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Water Environment Supplementary Assessment

February 2025

pfa consulting

Helios Renewable Energy Project Water Environment Supplementary Assessment

Enso Green Holdings D Limited
January 2025

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Issue 1	[redacted] BSc (Hons) MCIWEM C.WEM CEnv	07.01.2025	*For Submission*
Issue 2	[redacted] BSc (Hons) MCIWEM C.WEM CEnv	23.01.2025	*Section 2 updated to reflect clarification provided to the Environment Agency on 20.01.25.* *Section 7 updated to capture all proposed FRA updates.*

CONTENTS

1. INTRODUCTION

1.1. The application for the Helios Renewable Energy Project was supported by a range of assessments associated with water environment matters (flood risk and water quality).

1.2. For completeness the current documents relating to the water environment are as follows:

- Flood Risk Assessment ('FRA')
- Part 1 of 4 [APP-232]
- Part 2 of 4 [APP-233]
- Part 3 of 4 [APP-234]
- Part 4 of 4 [AS-015]
- ES Chapter 9 Water Environment [APP-029]
- Outline Construction Environmental Management Plan ('oCEMP') [APP-121 as updated at Deadline 2]
- Outline Operational Environmental Management Plan ('oOEMP') [APP-124 as updated at Deadline 2]
- Alternative Site Assessment [APP-227]
- Environment Agency Statement of Common Ground ('SoCG') dated 26 November 2024 [PDA-007 as updated at Deadline 2]
- Environment Agency Principal Area of Disagreement ('PAD') Summary Statement dated 25 November 2024 [PDA-022]

1.3. The above list is not exhaustive and will continue to evolve over the course of the examination.

1.4. A number of action points were agreed at Issue Specific Hearing ('ISH1') held on 4th December 2024 [ENV3-002]. This Technical Note seeks to provide supplementary assessment to address the action points 6, 7, 8, 9 and 11.

1.5. The remaining water environment action points (5, 10 and 12) relate to how mitigation measures are secured within the Development Consent Order ('DCO'), including the use of the Requirements and control documents. These matters are addressed in in the updated Environment Agency SoCG to be provided at Deadline 2.

1.6. Issue 1 of this Technical Note was issued directly to the Environment Agency on 7th January 2025. Following feedback from the Environment Agency matters relating to ISH Action Point 2 and commentary provided in the Environment Agency's Deadline 2 Written Representations (dated 13th January 2025) this Technical Note has been updated to provide additional clarifications on these matters and signpost updates to the FRA which will be made in submissions as part of future deadlines.

2. FINISHED FLOOR LEVELS (ISH1 ACTION POINT 6)

2.1. The equipment that has a 'finished floor level' would be the Inverter Field Stations [APP-043] located in the Solar Farm Zone and the equipment associated with the Substation and BESS compound [APP-044-048]. Design parameters associated with the equipment are specified in Table 3.2 ES Chapter 3 [APP-023]. These design parameters have been assessed as part of the application. The detailed design approval which would specify the final equipment finished floor levels would be secured through DCO Requirement 3 and would be in accordance with the design parameters assessed.

2.2. The relevant sections of the FRA [APP-232] relating to the location and height of control equipment and quoted below for completeness. For the avoidance of doubt the reference to ancillary control equipment captures the Inverter Field Stations (and any other control equipment) within the Solar Farm Zone.

2.3. Paragraph 4.126 of the FRA [APP-232] states:

> *'In line with normal construction practice, it is proposed that any on site buildings would have floor levels raised at least 0.3m (and up to 0.6m) above existing ground level with appropriate damp proof course protection. This would ensure that the interior of any such building is kept suitably dry.'*

2.4. Paragraph 4.127 of the FRA [APP-232] states:

> *'The location of ancillary control equipment would be preferentially located in areas of very low surface water flood risk and very low fluvial flood risk in the fluvial 'design flood' and in areas affected by flood depths <0.6m in the fluvial 'credible maximum scenario sensitivity test' flood event.'*

2.5. Paragraph 4.132 of the FRA [APP-232] states:

> *'The Substation and BESS Compound would be situated to avoid areas of elevated surface water flood risk and the fluvial 'design flood' extents.'*

2.6. Paragraph 4.137 of the FRA [APP-232] states:

> *'The BESS containers would be raised at least 0.3m (and up to 0.6m) above ground which provides additional protection from the ingress of surface water within the bunded area.'*

2.7. The key recommendation in the FRA is to follow the sequential approach to the site design so that the proposed ancillary equipment (including the Inverter Field Stations) and Substation and BESS Compound are located in areas unaffected by the fluvial, tidal and pluvial 'design flood' (areas of 'very low' risk).

2.8. In addition, the sequential approach to the site design seeks to site ancillary equipment (including the Inverter Field Stations) in the Solar Farm Zone in areas of shallow flooding (<0.6m) during the fluvial 'credible maximum scenario sensitivity test' flood event. This ensures the upper limit of the finished floor levels assessed (up to 0.6m) would provide a high level of design resilience for the credible maximum climate change scenario to the ancillary equipment located in the Solar Farm Zone.

2.9. The FRA considers the approach to the 'credible maximum scenario sensitivity test' flood event. As set out in paragraph 3.77 of the FRA the operational lifespan of the Proposed Development extends until 2069 with decommissioning being concluded in 2070. The decommissioning period only extends one year into the Peak River Flow 2080s epoch (2070 – 2125). The 2080s epoch is not appropriate to assess for the ‘design flood’ for the operational lifespan of the development. The design mitigation is therefore based on the ‘design flood’ for the 2050s epoch (2040-2069). Although it is appropriate to include a +0.3m freeboard in the mitigation for the ‘design flood’ this would be an excessive requirement for 'credible maximum scenario sensitivity test' flood event which should be treated as a ‘sensitivity’ test (and not the design event). As long as the ancillary control equipment is raised above the 'credible maximum scenario sensitivity test' flood level it would be resilient to this flood event.

2.10. The requirement for the development to be safe and operational during times of flooding would only apply to the operational period of the proposed development. In decommissioning (2070) the site would not be operational. Raising equipment above the 'credible maximum scenario sensitivity test' flood level is in our view sufficient protection and provides sufficient resilience to the design throughout the operational lifespan of the development (until 2069).

2.11. Through the sequential design of the site, by locating the Inverter Field Stations, Substation and BESS Compound outside of areas affected by the fluvial ‘design flood’ (where the flood depth is therefore zero) the minimum floor level of +0.3m above ground level (and up to +0.6m) would therefore be at least +0.3m above the ‘design flood’ and also above the 'credible maximum scenario sensitivity test' flood level and comply with the Environment Agency’s guidance.

2.12. The equipment levels reported in the FRA are relative levels above ground level. The use of relative levels ensures consistency with the proposed equipment details described in Environmental Statement Chapter 3: Site and Development Description. From our experience it also simplifies the assessment and throughout the construction of the scheme and helps non specialists understand the assessment. As such we would recommend retaining references to relative levels in the FRA.

2.13. For the avoidance of any doubt, it is recommended that the FRA is updated to provide an additional reassurance and explicitly states:

> **Finished floor levels of any ancillary control equipment in the Solar Farm Zone, including Invertor Station, and in Substation and BESS Compound will be raised at least +0.3m above the fluvial ‘design flood’ level, and would be above the fluvial ‘credible maximum scenario sensitivity test’ flood level. The equipment would be at least +0.3m (and up to +0.6m) above existing ground level.’**

2.14. The recommendations set out in the FRA comply with the Environment Agency’s guidance and the additional suggested text would ensure this is explicitly set out in the FRA and address ISH1 Action Point 6 and the Environment Agency’s comments.

3. SOLAR ARRAY SUPPORTS (ISH1 ACTION POINT 7)

3.1. Due to the nature of the proposed equipment in the area of elevated flood risk, the volume of flood water displaced by the PV panel/array supports is negligible.

3.2. Nonetheless, to satisfy the Environment Agency's requirements a calculation has been undertaken to assess the small volume of flood storage displaced by the proposed solar array supports.

Volume of Floodwaters Displaced

3.3. Calculations are usually required for areas where there is a significant loss of floodplain storage (e.g. infilling of the floodplain to provide a platform for development above the flood level). The proposed development consists of discrete structures which floodwaters could flow around. The structures are at different levels across the site, which complicates the calculation.

3.4. A series of assumptions have been made to simplify the calculation while still being suitably precautionary. These assumptions are set out below.

3.5. The fields 35 - 43 have been assessed based on a 0.2m variation in the fluvial 'design flood' level. As a precaution the 'design flood' level is rounded to the highest value in the 0.2m band.

3.6. Where necessary, the fields have been sub-divided further to take into account the topographical variations across the parcel. As a precaution, the minimum ground level is for each field is rounded to the lowest value in the 0.2m band. This results in an over estimate of the flood depths compared to the modelled flood depths discussed in the Flood Risk Assessment ('FRA').

3.7. There are five types of solar array proposed on the site affected by the fluvial 'design flood' ('1P6', 'IP12', '1P27', '1P54' and '1P81'). The number of each type of array in each field has been calculated. Where a solar array partially extends into the fluvial 'design flood' extents the whole array has been assessed to both simplify the calculation and take a precautionary approach. The volume of floodwaters displaced per 0.2m slice for each of the five array types has been calculated.

3.8. The assessment is based on flood levels from the site-specific hydraulic flood model approved by the Environment Agency in June 2024. The fluvial 'design flood' is the defended 1% Annual Exceedance Probability ('AEP') plus higher central climate change fluvial flood event (or 1 in 100 year Return Period ('RP')). Further details are provided in the FRA.

3.9. The extents of the fluvial 'design flood' across the site and peak flood level per field are set out on Drawing No. E216/164 contained in **Appendix A**. The solar arrays affected by the fluvial 'design flood' are shown on Drawing No. E216/165 contained in **Appendix B.**

3.10. The calculations for the volume of flood water displaced by the solar arrays are contained in **Appendix C** and summarised as **Table A** below.

Table A: Summary of Flood Volume Displace by Solar Arrays

Calculation Slice Height Above Ground Level (0.2m increments) (mAOD)	Flood Volume Displaced (m^3)
3.7-3.9	1.135
3.9-4.1	4.899
4.1-4.3	7.914
4.3-4.5	10.192
4.5-4.7	6.405
4.7-4.9	2.166
Total	**32.711**

3.11. The volume of floodwaters displaced by the Solar Arrays across the 475 Ha site in the fluvial 'design flood' totals approximately 32.711m^3. This is de minimis in the context of the floodplain on the site. Approximately 35.696 Ha (356,963m^2) of the site is affected by the fluvial 'design flood'. On the basis of a very simple calculation (depth = volume / area) the change in flood level over the operational area of the site (area within security fence) as a result of the volume of floodwaters displaced by the solar arrays is approximately 0.00009164m or 0.09mm. This is negligible. If the whole extents of the floodplain in the fluvial 'design flood' were included in the calculation, the change in water level would be even less.

3.12. It can therefore be concluded that the presence of the solar arrays in the fluvial 'design flood' has a negligible effect of flood levels and, in practice, does not increase flood risk elsewhere.

4. SUBSTATION AND BESS COMPOUND (ISH1 ACTION POINT 8)

4.1. The Environment Agency has commented on the potential risk of contamination from the day to day operation of the Substation and BESS Compound on the quality of surface water runoff and indirect risk to underlying groundwater.

4.2. The surface water drainage strategy for the Substation and BESS Compound set out in the FRA [APP-232] has been devised to intercept and manage runoff and through the appropriate use of Sustainable Drainage Systems ('SuDS') and would protect the quality of groundwater and surface waters from potentially polluted runoff.

4.3. The Substation and BESS Compound contains embedded design mitigation to reduce the risk of a pollution event affecting the adjacent watercourses or underlying aquifer. The main measures set out in the FRA [APP-232] are as follows:

- Any relevant materials including oil filled plant in the Substation and BESS Compound would be stored in accordance with the appropriate pollution prevention principles to reduce the likelihood of spillage and with an impermeable base and suitable bunding to prevent discharge in the event of spillage and leakage, and the design and location would be consistent with the Environment Agency guidance.
- The entire Substation and BESS Compound area would be lined with an impermeable liner (geomembrane, or similar) to minimise the risk of a pathway forming between the surface and underlying aquifer.
- The presence of the flood defence bund and appropriately designed penstocks on the outfalls from the surface water drainage system to the ditch/watercourse network would contain runoff in event of a contamination event.
- Runoff from the Substation and BESS Compound would be collected by a series of filter drains in three sub-catchments. Flows would be conveyed to the filter collector drains by overland flows and via sub surface flows within the porous subbase of the Substation and BESS Compound. Filter drains would then convey runoff to three attenuation basins designed with sediment forebays to enhance water quality and promote sediment deposition. Runoff would be discharged at a controlled rate into the onsite drainage ditches/watercourses.

4.4. In addition to embedded design mitigation described above operational controls to monitor for, prevent, and manage spills and leaks within the Substation and BESS Compound will be set out in the updated outline Operational Environmental Management Plan ('oOEMP') recommending additional detailed controls in a Site Maintenance Plan. Adopting best practice site management as set out in the oOEMP with adequate contingency planning and following the principles of pollution prevention based on the principles of stop, notify contain and clean up, including maintenance and monitoring of operational plant and will reduce the risk of water pollution. The oOEMP should include the routine maintenance of the SuDS features (including periodic sediment removal) and regular inspections of the Substation and BESS Compound and the SuDS features for pollution events. A detailed Operational Environmental Management Plan ('OEMP') will be secured by a DCO Requirement 7.

4.5. The embedded design mitigation and operational management measures reduce the operational pollution risks from the Substation and BESS Compound as a result of potential chemical leaks or spills from battery energy storage systems, transformers, and maintenance activities (such as introduction of hydrocarbon/sediment from the use of maintenance vehicles) which could contaminate soil and water sources.

4.6. The implementation of a SuDS management / treatment train using a combination of upstream Source Control (the filter drains / porous subbase) and Strategic SuDS Features (attenuation basins) would create a resilient drainage system which would allow silt to be collected at various points within the system. The silt would then be removed as part of periodic maintenance of the SuDS Features. Creating a surface water drainage scheme with multiple SuDS features designed in accordance with the CIRIA C753 'The SuDS Manual' would encourage sedimentation, filtration and biological uptake throughout the drainage system.

4.7. It is recognised the underlying groundwater is a sensitive receptor, in addition to the above embedded design mitigation measures as a failsafe and as a precautionary measure, a water quality device (such as a downstream defender supplied by Hydro International, or similar approved) would be fitted to the outfall from the attenuation basins to further safeguard quality of day to day runoff from oils, debris and sediments.

4.8. The Preliminary BESS and Substation Drainage Strategy is shown on Drawing No. E216/88 Rev D contained in **Appendix D**.

4.9. Supplementary assessment of the embedded design mitigation measures proposed within the sustainable drainage strategy contained in the FRA [APP-232], in addition to the supplementary water quality device, to manage the risk posed by day to day operational maintenance activities is set out below.

Water Quality Assessment

4.10. Effective controls, such as spill containment, proper storage, and runoff management, are essential to mitigate risks and protect water quality. The proposed Surface Water Drainage Strategy incorporating Source Control (filter drains / porous subbase) and Strategic SuDS Features (attenuation basins) provides treatment of surface water runoff. With reference to Chapter 26 of the CIRIA SuDS Manual 2015 a water quality assessment of the proposed Surface Water Drainage Strategy has been undertaken using the simple index approach.

4.11. To deliver adequate treatment the SuDS features should have a total pollution mitigation index (for each contaminant type) that equals or exceeds the pollution hazard index (for each contaminant type):

Total SuDS mitigation index > pollution hazard index

4.12. Where the mitigation index of an individual feature is insufficient, two features (or more) in series will be required, where:

Total SuDS mitigation Index = mitigation index$_1$ + 0.5(mitigation index$_2$) + etc

4.13. From Table 26.2 in the CIRIA SuDS Manual 2015 the pollution hazard indices for each contaminant type for the proposed land use comprising equipment and access roads are shown in **Table B** below.

Table B: Pollution Hazard Indices

Land Use	Pollution hazard level	Total suspended solids (TSS)	Metals	Hydrocarbons
Other roofs as a proxy for equipment (typically commercial/industrial roofs)	Low	0.3	0.2	0.05
Low traffic roads and non-residential car parking with infrequent change i.e. < 300 traffic movements/day as a proxy for internal access roads	Low	0.5	0.4	0.4

4.14. From Table 26.3 in the CIRIA SuDS Manual 2015 the indicative SuDS mitigation indices for discharges to surface waters for different SuDS features which could be utilised on the development site are shown in **Table C** below.

Table C: Indicative SuDS Mitigation Indices for Discharges to Surface Waters

Type of SuDS Feature	TSS	Metals	Hydrocarbons
Filter drain	0.4	0.4	0.4
Detention basin	0.5	0.5	0.6
Water Quality Device Downstream Defender Votex (Supplied by Hydro International)	0.3	0.2	0.2

4.15. **Table D** below summarises the catchment areas on the development site, the associated pollution hazard indices and the appropriateness of the proposed SuDS feature to deliver adequate treatment.

Table D: Total Mitigation Index

Catchment	Pollution Hazard Level	SuDS Feature	SuDS mitigation index					
			Total suspended solids (TSS)		Metals		Hydrocarbons	
			SuDS Mitigation Index *[Target]*	Pass / Fail	SuDS Mitigation Index [*Target*]	Pass / Fail	SuDS Mitigation Index [*Target*]	Pass / Fail
Equipment	Low	Filter Drain + Detention Basin + Water Quality Device	0.4 + (0.5x0.5) + (0.5x0.3) = 0.8 *[0.3]*	P	0.4 + (0.5x0.5) + (0.5x0.2) = 0.75 *[0.2]*	P	0.4 + (0.5x0.6) + (0.5x0.2) = 0.8 *[0.05]*	P
Internal Access Roads	Low	Filter Drain + Detention Basin + Water Quality Device	0.4 + (0.5x0.5) + (0.5x0.3) = 0.8 *[0.5]*	P	0.4 + (0.5x0.5) + (0.5x0.2) = 0.75 [0.2]	P	0.4 + (0.5x0.6) + (0.5x0.2) = 0.8 *[0.4]*	P

4.16. With reference to Table D above it can be seen that the total pollution mitigation equals or exceeds the pollution hazard index (for each contaminant type) for the proposed land uses and so the proposed surface water drainage scheme delivers adequate water quality treatment.

4.17. The embedded design mitigation measures in the form of the design of the surface water drainage scheme incorporating SuDS Features (filter drains and detention basins) and a supplementary water quality devices would intercept potential contaminates (sediments, hydrocarbons etc) and provide a level of treatment (such as adsorption[1] and bioremediation[2] within the topsoil/filter media and/or UV action) which would safeguard the quality of surface water discharging from the Substation and BESS Compound to the adjacent drainage ditches and indirectly to the underlying aquifer.

4.18. In addition to the design mitigation measures described above operational controls to monitor for, prevent, and manage spills and leaks within the Substation and BESS Compound will be set out in the updated outline OEMP recommending additional detailed controls in a Site Maintenance Plan and a detailed OEMP will be secured by a DCO requirement.

4.19. The combined effect of embedded design mitigation measures and operational controls reduce the potential risk of contamination from the day to day operation of the Substation and BESS Compound on the quality of surface water runoff and indirect risk to underlying groundwater to an acceptable level.

[1] Adsorption is the process of the adherence of gas, liquids or dissolved solids to the surface of solids (such as clay particles within the soil).

[2] Bioremediation is the treatment processes that use microorganisms (usually naturally occurring) such as bacteria, yeast, or fungi to break down hazardous substances and pollutants.

5. RESIDUAL FLOOD RISK (ISH1 ACTION POINT 9)

5.1. The Environment Agency has queried the effect of the failure of the panel tracking system, resulting in a significant portion of the panels being stuck in the downward position and the flood risk implications of this situation.

5.2. The PV solar arrays have been designed to be resistant and resilient to flood waters in the fluvial and tidal design flood events. During times of elevated tidal and fluvial flood risk, and when an Environment Agency flood alert is issued, the solar arrays within the areas of elevated flood risk would be rotated to the horizontal position ('the stow position') to ensure the solar panels are raised above the flood level. This action would be performed remotely and no operatives would be required onsite during periods of elevated flood risk.

5.3. It is proposed to provide a minimum of a 0.3m freeboard between the fluvial 'design flood' level and the stow position of the solar arrays or set the stow position above the fluvial 'credible maximum scenario sensitivity test' level, whichever is greater.

5.4. With respect to the rotation of solar panels paragraph 3.3 of the FRA [APP-232] states:

> *'The lower edge of the panels would be up to 0.9m above ground level at the maximum rotation and the horizontal stow position would be approximately 2m above ground level.'*

5.5. This is consistent with ES Figure 3.4 - Solar PV Panel Elevations [APP-041]. Design parameters associated with the equipment are specified in Table 3.2 ES Chapter 3 [APP-023].

5.6. The risk of the failure of the panel tracking system should be considered a residual risk in the fluvial 'design flood'. Due to the dimensions of the solar arrays the effect of the failure of the rotating mechanism on flood flows would only occur in areas of the site affected by flood depths >0.9m in the fluvial 'design flood'.

5.7. The modelled flood depths during the fluvial 'design flood' are presented on Drawing No. E216/153 contained in **Appendix E**.

5.8. The extents of the fluvial 'design flood' where the modelled flood depth is >0.9m across the site are set out on Drawing No. E216/155 contained in **Appendix F**. Inspection of this drawing indicates that only a very small areas of the site area is affected by flood depths >0.9m associated with one isolated low spot in the northwest corner of Field Number 42. The indicative design shows this area where modelled flood depths >0.9m in the fluvial 'design flood' is crossed by an access track and security fence and no solar arrays extend into this area.

5.9. The indicative design demonstrates the Proposed Development can be designed to avoid solar arrays in the low lying areas of Field 42. No areas of the site where solar arrays are proposed in the indicative design are affected by flood depths >0.9m (the minimum height of the solar array above ground at full rotation) in the fluvial 'design flood'. Therefore there is no risk of failure of the panel tracking system resulting in a significant portion of the panels being stuck in the downward position affecting flood flows (as the panels even at full rotation the solar panels are above the fluvial 'design flood' depth). The design of the Proposed Development ensures it can remain operational and safe during the fluvial 'design flood'.

5.10. The design of the solar arrays would provide a high level of design resilience in both the fluvial 'design flood' and the fluvial 'credible maximum climate change scenario' flood event.

5.11. It should be noted that regular maintenance of the solar arrays would reduce the risk of failure of the rotating mechanism. Regular maintenance of equipment in areas of elevated flood risk could be set out in the OEMP secured by a DCO Requirement.

6. USE OF INTERCEPTION SWALES (ISH1 ACTION POINT 11)

6.1. It is generally accepted that solar farm developments have a minimal effect on runoff rates as long as vegetation is maintained under and around the solar panels. The area of the Site where a solar farm development is located remains a predominately grassed field with discrete control equipment distributed across its area.

6.2. Nonetheless, interception swales are provided as part of the Proposed Development to intercept runoff, 'slow the flow' and provide flood risk betterment in accordance with industry best practice.

6.3. The purpose of the interception swales is simply to intercept runoff and encourage depression storage within the feature during the extreme storm event, promoting interception losses by infiltration or evapotranspiration and providing runoff pathway management and are practical implementation of Natural Flood Risk Management ('NFM').

6.4. The interception swales are proposed around the perimeter and at low points of the Site as a series of discrete 'stepped' units parallel to the Site's contours and perpendicular to the slope to ensure flows are not concentrated or conveyed downhill.

6.5. Interception swales are typically formed by creating shallow depressions a minimum of 0.2m deep, with 1 in 3 side slopes, and a base width of 0.5m along the lower boundaries of the Site. A typical detail is set out below **Figure 1** below.

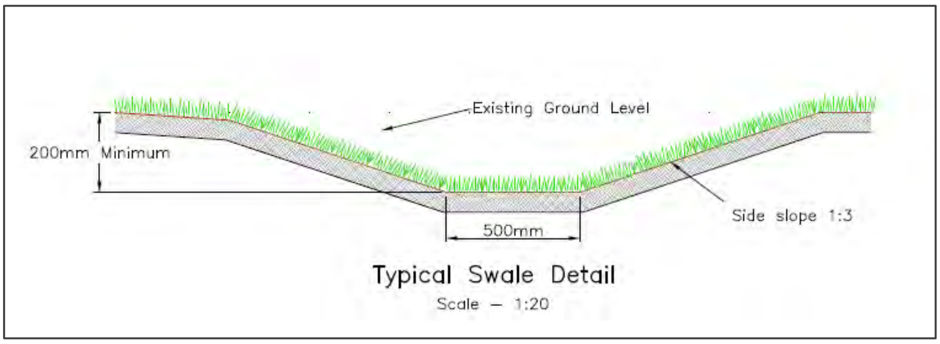


Figure 6.1: Typical Interception Swale Detail

6.6. Inspection of this detail indicates the proposed interception swales are designed to be entirely within 'cut' and therefore would not be a barrier to overland flows during the fluvial 'design flood'.

6.7. The interception swales would be located outside of any Root Protection Zones, would not be located within 7m of any ordinary watercourses or drainage ditches in accordance with local bye-laws.

6.8. On this basis, the Proposed Development would not increase flood risk onsite or elsewhere and would preserve the Site's natural drainage regime; and is considered a proportionate approach to surface water management on a rural solar farm development and would restore and enhance natural hydrological processes to 'slow the flow', create a significant amount of onsite depression storage providing a benefit in reducing overland flows during extreme rainfall events.

6.9. Further details of the proposed interception swales proposed in the Solar Farm Zone are set out in the FRA [APP-232].

7. DOCUMENTS UPDATE

7.1. For completeness the following updates to the FRA are proposed to address Environment Agency comments. The list below also contains previous commitments made in response to the Environment Agency's Relevant Representation.

- Update design mitigation in FRA to state *'Finished floor levels of any ancillary control equipment in the Solar Farm Zone, including Invertor Station, and in Substation and BESS Compound will be raised at least +0.3m above the fluvial 'design flood' level, and would be above the fluvial 'credible maximum scenario sensitivity test' flood level. The equipment would be at least +0.3m (and up to +0.6m) above existing ground level.'.*
- Update FRA to include assessment of volume of floodwaters displaced by PV panel/array supports as per Section 3 of this Technical Note.
- Update FRA to reference the supplementary water quality device, Drawing No. E216/88 Rev D and supplementary water quality assessment as per Section 4 of this Technical Note.
- Update the wording of the FRA to clarify the proposal for a remotely controlled and automated penstock which utilises telemetry on the outfall of the Attenuation Basins within the Substation and BESS compound as illustrated on Drawing No. E216/88 Rev D.
- Update the wording of the FRA to clarify the impermeable liner within the Substation and BESS compound would be installed below the filter drains and porous sub-base and that any joints in the impermeable liner would be appropriately sealed to prevent leakage to ground.
- Update FRA to include assessment of the residual flood risk in the fluvial 'design flood' as a result of the failure of the panel tracking system as per Section 5 of this Technical Note.
- Update definition of groundwater source protection zones in Paragraph 3.44 of the FRA.
- Update Appendix 10 to reference the latest version of the Hydraulic Model Technical Note (June 2024) produced by Aegaea.

7.2. The remaining water environment action points relate to updates to control documents and how mitigation measures are secured within the DCO and as such these matters are addressed in other documents.

8. SUMMARY

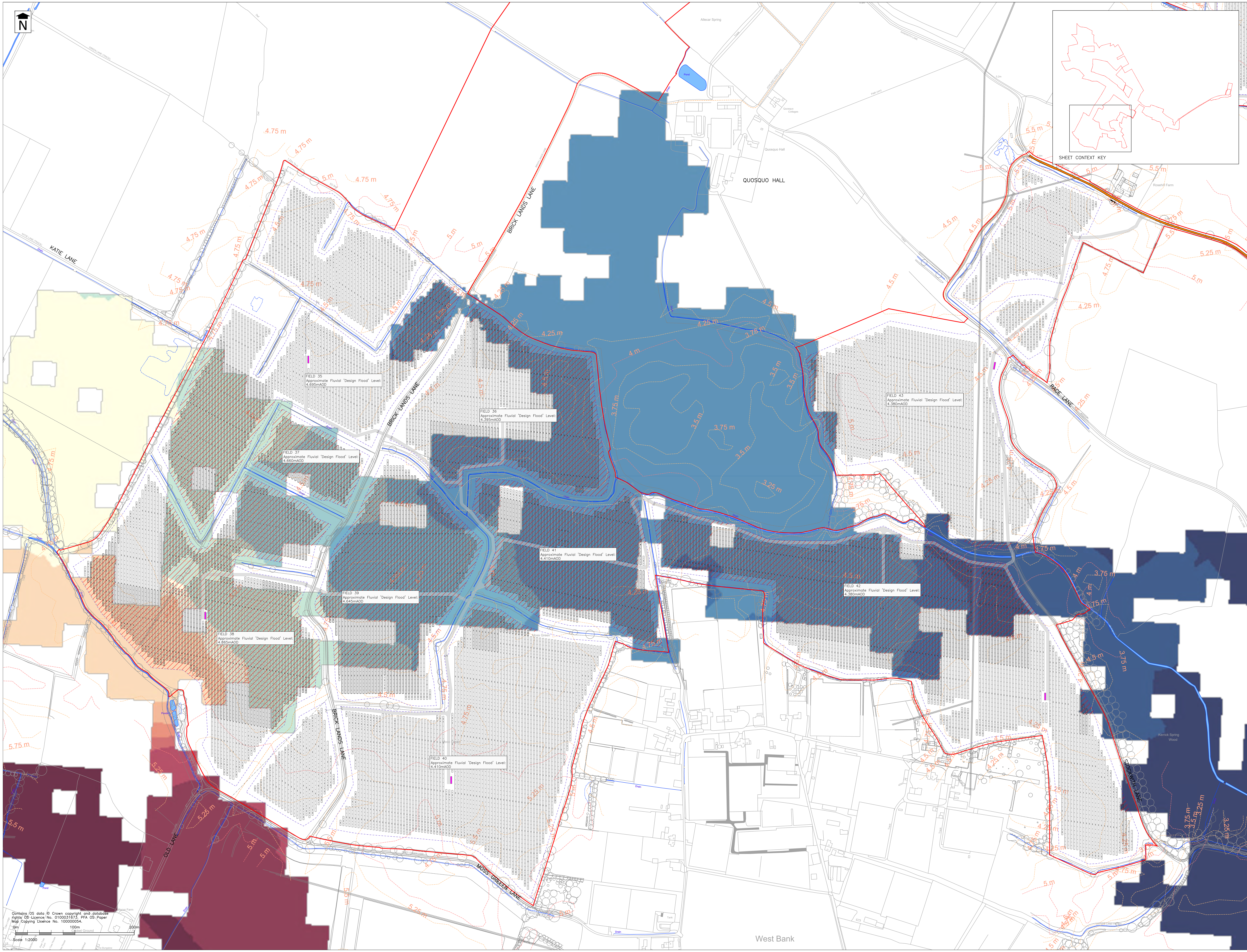
8.1. The supplementary assessment provided above addresses the requests for additional assessment made by the Environment Agency at ISH1.

8.2. The supplementary assessment provides additional comfort that that conclusions of the FRA are robust and the subject to implementation of the embedded design mitigation measures the Proposed Development would not increase flood risk elsewhere and would reduce flood risk overall and would safeguard the quality of groundwater and surface waters.

8.3. Subject to the Environment Agency's comments on the supplementary assessment the FRA would be updated as per the approach set out in Section 7 above. One comprehensive update to the FRA is recommended to avoid a piecemeal approach and it is recommended this can be swept up in submissions as part of future deadlines.

Appendices

Appendix A



PFA consulting

Stratton Park House, Wanborough Road
Swindon, SN3 4HG

Telephone
01793 828000

Website
www.pfaplc.com

For Planning
This drawing is produced for the purposes of supporting a planning application and should not be relied upon for tender, pricing, or construction purposes.

NOTES

1. Site Boundary based upon Order Limits Location Plan, Enso Energy Drawing No. DX–01–P01 Rev 11, dated 15/02/24.
2. Drawing based upon Indicative Design, Enso Energy Drawing No. DX–01–P47 Rev 08, dated 15/04/24.
3. Flood risk data based on the results from the site–specific flood model produced by Aegaea. Details contained in Hydraulic Model Technical Note (Document Ref: AEG0851_Y08_EnsoEnergy_03 Rev B dated 25/06/24.
4. Drawing should be read in conjunction with Flood Risk Assessment produced by PFA Consulting (Document Ref: E216–DOC01–FRA–Issue 1, June 2024) and Water Environment Supplementary Assessment produced by PFA Consulting (Document Ref: E216–DOC02–Issue 1, January 2024)
5. Contains public sector information licensed under the Open Government Licence v3.0.
6. Contains OS data © Crown copyright and database right 2022
7. Contains third party information.
8. Minimum equipment levels subject to detailed design and will be informed by the Environment Agency approved site–specific flood model produced by Aegaea.
9. Minimum equipment levels rounded to nearest 0.005m.

Key

- Site Boundary
- Solar Farm Zone
- Watercourse
- Contours
- Operational Area of the Site affected by Fluvial 'Design Flood' 356,963.50 m^2 / 35.696 Ha

Modelled Flood Levels (mAOD)
Fluvial 'Design Flood'
1% AEP (1 in 100 RP) Fluvial Defended
+ Climate Change (Higher Central)

Ref: AEG0851_ENSO_BAS_SCENA_Q0100_CC_HIGHER_051_h_Max–CLIPPED

- 4.10 – 4.20
- 4.20 – 4.30
- 4.30 – 4.40
- 4.40 – 4.50
- 4.50 – 4.60
- 4.60 – 4.70
- 4.70 – 4.80
- 4.80 – 4.90
- 4.90 – 5.00
- 5.00 – 5.10
- 5.10 – 5.20
- 5.20 – 5.40
- 5.40 – 5.50

Rev	Date	Description	Drawn	Check
#	20/12/24	First Issue.	BF	MWS

Status
FOR PLANNING

Client
Enso Green Holdings D Ltd

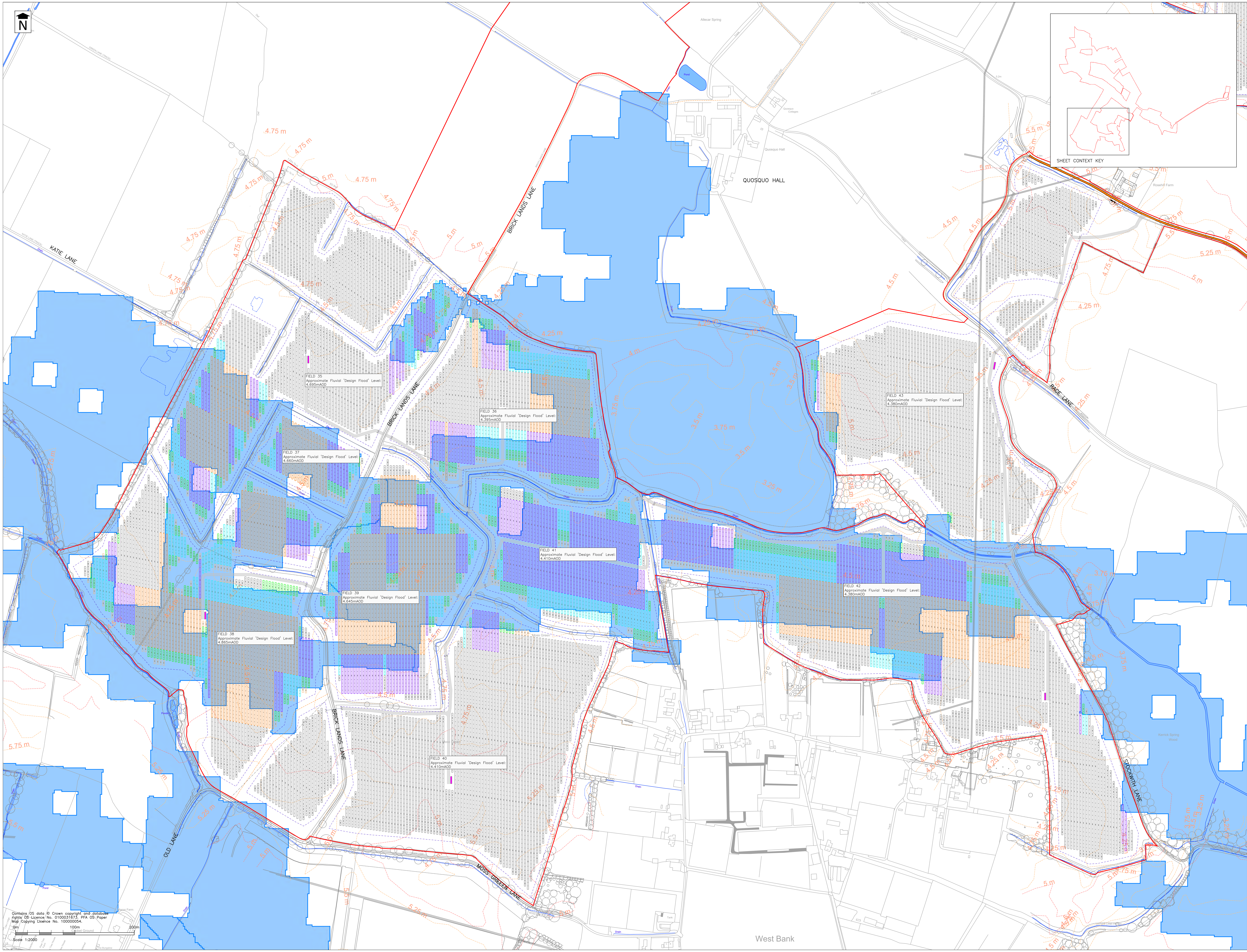
Project
Helios Renewable Energy Project

Drawing Title
Preliminary Solar Array Support Flood Volume Displacement Assessment Flood Extents

Drawing No. **E216/164**

Date: December 2024 Scale: 1:2000 @ A0
E-Mail: bfox@pfaplc.com

Appendix B



PFA consulting

Stratton Park House, Wanborough Road
Swindon, SN3 4HG

Telephone
01793 828000

Website
www.pfaplc.com

For Planning
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NOTES

1. Site Boundary based upon Order Limits Location Plan, Enso Energy Drawing No. DX–01–P01 Rev 11, dated 15/02/24.
2. Drawing based upon Indicative Design, Enso Energy Drawing No. DX–01–P47 Rev 08, dated 15/04/24.
3. Flood risk data based on the results from the site–specific flood model produced by Aegaea. Details contained in Hydraulic Model Technical Note (Document Ref: AEG0851_Y08_EnsoEnergy_03 Rev B dated 25/06/24.
4. Drawing should be read in conjunction with Flood Risk Assessment produced by PFA Consulting (Document Ref: E216–DOC01–FRA–Issue 1, June 2024) and Water Environment Supplementary Assessment produced by PFA Consulting (Document Ref: E216–DOC02–Issue 1, January 2024)
5. Contains public sector information licensed under the Open Government Licence v3.0.
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7. Contains third party information.
8. Minimum equipment levels subject to detailed design and will be informed by the Environment Agency approved site–specific flood model produced by Aegaea.
9. Minimum equipment levels rounded to nearest 0.005m.

Key

Site Boundary
Solar Farm Zone
Watercourse
Contours

FLUVIAL DESIGN FLOOD EXTENTS

1% AEP (1 in 100 RP) Fluvial Defended + Climate Change (Higher Central)

Ref: AEG0851_ENSO_BAS_SCENA_Q0100_CC_HIGHER_051_h_Max–CLIPPED

SOLAR ARRAYS AFFECTED BY FLUVIAL DESIGN FLOOD

1P6@55DEG F TR ID1 PVBlock
1P12@55DEG F TR ID2 PVBlock
1P27@55DEG F TR ID4 PVBlock
1P54@55DEG F TR ID4 PVBlock
1P81@55DEG F TR ID4 PVBlock

Rev	Date	Description	Drawn	Check
#	20/12/24	First Issue.	BF	MWS

Status
FOR PLANNING

Client
Enso Green Holdings D Ltd

Project
Helios Renewable Energy Project

Drawing Title
Preliminary Solar Array Support Flood Volume Displacement Assessment Array Assessment

Drawing No. **E216/165**

Date: December 2024 | Scale: 1:2000 @ A0

E-Mail: bfox@pfaplc.com

Appendix C

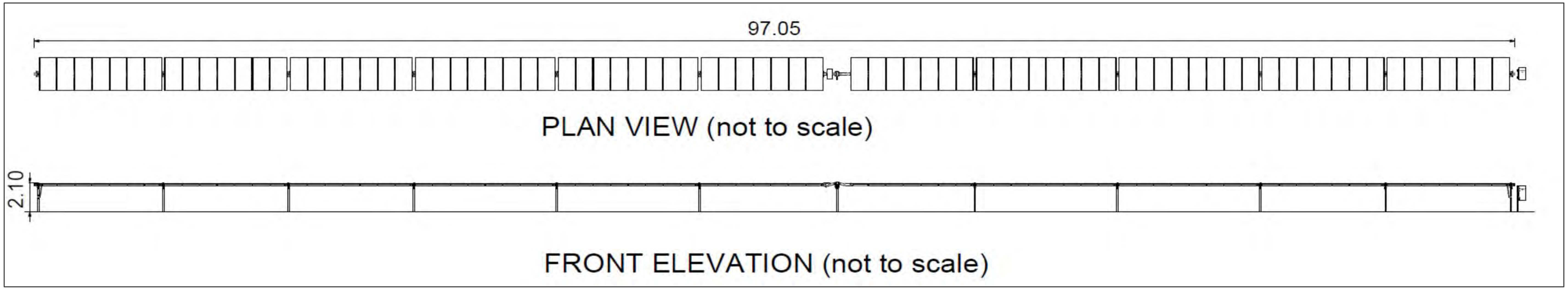
E216: Helios Renewable Energy Project

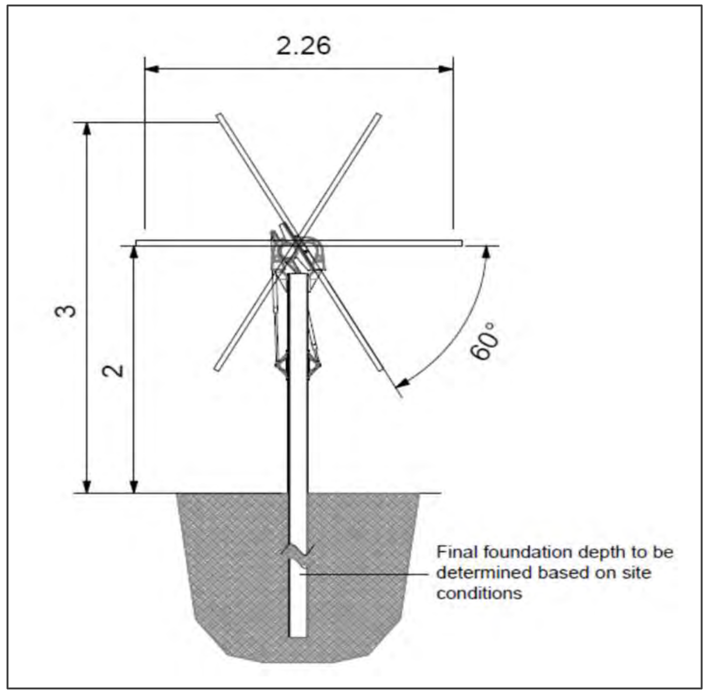
Preliminary Solar Array Flood Volume Displacement

Date:	23.12.24	
Layout Ref:	Figure 3.3 Indicative Design Drawing No. DX-01-P47 Rev08 Dated 15/04/2024	
Notes:		
Calculations to be read in conjunction with:	Water Environment Supplementary Assessment Ref: E216-DOC02-DRAFT 1 Drawing Nos:	
	E216/164	Preliminary Solar Array Support Flood Displacement Assessment - Flood Extents
	E216/165	Preliminary Solar Array Support Flood Displacement Assessment - Array Assessment

Assumptions

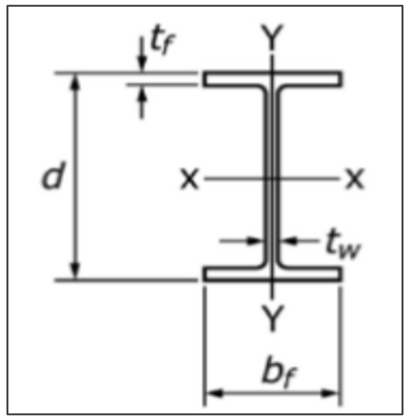
Typical Detail for Solar Array
PV Elevations Drawing No. DX-01-P03 Rev 01 dated 09/01/2024
Extracts below

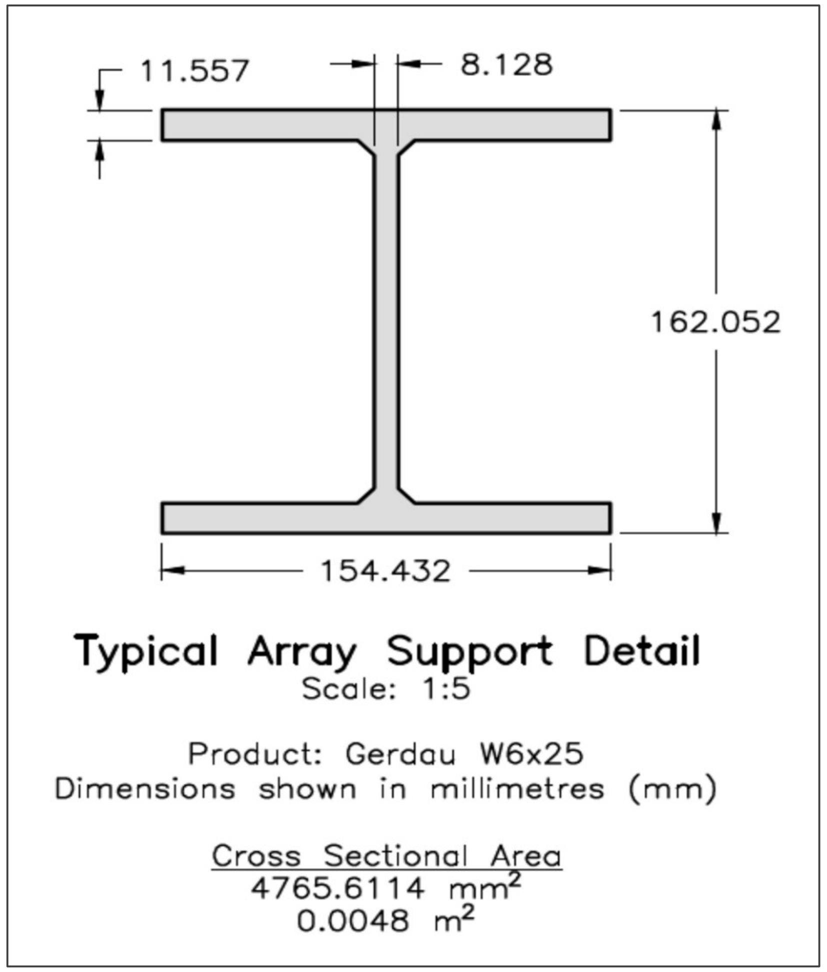




Typical Detail for Array Supports
Supplier: Gerdau
Details: Subject to detailed design
Multiple pile sizes between W6x7 and W6x25. Most of the standard posts will be W6x7, increasing up to W6x9 for edge trackers. Posts at the motor of each tracker will be higher from W6x15 to W6x25
As a precaution W6x25 utilised in calculation (largest cross sectional area)
Typical cross section below (Note: table based on manufacturers specification in square inches(

Shape Depth x Linear Weight	Dimensions: Cross-Section Area (A) in.²	Depth (d) in.	Flange: Width (b_f) in.	Flange: Thickness (t_f) in.	Web Thickness (t_w) in.	Surface Area, in²/ft
W6x7*	2.07	5.79	3.905	0.160	0.135	316.98
W6x7.75*	2.29	5.82	3.921	0.177	0.151	318.18
W6x8.5	2.52	5.83	3.940	0.195	0.170	318.78
W6x9	2.68	5.90	3.940	0.215	0.170	320.46
W6x10.4*	3.13	5.96	3.970	0.247	0.200	322.72
W6x12	3.55	6.03	4.000	0.280	0.230	325.02
W6x15	4.43	5.99	5.990	0.260	0.230	419.58
W6x16	4.74	6.28	4.030	0.405	0.260	331.74
W6x20	5.87	6.20	6.020	0.365	0.260	425.34
W6x25	7.34	6.38	6.080	0.455	0.320	431.10





Vertical Array Support Cross-Sectional Area	0.0048	m2
Vertical Pile Volume per 0.2m slice	0.00096	m3

Solar Array Reference	No. of supports/posts per array
1P6@55DEG F TR ID1 PVBlock	3
1P12@55DEG F TR ID2 PVBlock	3
1P14@55DEG F TR ID1 PVBlock	N/A
1P27@55DEG F TR ID4 PVBlock	6
1P54@55DEG F TR ID4 PVBlock	9
1P81@55DEG F TR ID4 PVBlock	12

Field 35		
Max Fluvial 'Design Flood' Level	4.695	mAOD
Lowest Ground Level	4.163	mAOD
Max Flood Depth	0.532	m

Array Type	Number of Arrays	Number of Supports
1P6@55DEG F TR ID1 PVBlock	32	96
1P12@55DEG F TR ID2 PVBlock	39	117
1P27@55DEG F TR ID4 PVBlock	34	204
1P54@55DEG F TR ID4 PVBlock	29	261
1P81@55DEG F TR ID4 PVBlock	27	324
	Total	1002

Calculation Slice Meters Above Ground Level (0.2m increments) (m)	Calculation Slice Height Above Ground Level (0.2m increments) (mAOD)	Number of Supports	Volume of Floodwaters Displaced per 0.2m Slice (m3)
0.0 - 0.2	4.1-4.3	1002	0.962
0.2 - 0.4	4.3-4.5	1002	0.962
0.4 - 0.6	4.5-4.7	1002	0.962
		Total Volume of Floodwaters Displaced (m3)	2.89

Field 36		
Max Fluvial 'Design Flood' Level	4.395	mAOD
Lowest Ground Level	3.744	mAOD
Max Flood Depth	0.651	m

Array Type	Number of Arrays	Number of Supports
1P6@55DEG F TR ID1 PVBlock	30	90
1P12@55DEG F TR ID2 PVBlock	50	150
1P27@55DEG F TR ID4 PVBlock	42	252
1P54@55DEG F TR ID4 PVBlock	46	414
1P81@55DEG F TR ID4 PVBlock	23	276
	Total	1182

Calculation Slice Meters Above Ground Level (0.2m increments) (m)	Calculation Slice Height Above Ground Level (0.2m increments) (mAOD)	Number of Supports	Volume of Floodwaters Displaced per 0.2m Slice (m3)
0.0 - 0.2	3.7-3.9	1182	1.135
0.2 - 0.4	3.9-4.1	1182	1.135
0.4 - 0.6	4.1-4.3	1182	1.135
0.6-0.8	4.3-4.5	1182	1.135
		Total Volume of Floodwaters Displaced (m3)	4.54

Field 37		
Max Fluvial 'Design Flood' Level	4.660	mAOD
Lowest Ground Level	4.284	mAOD
Max Flood Depth	0.376	m

Array Type	Number of Arrays	Number of Supports
1P6@55DEG F TR ID1 PVBlock	24	72
1P12@55DEG F TR ID2 PVBlock	13	39
1P27@55DEG F TR ID4 PVBlock	5	30
1P54@55DEG F TR ID4 PVBlock	9	81
1P81@55DEG F TR ID4 PVBlock	15	180
	Total	402

Calculation Slice Meters Above Ground Level (0.2m increments) (m)	Calculation Slice Height Above Ground Level (0.2m increments) (mAOD)	Number of Supports	Volume of Floodwaters Displaced per 0.2m Slice (m3)
0.0 - 0.2	4.1-4.3	402	0.386
0.2 - 0.4	4.3-4.5	402	0.386
0.4 - 0.6	4.5-4.7	402	0.386
		Total Volume of Floodwaters Displaced (m3)	1.16

Field 38		
Max Fluvial 'Design Flood' Level	4.865	mAOD
Lowest Ground Level	4.303	mAOD
Max Flood Depth	0.562	m

Array Type	Number of Arrays	Number of Supports
1P6@55DEG F TR ID1 PVBlock	63	189
1P12@55DEG F TR ID2 PVBlock	79	237
1P27@55DEG F TR ID4 PVBlock	78	468
1P54@55DEG F TR ID4 PVBlock	30	270
1P81@55DEG F TR ID4 PVBlock	91	1092
	Total	2256

Calculation Slice Meters Above Ground Level (0.2m increments) (m)	Calculation Slice Height Above Ground Level (0.2m increments) (mAOD)	Number of Supports	Volume of Floodwaters Displaced per 0.2m Slice (m3)
0.0 - 0.2	4.3-4.5	2256	2.166
0.2 - 0.4	4.5-4.7	2256	2.166
0.4 - 0.6	4.7-4.9	2256	2.166
		Total Volume of Floodwaters Displaced (m3)	6.50

Field 39		
Max Fluvial 'Design Flood' Level	4.645	mAOD
Lowest Ground Level	4.198	mAOD
Max Flood Depth	0.447	m

Array Type	Number of Arrays	Number of Supports
1P6@55DEG F TR ID1 PVBlock	26	78
1P12@55DEG F TR ID2 PVBlock	32	96
1P27@55DEG F TR ID4 PVBlock	23	138
1P54@55DEG F TR ID4 PVBlock	48	432
1P81@55DEG F TR ID4 PVBlock	72	864
	Total	1608

Calculation Slice Meters Above Ground Level (0.2m increments) (m)	Calculation Slice Height Above Ground Level (0.2m increments) (mAOD)	Number of Supports	Volume of Floodwaters Displaced per 0.2m Slice (m3)
0.0 - 0.2	4.1-4.3	1608	1.544
0.2 - 0.4	4.3-4.5	1608	1.544
0.4 - 0.6	4.5-4.7	1608	1.544
		Total Volume of Floodwaters Displaced (m3)	4.63

Field 40		
Max Fluvial 'Design Flood' Level	4.410	mAOD
Lowest Ground Level	4.236	mAOD
Max Flood Depth	0.174	m

Array Type	Number of Arrays	Number of Supports
1P6@55DEG F TR ID1 PVBlock	8	24
1P12@55DEG F TR ID2 PVBlock	6	18
1P27@55DEG F TR ID4 PVBlock	1	6
1P54@55DEG F TR ID4 PVBlock	9	81
1P81@55DEG F TR ID4 PVBlock	0	0
	Total	129

Calculation Slice Meters Above Ground Level (0.2m increments) (m)	Calculation Slice Height Above Ground Level (0.2m increments) (mAOD)	Number of Supports	Volume of Floodwaters Displaced per 0.2m Slice (m3)
0.0 - 0.2	4.1-4.3	129	0.124
0.2 - 0.4	4.3-4.5	129	0.124
		Total Volume of Floodwaters Displaced (m3)	0.25

Field 41		
Max Fluvial 'Design Flood' Level	4.410	mAOD
Lowest Ground Level	3.985	mAOD
Max Flood Depth	0.425	m

Array Type	Number of Arrays	Number of Supports
1P6@55DEG F TR ID1 PVBlock	26	78
1P12@55DEG F TR ID2 PVBlock	44	132
1P27@55DEG F TR ID4 PVBlock	58	348
1P54@55DEG F TR ID4 PVBlock	94	846
1P81@55DEG F TR ID4 PVBlock	0	0
	Total	1404

Calculation Slice Meters Above Ground Level (0.2m increments) (m)	Calculation Slice Height Above Ground Level (0.2m increments) (mAOD)	Number of Supports	Volume of Floodwaters Displaced per 0.2m Slice (m3)
0.0 - 0.2	3.9-4.1	1404	1.348
0.2 - 0.4	4.1-4.3	1404	1.348
0.4 - 0.6	4.3-4.5	1404	1.348
0.6 - 0.8	4.5-4.7	1404	1.348
		Total Volume of Floodwaters Displaced (m3)	5.39

Field 42		
Max Fluvial 'Design Flood' Level	4.380	mAOD
Lowest Ground Level	3.923	mAOD
Max Flood Depth	0.457	m

Array Type	Number of Arrays	Number of Supports
1P6@55DEG F TR ID1 PVBlock	79	237
1P12@55DEG F TR ID2 PVBlock	75	225
1P27@55DEG F TR ID4 PVBlock	69	414
1P54@55DEG F TR ID4 PVBlock	77	693
1P81@55DEG F TR ID4 PVBlock	79	948
	Total	2517

Calculation Slice Meters Above Ground Level (0.2m increments) (m)	Calculation Slice Height Above Ground Level (0.2m increments) (mAOD)	Number of Supports	Volume of Floodwaters Displaced per 0.2m Slice (m3)
0.0 - 0.2	3.9-4.1	2517	2.416
0.2 - 0.4	4.1-4.3	2517	2.416
0.4 - 0.6	4.3-4.5	2517	2.416
		Total Volume of Floodwaters Displaced (m3)	7.25

Field 43		
Max Fluvial 'Design Flood' Level	4.380	mAOD
Lowest Ground Level	4.332	mAOD
Max Flood Depth	0.048	m

Array Type	Number of Arrays	Number of Supports
1P6@55DEG F TR ID1 PVBlock	3	9
1P12@55DEG F TR ID2 PVBlock	7	21
1P27@55DEG F TR ID4 PVBlock	3	18
1P54@55DEG F TR ID4 PVBlock	1	9
1P81@55DEG F TR ID4 PVBlock	5	60
	Total	117

Calculation Slice Meters Above Ground Level (0.2m increments) (m)	Calculation Slice Height Above Ground Level (0.2m increments) (mAOD)	Number of Supports	Volume of Floodwaters Displaced per 0.2m Slice (m3)
0.0 - 0.2	4.3-4.5	117	0.112
		Total Volume of Floodwaters Displaced (m3)	0.11

Check number of Solar Arrays in flood risk area

Array Type	Number of Arrays in Calculations	Number of Arrays from AutoCAD
1P6@55DEG F TR ID1 PVBlock	291	291
1P12@55DEG F TR ID2 PVBlock	345	345
1P27@55DEG F TR ID4 PVBlock	313	313
1P54@55DEG F TR ID4 PVBlock	343	343
1P81@55DEG F TR ID4 PVBlock	312	312
Total	1604	1604

Check for Total Flood Volume Displaced

	Volume of Floodwaters Displaced per Field (m3)
Field 35	2.886
Field 36	4.539
Field 37	1.158
Field 38	6.497
Field 39	4.631
Field 40	0.248
Field 41	5.391
Field 42	7.249
Field 43	0.112
Total	32.711

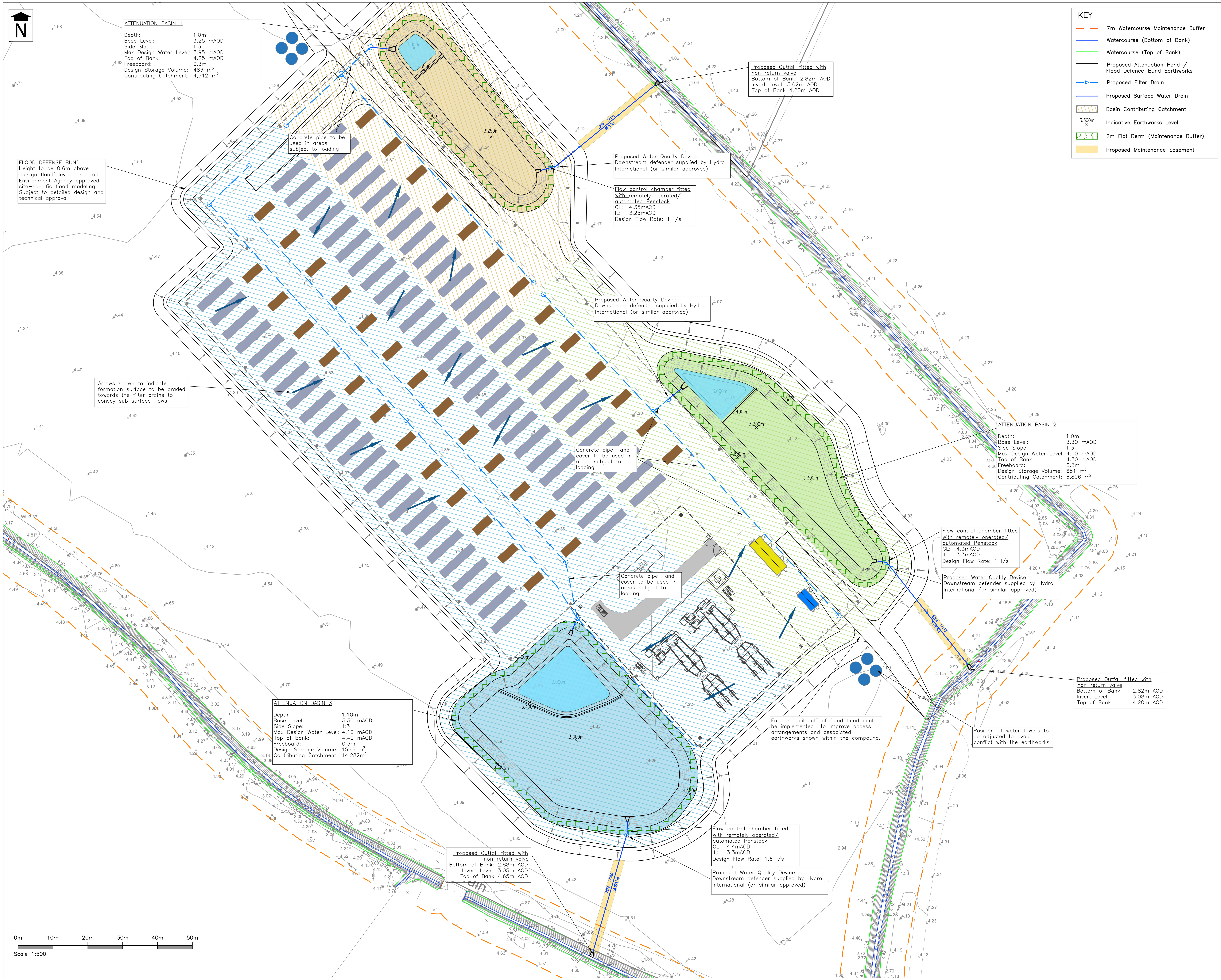
Summary	
Calculation Slice Height Above Ground Level (0.2m increments) (mAOD)	**Flood Volume Displaced (m3)**
3.7-3.9	1.135
3.9-4.1	4.899
4.1-4.3	7.914
4.3-4.5	10.192
4.5-4.7	6.405
4.7-4.9	2.166
Total	**32.711**

Operational area of the site affected by the fluvial design flood	
356963.50	m2
35.696	Ha

Note: Operational area = area within security fence

Change in flood level in operational area of the site (m)	
Flood Depth (m) = Flood Volume Displaced (m3) / Operational area of the site affected by the fluvial design flood (m2)	
0.00009164	m
0.09	mm

Appendix D



PFA consulting

Stratton Park House, Wanborough Road
Swindon, SN3 4HG

Telephone
01793 828000

Website
www.pfaplc.com

For Planning
This drawing is produced for the purposes of supporting a planning application and should not be relied upon for tender, pricing, or construction purposes.

NOTES

1. Drawing based on Substation/BESS Block Plan, produced by Enso Energy, Drawing No. DX-01-P42, (Dated 01/02/24).
2. Drawing based on Topographical Survey, produced by Storm Geomatics, Drawing Nos. 851/15 and 851/16 (Dated: 09/10/2023)
3. Surface water drainage for the BESS area subject to detailed design and technical approval.
4. Basins shown with indicative 300mm deep sediment forebays with a 100mm bund above the base of the feature.
7. Drawing to be read in conjunction with Flood Risk Assessment (including drainage strategy), Document Reference: E216-DOC01-FRA.
8. Greenfield Runoff Rate for the entire compound contributing catchments (~2.600ha);
   Q_{BAR}: 4.1 l/s
   Q_{1}: 3.6 l/s
   Q_{100}: 8.6 l/s
9. Selby Area IDB runoff rate restriction 1.4 l/s/ha or 3.6 l/s.
10. BESS compound, including areas under Attenuation Basins, to be lined with an impermeable liner to prevent the formation of a pathway between the surface and underlying aquifer.

Rev	Date	Description	Drawn	Check
#	09/06/23	First Issue.	IS	SM
A	13/02/23	Updated in accordance with latest layout and updated drainage strategy	DAB	BF
B	03/04/24	Penstock valve details amended. Note 10 revised to confirm impermeable liner extending under Attenuation Basins.	SAM	SAM
C	06/06/24	Flood defence bund updated to reflect site-specific flood modelling.	BF	SAM
D	02/01/25	Water quality devices incorporated into design as a precautionary fail safe measure.	IS	BF

Status

FOR PLANNING

Client

Enso Green Holdings D Ltd

Project

Helios Renewable Energy Project

Drawing Title

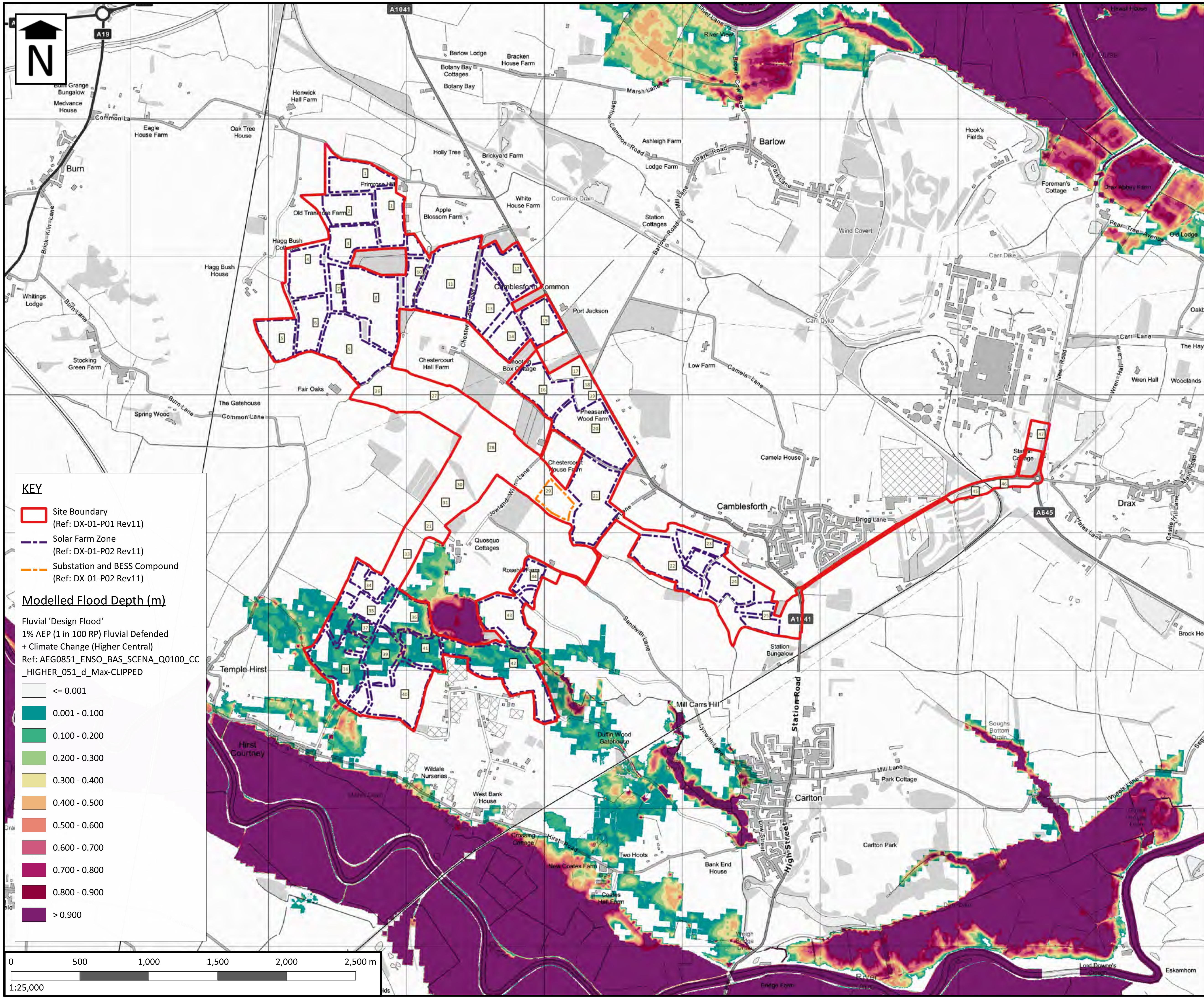
BESS and Substation Preliminary Drainage Strategy

Drawing No. **E216/88** Rev D

Date: May 2023 Scale: 1:500 @ A1

E-Mail: istevenson@pfaplc.com

Appendix E



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Swindon, SN3 4HG

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NOTES

1. Drawing is based upon Order Limits Location Plan, Enso Energy Drawing No. DX-01-P01 Rev11 dated 15/02/2024.

2. Drawing is based upon Parameter Plan, Enso Energy Drawing No. DX-01-P02 Rev 11 dated 15/04/2024.

3. Field Numbers based upon Field Boundaries Plan, Enso Energy Drawing No. DX-01-P44 Rev 04 dated 15/04/2024.

4. Flood risk data based on the results from the site-specific flood model produced by Aegaea. Details contained in Hydraulic Model Technical Note (Document Ref: AEG0851_YO8_EnsoEnergy_03 Rev A dated 16/05/2024).

5. Drawing should be read in conjunction with Flood Risk Assessment produced by PFA Consulting (Document Ref: E216-DOC01-FRA-Issue 1, June 2024).

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Rev	Date	Description	Drawn	Check
#	04.06.24	First issue.	BF	SAM

Status
FOR PLANNING

Client
Enso Green Holdings D Limited

Project
Helios Renweable Energy Project

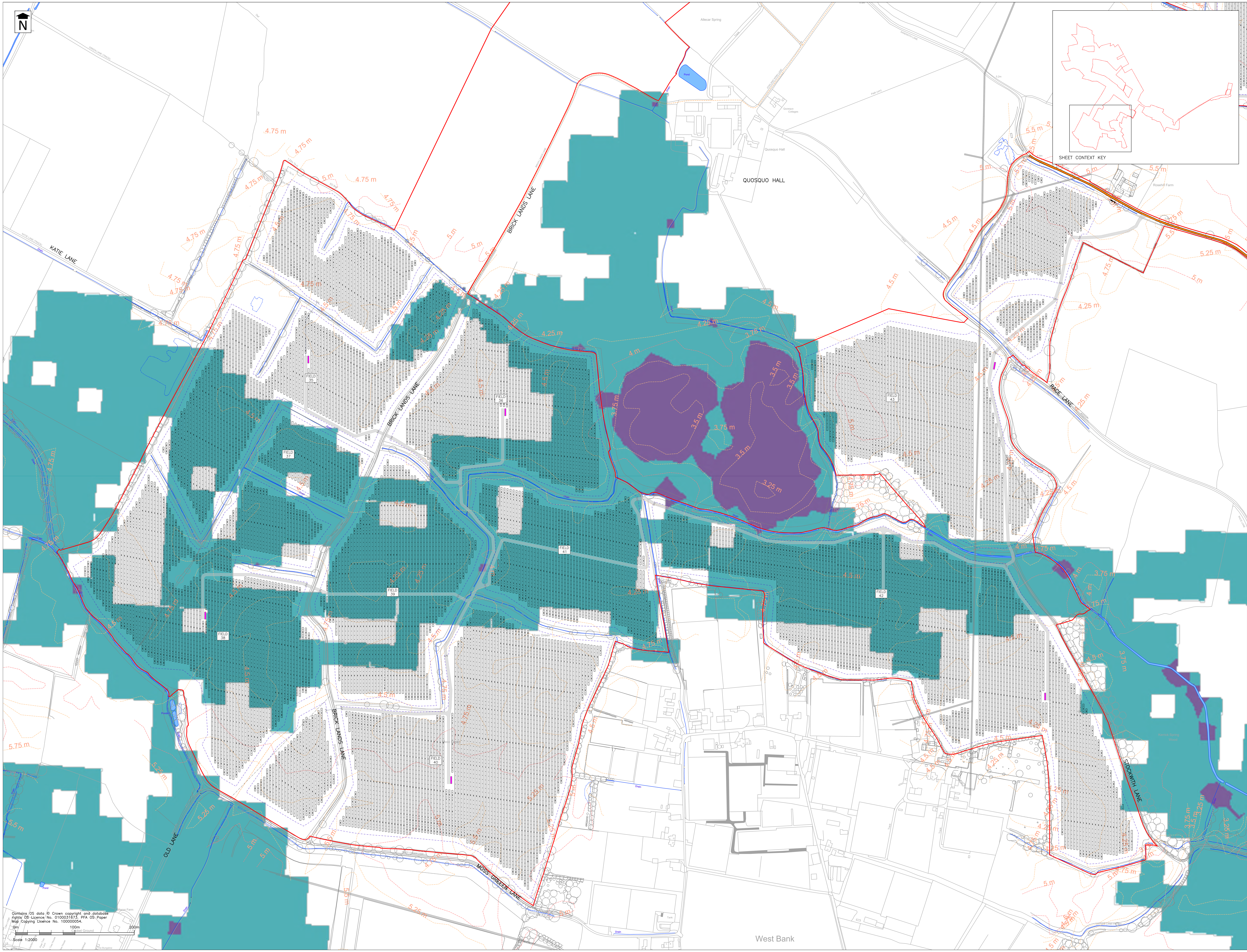
Drawing Title
Fluvial 'Design Flood' Flood Depths

Drawing No. **E216/153** REV #

Date: June 2024 | Scale: As Shown

Email: bfox@pfaplc.com

Appendix F



PFA consulting

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Swindon, SN3 4HG

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01793 828000

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NOTES

1. Site Boundary based upon Order Limits Location Plan, Enso Energy Drawing No. DX–01–P01 Rev 11, dated 15/02/24.
2. Drawing based upon Indicative Design, Enso Energy Drawing No. DX–01–P47 Rev 08, dated 15/04/24.
3. Flood risk data based on the results from the site–specific flood model produced by Aegaea. Details contained in Hydraulic Model Technical Note (Document Ref: AEG0851_Y08_EnsoEnergy_03 Rev B dated 25/06/24.
4. Drawing should be read in conjunction with Flood Risk Assessment produced by PFA Consulting (Document Ref: E216–DOC01–FRA–Issue 1, June 2024) and Water Environment Supplementary Assessment produced by PFA Consulting (Document Ref: E216–DOC02–Issue 1, January 2024)
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Key

- Site Boundary
- Solar Farm Zone
- Watercourse
- Contours
- Solar Arrays (Indicative)

Modelled Flood Depths (m)
Fluvial 'Design Flood'
1% AEP (1 in 100 RP) Fluvial Defended
+ Climate Change (Higher Central)

Ref: AEG0851_ENSO_BAS_SCENA_Q0100_CC _HIGHER_051_d_Max–CLIPPED

- 0.000
- 0.001 – 0.9000
- >0.900

Rev	Date	Description	Drawn	Check
#	02/01/25	First Issue.	BF	MWS

Status
FOR PLANNING

Client
Enso Green Holdings D Ltd

Project
Helios Renewable Energy Project

Drawing Title
Fluvial 'Design Flood' Simplified Flood Depths >0.9m

Drawing No. **E216/155**

Date: January 2025 | Scale: 1:2000 @ A0

E-Mail: bfox@pfaplc.com