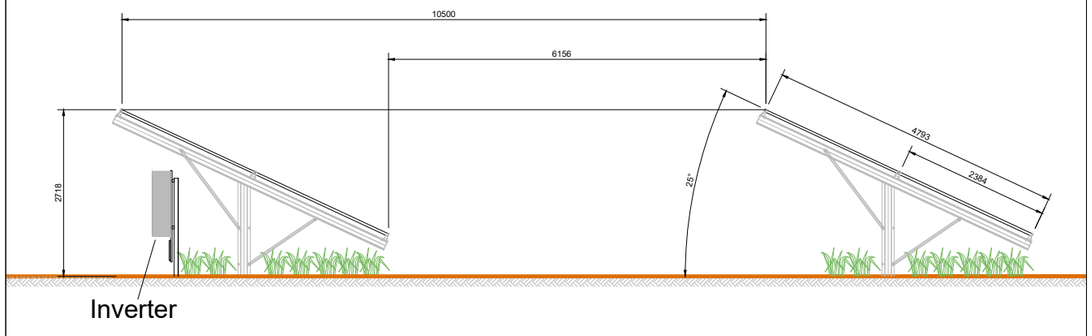
TYPICAL SECTION THROUGH ARRAY



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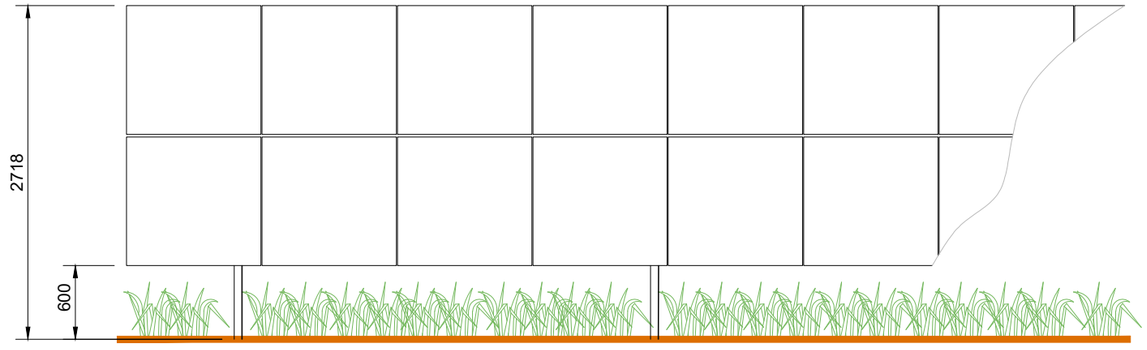
SOUTH ELEVATION
(Front)



Scale 1:50 @A3

COMMENTS:
Units in mm.

REVISION:	DESCRIPTION:	REVISED BY:	APPROVED BY:	DATE:
RevA		AMS		05/12/2022

REVISION:	DESCRIPTION:	REVISED BY:	APPROVED BY:	DATE:

Scale:	Drawn by:	Checked by:	Signed by PM:	Date checked:	Page:	Sheet size:
N/A	AMS				1 of 1	A3

SITE ADDRESS:
Nailcote Farm
Nialcote Lane
Berkswell, Coventry

CV7 7DE

PROJECT NAME:
Nailcote Farm

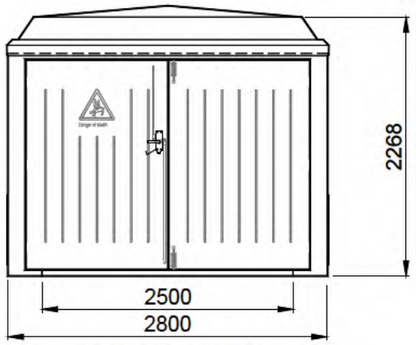
TITLE:
Section views

DRAWING No.:
P.NailcoteFarm_06_SectionViews

REV:
Rev A

ENVIROMENA

ADDRESS:
Enviromena Project Management UK Ltd
Tel: +44 330 107 1415
15 Diddenham Court, Grazeley
Reading, RG7 1JQ, United Kingdom



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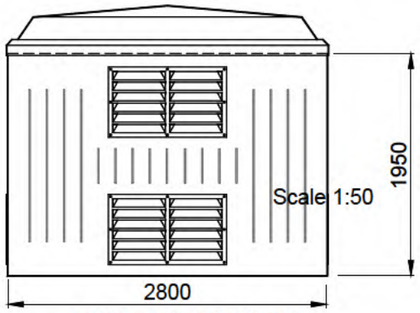
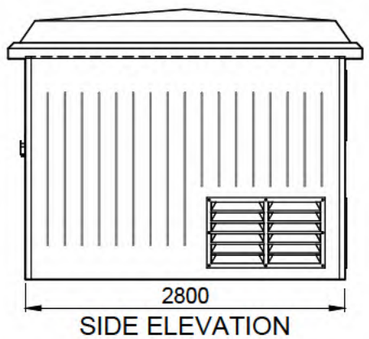
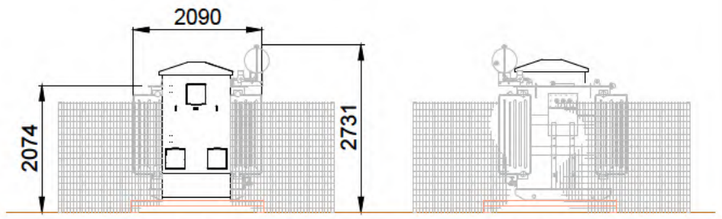


REAR ELEVATION



SIDE ELEVATION

CUSTOMER SWITCHGEAR ENCLOSURE



SIDE ELEVATION

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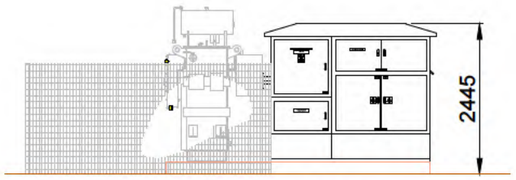

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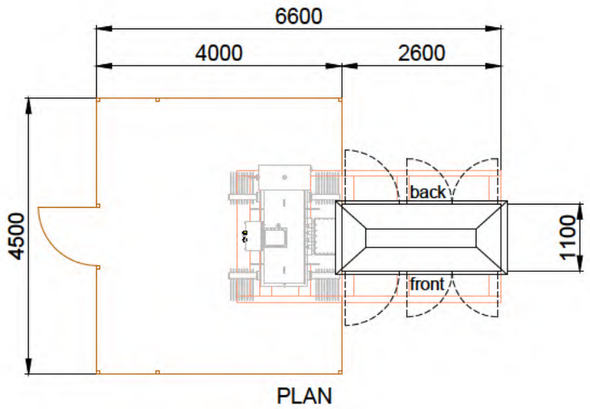
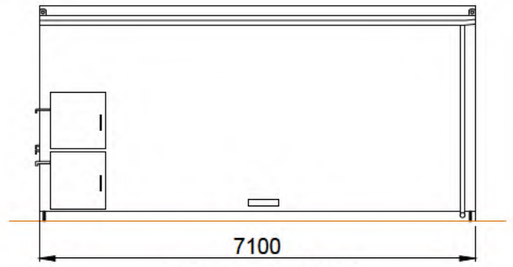
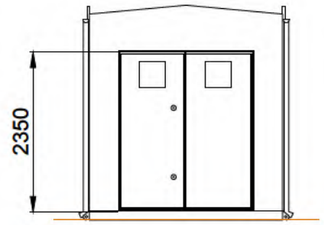


PLAN

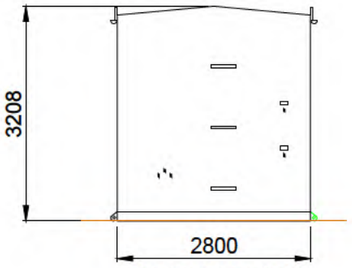
TYPICAL LV STATION



BACK ELEVATION



SIDE ELEVATION



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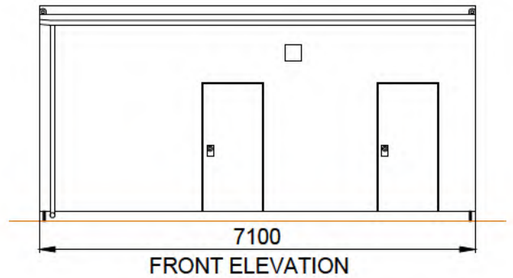
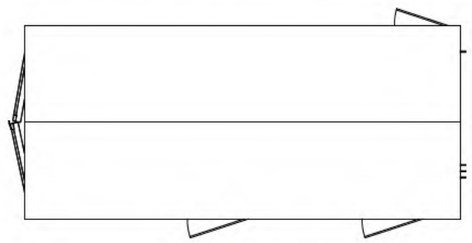


FRONT ELEVATION



PLAN

TYPICAL DNO SUBSTATION ENCLOSURE

COMMENTS:
Units in mm.

REVISION:	DESCRIPTION:	REVISED BY:	APPROVED BY:	DATE:
RevA		AMS		05/12/2022

REVISION:	DESCRIPTION:	REVISED BY:	APPROVED BY:	DATE:

Scale:	Drawn by:	Checked by:	Signed by PM:	Date checked:	Page:	Sheet size:
N/A	AMS				1 of 1	A3

SITE ADDRESS:
Nailcote Farm
Nialcote Lane
Berkswell, Coventry

CV7 7DE

PROJECT NAME:
Nailcote Farm

TITLE:
Building Sections view

DRAWING No.: P.NailcoteFarm_07_BuildingSectionViews

REV: Rev A

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Appendix 4: NPPF Flood risk Vulnerability and Flood Zone Compatibility

Flood Risk Vulnerability Classifications (recreated from the NPPF Planning Practise Guidance)

Vulnerability Classification	Description
Essential infrastructure	• Essential transport infrastructure (including mass evacuation routes) which has to cross the area at risk. • Essential utility infrastructure which has to be located in a flood risk area for operational reasons, including infrastructure for electricity supply including generation, storage and distribution systems; including electricity generating power stations, grid and primary substations storage; and water treatment works that need to remain operational in times of flood. • Wind turbines. • Solar farms.
Highly Vulnerable	• Police and ambulance stations; fire stations and command centres; telecommunications installations required to be operational during flooding. • Emergency dispersal points. • Basement dwellings. • Caravans, mobile homes and park homes intended for permanent residential use. • Installations requiring hazardous substances consent. (Where there is a demonstrable need to locate such installations for bulk storage of materials with port or other similar facilities, or such installations with energy infrastructure or carbon capture and storage installations, that require coastal or water-side locations, or need to be located in other high flood risk areas, in these instances the facilities should be classified as 'Essential Infrastructure'.)
More Vulnerable	• Hospitals • Residential institutions such as residential care homes, children's homes, social services homes, prisons and hostels. • Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels. • Non–residential uses for health services, nurseries and educational establishments. • Landfill* and sites used for waste management facilities for hazardous waste. • Sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan.
Less Vulnerable	• Police, ambulance and fire stations which are not required to be operational during flooding. • Buildings used for shops; financial, professional and other services; restaurants, cafes and hot food takeaways; offices; general industry, storage and distribution; non-residential institutions not included in the 'more vulnerable' class; and assembly and leisure. • Land and buildings used for agriculture and forestry. • Waste treatment (except landfill* and hazardous waste facilities). • Minerals working and processing (except for sand and gravel working). • Water treatment works which do not need to remain operational during times of flood. • Sewage treatment works, if adequate measures to control pollution and manage sewage during flooding events are in place. • Car parks.
Water-Compatible Development	• Flood control infrastructure. • Water transmission infrastructure and pumping stations. • Sewage transmission infrastructure and pumping stations. • Sand and gravel working. • Docks, marinas and wharves. • Navigation facilities. • Ministry of Defence installations. • Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location. • Water-based recreation (excluding sleeping accommodation). • Lifeguard and coastguard stations. • Amenity open space, nature conservation and biodiversity, outdoor sports and recreation and essential facilities such as changing rooms. • Essential ancillary sleeping or residential accommodation for staff required by uses in this category, subject to a specific warning and evacuation plan.

Flood Zone Compatibility (recreated from the NPPF Planning Practise Guidance)

Flood Zone	Vulnerability Classification				
	Essential infrastructure	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
Flood Zone 1 (Low Probability)	Development is appropriate	Development is appropriate	Development is appropriate	Development is appropriate	Development is appropriate
Flood Zone 2 (Medium Probability)	Development is appropriate	To be deemed appropriate an exception test is required to demonstrate: • The development will be safe for its life time without increasing flood risk elsewhere, and where possible reduce overall flood risk • the sustainability benefits of the development to the community outweigh the flood risk.	Development is appropriate	Development is appropriate	Development is appropriate
Flood Zone 3a (High Probability)	To be deemed appropriate an exception test is required to demonstrate: • The development will be safe for its life time without increasing flood risk elsewhere, and where possible reduce overall flood risk the sustainability benefits of the development to the community outweigh the flood risk. Additionally, essential infrastructure should be designed and constructed to remain operational and safe in times of flood.	Development should not be permitted	To be deemed appropriate an exception test is required to demonstrate: • The development will be safe for its life time without increasing flood risk elsewhere, and where possible reduce overall flood risk • the sustainability benefits of the development to the community outweigh the flood risk.	Development is appropriate	Development is appropriate

Flood Zone	Vulnerability Classification				
	Essential infrastructure	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
Flood Zone 3b (The Functional Floodplain)	To be deemed appropriate an exception test is required to demonstrate: • The development will be safe for its life time without increasing flood risk elsewhere, and where possible reduce overall flood risk • the sustainability benefits of the development to the community outweigh the flood risk. Additionally, development should be designed and constructed to: • remain operational and safe for users in times of flood; • result in no net loss of floodplain storage; • not impede water flows and not increase flood risk elsewhere.	Development should not be permitted	Development should not be permitted	Development should not be permitted	Development is appropriate if designed and constructed to: • remain operational and safe for users in times of flood; • result in no net loss of floodplain storage; • not impede water flows and not increase flood risk elsewhere.

Appendix 5: Environment Agency's Response

Product 4 (Detailed Flood Risk Data) for site at Nailcote Farm, Warwickshire, CV7 8BP NGR: SP 27537 86018.

Reference number: 294712
Date of issue: 24/01/2023

We are unable to provide you with a full product 4 response because:

- There is no detailed modelled information available for this site because it is not close to a main river.
- In addition, we do not have any records of flooding and there are no EA operated / maintained flood defences in the immediate area.
- Please note however, the location of the site sits partially within flood zone 3 risk and is designated a "flood alert" area. The Alerts relate to Middle Tame area and affects low-lying land and roads between Water Orton and Tamworth.
- There are also flags for risks from surface water on the site and as such, we would suggest that you contact your lead local flood authority- Warwickshire County Council. They should be able to provide you with further guidance on the risks from ordinary water courses and surface water flood risks in your specific area.

Flood Map for Planning (Rivers and Sea)

The Flood Map for planning (Rivers and Sea) indicates the area at risk of flooding, **assuming no flood defences exist**, for a flood event with a 0.5% chance of occurring in any year for flooding from the sea, or a 1% chance of occurring for fluvial (river) flooding (flood zone 3). It also shows the extent of the Extreme Flood Outlines (Flood zone 2) which represents the extent of a flood event with a 0.1% chance of occurring in any year, or the highest recorded historic extent if greater. The flood zones refer to the land at risk of flooding and **does not** refer to individual properties. It is possible for properties to be built at a level above the floodplain but still fall within the risk area.

The Flood Map only indicates the extent and likelihood of flooding from rivers or the sea. It should also be remembered that flooding may occur from other sources such as surface water sewers, road drainage, etc. This map can be accessed via our website: https://flood-map-for-planning.service.gov.uk/

Recorded Flooding

With regards to the history of flooding I can advise that we do not have any records of flooding in this area. It is possible that other flooding may have occurred that we do not have records for, and other organisations, such as the Lead Local Flood Authority or Internal Drainage Boards (where relevant), may have records.

Email: Enquiries_Westmids@environment-agency.gov.uk
Website: www.gov.uk/government/organisations/environment-agency

Risk of Surface Water Flooding Map

Managing the risk of flooding from surface water is the responsibility of Lead Local Flood Authorities. The 'risk of flooding from surface water' map has been produced by the Environment Agency on behalf of government, using information and input from Lead Local Flood Authorities.

You may wish to contact your Local Authority who may be able to provide information on surface water.

It is not possible to say for certain what the flood risk is but we use the best information available to provide an indication so that people can make informed choices about living with or managing the risks. The information we supply does not provide an indicator of flood risk at an individual site level. Further information can be found on the Environment Agency's website, https://flood-warning-information.service.gov.uk/long-term-flood-risk

Definition of flood zones

- Zone 1 - The area is within the lowest probability of flooding from rivers and the sea, where the chance of flooding in any one year is less than 0.1% (i.e. a 1000 to 1 chance).
- Zone 2 - The area which falls between the extent of a flood with an annual probability of 0.1% (i.e. a 1000 to 1 chance) fluvial and tidal, or greatest recorded historic flood, whichever is greater, and the extent of a flood with an annual probability of 1% (i.e. a 100 to 1 chance) fluvial / 0.5% (i.e. a 200 to 1 chance) tidal. (Land shown in light blue on the Flood Map).
- Zone 3 - The chance of flooding in any one year is greater than or equal to 1% (i.e. a 100 to 1 chance) for river flooding and greater than or equal to 0.5% (i.e. a 200 to 1 chance) for coastal and tidal flooding.

Note: The Flood Zones shown on the Environment Agency's Flood Map for Planning (Rivers and Sea) do not take account of the possible impacts of climate change and consequent changes in the future probability of flooding. Reference should therefore also be made to the Strategic Flood Risk Assessment when considering location and potential future flood risks to developments and land uses.

Email: Enquiries_Westmids@environment-agency.gov.uk
Website: www.gov.uk/government/organisations/environment-agency

Appendix 6: Severn Trent Water Sewer Asset Plans

Date: 20/12/22 | Scale: 1:1250 | Map Centre: 427703,286004 | Data updated: 14/12/22 | Our Ref: 1032108 - 1 | Wastewater Plan A0

Public Foul Gravity/Lateral Drain	Highway Drain	Manhole Foul
Public Combined Gravity/Lateral Drain	Overflow Pipe	Manhole Surface
Public Surface Water Gravity/Lateral Drain	Disposal Pipe	Abandoned Pipe
Pressure Foul	Culverted Water Course	Chamber
Pressure Combined	Pumping Station	Section 104 sewers are shown in green
Pressure Surface Water	Fitting	Private sewers are shown in magenta

jurgita.v@bwbconsulting.com

Nailcote Farm

SEVERN TRENT

GENERAL CONDITIONS AND PRECAUTIONS TO BE TAKEN WHEN CARRYING OUT WORK ADJACENT TO SEVERN TRENT WATER'S APPARATUS

Please ensure that a copy of these conditions is passed to your representative and/or your contractor on site. If any damage is caused to Severn Trent Water Limited (STW) apparatus (defined below), the person, contractor or subcontractor responsible must inform STW immediately on:
0800 783 4444 (24 hours)

a) These general conditions and precautions apply to the public sewerage, water distribution and cables in ducts including (but not limited to) sewers which are the subject of an Agreement under Section 104 of the Water Industry Act 1991(a legal agreement between a developer and STW, where a developer agrees to build sewers to an agreed standard, which STW will then adopt); mains installed in accordance with an agreement for the self-construction of water mains entered into with STW and the assets described at condition b) of these general conditions and precautions. Such apparatus is referred to as "STW Apparatus" in these general conditions and precautions.

b) Please be aware that due to The Private Sewers Transfer Regulations June 2011, the number of public sewers has increased, but many of these are not shown on the public sewer record. However, some idea of their positions may be obtained from the position of inspection covers and their existence must be anticipated.

c) On request, STW will issue a copy of the plan showing the approximate locations of STW Apparatus although in certain instances a charge will be made. The position of private drains, private sewers and water service pipes to properties are not normally shown but their presence must be anticipated. This plan and the information supplied with it is furnished as a general guide only and STW does not guarantee its accuracy.

d) STW does not update these plans on a regular basis. Therefore the position and depth of STW Apparatus may change and this plan is issued subject to any such change. Before any works are carried out, you should confirm whether any changes to the plan have been made since it was issued.

e) The plan must not be relied upon in the event of excavations or other works in the vicinity of STW Apparatus. It is your responsibility to ascertain the precise location of any STW Apparatus prior to undertaking any development or other works (including but not limited to excavations).

f) No person or company shall be relieved from liability for loss and/or damage caused to STW Apparatus by reason of the actual position and/or depths of STW Apparatus being different from those shown on the plan.

In order to achieve safe working conditions adjacent to any STW Apparatus the following should be observed:

1. All STW Apparatus should be located by hand digging prior to the use of mechanical excavators.

2. All information set out in any plans received from us, or given by our staff at the site of the works, about the position and depth of the mains, is approximate. Every possible precaution should be taken to avoid damage to STW Apparatus. You or your contractor must ensure the safety of STW Apparatus and will be responsible for the cost of repairing any loss and/or damage caused (including without limitation replacement parts).

3. Water mains are normally laid at a depth of 900mm. No records are kept of customer service pipes which are normally laid at a depth of 750mm; but some idea of their positions may be obtained from the position of stop tap covers and their existence must be anticipated.

4. During construction work, where heavy plant will cross the line of STW Apparatus, specific crossing points must be agreed with STW and suitably reinforced where required. These crossing points should be clearly marked and crossing of the line of STW Apparatus at other locations must be prevented.

5. Where it is proposed to carry out piling or boring within 20 metres of any STW Apparatus, STW should be consulted to enable any affected STW Apparatus to be surveyed prior to the works commencing.

6. Where excavation of trenches adjacent to any STW Apparatus affects its support, the STW Apparatus must be supported to the satisfaction of STW. Water mains and some sewers are pressurised and can fail if excavation removes support to thrust blocks to bends and other fittings.

7. Where a trench is excavated crossing or parallel to the line of any STW Apparatus, the backfill should be adequately compacted to prevent any settlement which could subsequently cause damage to the STW Apparatus. In special cases, it may be necessary to provide permanent support to STW Apparatus which has been exposed over a length of the excavation before backfilling and reinstatement is carried out. There should be no concrete backfill in contact with the STW Apparatus.

8. No other apparatus should be laid along the line of STW Apparatus irrespective of clearance. Above ground apparatus must not be located within a minimum of 3 metres either side of the centre line of STW Apparatus for smaller sized pipes and 6 metres either side for larger sized pipes without prior approval. No manhole or chamber shall be built over or around any STW Apparatus.

9. A minimum radial clearance of 300 millimetres should be allowed between any plant or equipment being installed and existing STW Apparatus. We reserve the right to increase this distance where strategic assets are affected.

10. Where any STW Apparatus coated with a special wrapping is damaged, even to a minor extent, STW must be notified and the trench left open until the damage has been inspected and the necessary repairs have been carried out. In the case of any material damage to any STW Apparatus causing leakage, weakening of the mechanical strength of the pipe or corrosion-protection damage, the necessary remedial work will be recharged to you.

11. It may be necessary to adjust the finished level of any surface boxes which may fall within your proposed construction. Please ensure that these are not damaged, buried or otherwise rendered inaccessible as a result of the works and that all stop taps, valves, hydrants, etc. remain accessible and operable. Minor reduction in existing levels may result in conflict with STW Apparatus such as valve spindles or tops of hydrants housed under the surface boxes. Checks should be made during site investigations to ascertain the level of such STW Apparatus in order to determine any necessary alterations in advance of the works.

12. With regard to any proposed resurfacing works, you are required to contact STW on the number given above to arrange a site inspection to establish the condition of any STW Apparatus in the nature of surface boxes or manhole covers and frames affected by the works. STW will then advise on any measures to be taken, in the event of this a proportionate charge will be made.

13. You are advised that STW will not agree to either the erection of posts, directly over or within 1.0 metre of valves and hydrants,

14. No explosives are to be used in the vicinity of any STW Apparatus without prior consultation with STW.

TREE PLANTING RESTRICTIONS

There are many problems with the location of trees adjacent to sewers, water mains and other STW Apparatus and these can lead to the loss of trees and hence amenity to the area which many people may have become used to. It is best if the problem is not created in the first place. Set out below are the recommendations for tree planting in close proximity to public sewers, water mains and other STW Apparatus.

15. Please ensure that, in relation to STW Apparatus, the mature root systems and canopies of any tree planted do not and will not encroach within the recommended distances specified in the notes below.

16. Both Poplar and Willow trees have extensive root systems and should not be planted within 12 metres of a sewer, water main or other STW Apparatus.

17. The following trees and those of similar size, be they deciduous or evergreen, should not be planted within 6 metres of a sewer, water main or other STW Apparatus. E.g. Ash, Beech, Birch, most Conifers, Elm, Horse Chestnut, Lime, Oak, Sycamore, Apple and Pear. Asset Protection Statements Updated May 2014

18. STW personnel require a clear path to conduct surveys etc. No shrubs or bushes should be planted within 2 metre of the centre line of a sewer, water main or other STW Apparatus.

19. In certain circumstances, both STW and landowners may wish to plant shrubs/bushes in close proximity to a sewer, water main of other STW Apparatus for screening purposes. The following are shallow rooting and are suitable for this purpose: Blackthorn, Broom, Cotoneaster, Elder, Hazel, Laurel, Privet, Quickthorn, Snowberry, and most ornamental flowering shrubs.

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

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