



Meridian Solar Farm

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Volume 8

Post-Submission
Application Documents

8.37 Water Supply
Strategy

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1. Introduction

- 1.1.1. This Water Supply Strategy has been prepared on behalf of Meridian Solar Farm Limited (the 'Applicant') as part of the examination process for the Development Consent Order (DCO) of the Meridian Solar Farm (the 'Scheme'). The provision of a Water Supply Strategy was requested by the Examining Authority at Issue Specific Hearing 1, held on 9 September 2026 (Action Point 10 within **Action Points from Issue Specific Hearing 1 (ISH1)** [EV3-008]). This document has been prepared by the Applicant in response to this action.

1.2. Purpose of this Assessment

- 1.2.1. The purpose of this report is to identify and quantify the Scheme's potential water demand across construction and operational phases, and to provide confidence to the Examining Authority and other Interested Parties, including Anglian Water Services and the Environment Agency, that sufficient water for the Scheme can be delivered. The decommissioning phase has been excluded from this Strategy, on the basis that the water demand during decommissioning would not exceed that set out for construction and the same overall strategy for supply would be adopted. The **Outline Decommissioning Environmental Management Plan (ODEMP)** [REP1-065] will be updated at Deadline 3 to include a commitment to prepare and agree with appropriate stakeholders a suitable Water Supply Strategy prior to decommissioning works being undertaken.
- 1.2.2. The Applicant has previously provided estimates of water for certain aspects and phases of the proposed Scheme within **ES Chapter 2: The Scheme** [AS-017] and **ES Chapter 11: Hydrology and Flood Risk** [REP1-020], and this Strategy brings this information together, alongside new information, to present a precautionary estimate of each phase's water demand requirements.
- 1.2.3. The values reported in this Strategy are estimates and will be confirmed following detailed design and the appointment of contractors for the Scheme. However, the values presented have been based on precautionary assumptions, where necessary, and therefore are considered to represent a reasonable worst-case estimate of total water demand for construction and operational phases to inform the determination of the DCO and decision making on water supply arrangements.
- 1.2.4. This report is based on information included in the **Environmental Statement**, as updated over the course of examination (refer to the **Navigation Document** (Doc Ref. 1.4 Rev 3) for the latest versions of documents), **Schedule of Other Consents and Licenses** [APP-030] and other relevant documentation submitted into Examination at Deadline 1.

1.3. Need for Assessment

- 1.3.1. The Scheme is located within the Water Resource Zone (WRZ) of Lincolnshire Bourne which is designated as being 'seriously water stressed'¹. Furthermore, Anglian Water has adopted a 'Non-Domestic Water Requests Policy - December 2024' which states that requests over 20 m³/day will be declined, other than for Nationally Significant Infrastructure Projects (NSIPs), where a Water Resources Assessment (WRA) form must be completed. This is so Anglian Water can better understand water demands, water efficiency measures and more effectively forecast water supply requirements and enable them to support projects that help achieve national ambitions such as achieving net zero carbon (such as renewable energy projects like solar) and unlocking sustainable growth.
- 1.3.2. **ES Chapter 11: Hydrology and Flood Risk [REP1-020]** sets out that the Scheme is not proposing connection to the mains water supply for construction or decommissioning. During operation, mains supply is only proposed for the operational water supply of site offices within the On-Site Substations, accommodating up to 10 site staff. This would equate to mains water supply requirement of 0.9m³ / day, which is below the threshold at which Anglian Water requires the submission of WRA form. All other construction, operational and decommissioning water supply is to be sourced from commercial suppliers. If following detailed design post-DCO consent, the water supply options are re-evaluated and connection to Anglian Water supply is sought, relevant assessments and consents would be applied at that time. In addition, there are no proposals for any abstraction from a natural source.
- 1.3.3. However, through their Relevant Representations and comments at the Issue Specific Hearing 1 on 9 September 2026, the Environment Agency and Anglian Water Services requested more information on how much water is required to deliver the Scheme, and where this water will be obtained from. In particular, further information was requested as to what the total water demand will be during construction and how this has been determined, an evaluation of third-party commercial suppliers, the logistics for managing water supplied by tanker, and finally what options for water recycling are available to reduce total water use. The Environment Agency also requested assurance that a robust and resilient water supply has been identified to ensure that alternative supplies do not need to be sourced at a later stage (e.g. on-site abstraction).

¹ Environment Agency (2021) Water Stressed areas – final classification 2021. Available at: <https://www.gov.uk/government/publications/water-stressed-areas-2021-classification> [Accessed 25/09/2026]

1.4. National Planning Policy

- 1.4.1. Paragraph 5.16.2 of NPS EN-1² states that ‘... development can lead to increased demand for water...’ and that the effects of this ‘... could lead to adverse impacts on health or protected species and habitats and could result in surface waters, groundwaters or protected areas failing to meet environmental objectives....’
- 1.4.2. Where a project is likely to have effects on the water environment, NPS EN-1 paragraph 5.16.7 requires that an assessment is provided of how the project will affect existing water resources and demonstrate how proposals will seek to minimise the use of water resources and consumption in the first instance.
- 1.4.3. Furthermore, NPS EN-1 sets out that:
- ‘5.16.9 If insufficient water is available for abstraction, the applicant will need to find alternative sources of water to be able to proceed, whether this is developing their own source or collaborating with the water industry or other water abstractors to develop a joint source.’*
- 5.16.11 The impact on local water resources can be minimised through planning and design for the efficient use of water, including water recycling. If a development needs new water infrastructure, significant supplies or impacts other water supplies, the applicant should consult with the local water company and the EA or NRW.’*
- 5.16.17 The Secretary of State should consider proposals to mitigate adverse effects on the water environment and any enhancement measures put forward by the applicant and whether appropriate requirements should be attached to any development consent and/or planning obligations are necessary.’*
- 1.4.4. This document aims to clarify the Scheme’s proposals with regards to water demand and supply, and therefore, its impacts on water resources and any mitigation requirements, in compliance with the requirements of NPS EN-1.

1.5. Abstraction Licencing Strategies

- 1.5.1. The Scheme is partially located within the Nene Abstraction Licencing Strategy area³ and partly within the Welland Catchment Abstraction Licensing Strategy

² Department for Energy Security and Net Zero. (2025) Overarching National Policy Statement for Energy (EN-1). Available at: <https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1-2025> [Accessed September 2026]

³ Environment Agency (2021) Nene Catchment Abstraction Licensing Strategy. Available at: <https://assets.publishing.service.gov.uk/media/606d91e28fa8f57359cf4346/CAMS-Nene-Catchment-Abstraction-Management-Strategy.pdf> [Accessed October 2026]

area to the east⁴. Water is available in the Nene catchment at flows of Q30 or greater subject to applications for new licences being assessed against potential local and downstream impacts, including consultation with Internal Drainage Boards. However, water is not available for abstraction from the Welland catchment and any new consumptive surface water abstractions are likely to be refused by the Environment Agency, who are also likely to be looking to reduce existing abstraction pressures.

1.6. Consultation

- 1.6.1. For the full consultation summary pre DCO application refer to Table 11-1 and Table 11-2 in **ES Chapter 11: Hydrology and Flood Risk** [REP1-020]. Subsequently, comments around water supply and demand were raised by Anglian Water and the Environment Agency in their relevant representations. Applicant's responses to these comments are provided within the **Relevant Representations Report** [REP1-074].
- 1.6.2. To inform the preparation of this document, a joint meeting was held with Anglian Water Services and Environment Agency on 28 September 2026 with a copy of the minutes presented in Appendix A. Initial estimates of construction phase water demand were presented including details of any assumptions made. It was highlighted that the most significant demands would likely be welfare provision, dust suppression and watering of landscape planting, although the latter too are uncertain as they demand on weather conditions. It was also explained that at the request of stakeholders the Scheme is now looking at a multiple source approach and is considering making a WRA request to Anglian Water to determine what water they may be able to provide. Anglian Water stated that there is an extensive water supply infrastructure network local to the Scheme and that water supplied by them would avoid the need for tankers on local roads. The Environment Agency supported this and the multi-source approach adding that on-site abstraction could also be an option noting that abstractions less than 20 m³/d do not require a licence, although further site investigation would be needed to prove the source and assess any impact on any nearby receptors or other local abstractors.
- 1.6.3. The Applicant will continue to engage and track any agreements reached with Anglian Water Services and Environment Agency through the Statements of Common Ground with each of these parties.

⁴ Environment Agency (2021) Welland Catchment Abstraction Licensing Strategy. Available at: <https://assets.publishing.service.gov.uk/media/606d942fd3bf7f4017cbef03/CAMS-The-Welland-Catchment-Abstraction-Management-Strategy.pdf> [Accessed October 2026]

1.7. Structure of this Report

1.7.1. The remainder of this Water Supply Strategy includes the following sections:

- **Section 2: Water Demand:** This section describes the activities in each phase that will require water and how an estimate of the water needed for the construction and operation of the Scheme has been determined.
- **Section 3: Water Supply Options:** This section presents a summary of the water supply options that have been considered for the Scheme.
- **Section 4: Conclusion** This section provides of a summary of the Water Supply Strategy.

2. Water Demand

2.1. Overview of Construction and Operational Water Demand

2.1.1. Section 11.4 of **ES Chapter 11 Hydrology and Flood Risk** [REP1-020] identified the key water demands of the Scheme but did not quantify the likely volume of water required during the construction phase. This has been reviewed and a more comprehensive list of activities that will require water is summarised in Table 2-1, together with reference to Appendix B, Table B1 to Table B5, where further details of the estimated water demand for each activity and the assumptions, upon which this estimate is based, is presented.

Table 2-1 Summary of activities requiring water

Phase	Potable or non-potable	Activity requiring water	Assumptions provided within Appendix B table and line
Construction - Solar Development Area & Inter-Array Connections and Grid Connection Route	Potable	Drinking water and welfare facilities (e.g. toilets, showers).	Table B2 and Line 1.
	Non-potable	Plant washing.	Table B2 and Line 5.
		Dust suppression.	Table B2 and Line 3.
		Wheel washing at entry / exits points.	Table B2 and Line 4.
		Watering during establishment of new landscape planting (e.g. new shrubs and trees).	Table B2 and Line 2.
		Consumptive water for trenchless crossings (e.g. HDD)	Table B2 and Line 6.
		Concrete production (wash down water only)	Table B2 and Line 7.
Construction - Additional Grid Connection Route specific non-potable requirements	Non-potable	Pylon towers working areas.	Table B3 and Line 1.
		Overhead line works.	Table B3 and Line 2.
		300m underground cable section.	Table B3 and Line 3.
		Two Cable Sealing End Compound (CSEC) sites.	Table B3 and Line 4.
		Reinstatement.	Table B3 and Line 5.
Operation	Potable	Drinking water and welfare facilities (e.g. toilets, showers).	Table B5 and Line 1.
	Non-potable	Annual solar PV panel cleaning.	Table B5 and Line 3.
		Water used for firefighting / suppression and for the testing of the firefighting system (BESS).	Table B5 and Line 2.

2.2. Description of Construction Water Demand

Welfare Facilities at Construction Compounds

- 2.2.1. As noted within Table 2-1, during construction, there will be a need to supply potable water for workers for drinking water and welfare facilities (toilets and showers). For the purposes of this document, and based on a more detailed appraisal of water needs, the potable water demand has been assumed to be the CIBSE Guide G – Public Health and Plumbing Engineering Handbook estimate of 55 litres per day/per person (l/p/d). This is a change from the 90 l/p/d included in the Environmental Statement as a very worst case. For peak construction, a

maximum of 855 construction staff using the site per day has been identified within **ES Chapter 2: The Scheme** [AS-017] for a worst-case assessment of peak workforce numbers. This would equate to 42.75 m³/day of potable water demand.

- 2.2.2. In Section 11.4 of **ES Chapter 11: Hydrology and Flood Risk** [REP1-020], a value of 0.9 m³/person/day was used as the normal daily rate of water consumption for a worker on site. However, following further discussions with the design teams in the preparation of this Water Supply Strategy, this value is now considered to be an overestimation. On review, it has been reduced to 0.55 m³/person/day as this is considered to be a more accurate volume based on industry standards as mentioned above.
- 2.2.3. In addition, it is noted that the worst-case peak construction workforce number has been estimated assuming that the peak construction of the Solar Development Area and Inter-Array Connections occurs at the same time as the peak construction of the Grid Connection Route. However, in practice this is unlikely to occur and if it did occur, it would only be for a short period of time. As such the peak workforce number is considered to provide a conservative estimate for potable water demand during construction.

Construction Activities

- 2.2.4. Non-potable water would be needed during construction for a range of activities including plant washing, dust suppression, wheel washing at entry / exits points, watering during establishment of new landscape planting (e.g. new shrubs and trees), and consumptive water for trenchless crossing construction (such as Horizontal Direction Drilling (HDD)). Additional Grid Connection Route specific activities have also been identified. Concrete will not be batched on site but would be obtained ready mixed.
- 2.2.5. Water demand calculations for landscaping cover new shrubs and trees but do not include new grasslands, as it is not considered that the fields would need watering following the planting of the seed mix for grassland.

2.3. Description of Operational Water Demand

On-Site Substation Compounds

Welfare Facilities

- 2.3.1. There are anticipated to be up to 10 permanent staff during operation on site, which would result in an estimated usage of 550 litres per day (0.55 m³/day) based on an estimate of 55 litres per person per day.

Firefighting

- 2.3.2. Modern substations are designed in accordance with relevant UK standards and incorporate multiple layers of protection including electrical protection systems, fault detection, automatic isolation, fire separation distances, oil containment systems and routine inspection and maintenance. As set out within the **Outline Operational Environmental Management Plan (OOEMP)** [REP1-063], the proposed on-site substations would incorporate fire-resistant walls and a minimum separation distance of 10 m between the transformers as part of the fire protection strategy to limit the potential for fire propagation between adjacent transformers. Consequently, the residual risk of a significant fire event is considered to be low. No water storage for firefighting is proposed for the on-site substations.
- 2.3.3. In the unlikely event of a fire, the electrical protection system would automatically disconnect the affected plant (e.g. transformer) from the network. Emergency services would be notified, where appropriate, and the site operator would implement the Emergency Response Plan, as set out within the **OOEMP** [REP1-063]. The incident would be quickly attended to by the local Fire Brigade. However, it is expected that active firefighting would only occur if there was a danger to life. It is most likely that the fire will be allowed to burn out in a controlled manner. If active firefighting was required, within England, an abstraction licence is not required to obtain water for firefighting⁵. However, it is not safe to use water on an electrical or oil fire.

BESS Compound

- 2.3.4. **Outline Battery Safety Management Plan** (Doc Ref. 7.18 Rev 1) has set out the requirements for fire water storage required on the Site. In summary, the Battery Energy Storage System (BESS) Compound will contain a minimum of two firefighting water storage units with a total capacity of no less than 360,000 litres in total (i.e. 360 m³), capable of delivering 1,500 litres per minute for 4 hours (exceeding the requirements of the National Fire Chiefs Council guidance⁶).

The specific measures to suppress fire will depend on the type of BESS that is selected for the Scheme at detailed design stage, but active fire-fighting is not proposed as this is typically ineffective for BESS fires (which are instead left to

⁵ Environment Agency (2026) Check if you need a licence to abstract water. Available at: <https://www.gov.uk/guidance/check-if-you-need-a-licence-to-abstract-water> [Accessed 25/09/2026]

⁶ National Fire Chiefs Council. (n.d.) Grid scale energy storage system planning - Guidance for fire and rescue services. Available at: [REDACTED] [Accessed 25/09/2026]

'burn out'), with the water stored on site primarily there for cooling adjacent structures to prevent the fire spreading.

Solar PV Panel Cleaning

- 2.3.5. During the operational phase, there will be a requirement once a year for washing of the panels. This will use clean water with no added chemicals. This will be at 3 m³ for every 1,000 panels, with a requirement for approximately 3,386 m³ of water once per year, as set out in the **OOEMP** [REP1-063]. In practice, this operation is expected to be phased throughout the year. However, in Table 2-2 this has also been expressed as a daily rate (i.e. the volume of water needed for panel cleaning equally distributed across the year).

2.4. Daily, Annual and Total Water Demand Estimates

- 2.4.1. Table 2-2 provides a summary of the daily, annual and total estimated water demand for the construction and operational phases of the Scheme. The total estimated water demand is based upon a four year construction period, up to five year landscape planting establishment period, and a 40 year period for the operational phase, as discussed in **ES Chapter 2: The Scheme** [AS-017]. Assumptions used for the calculations are included in Appendix B.

Table 2-2 Summary of Water Demand Calculations

Water Use Type	Construction Phase			Operational Phase		
	Typical Rate Per Day (m ³ /d)	Annual Volume (m ³ /yr)	Total For Construction Period (4 years) (m ³)	Typical Rate Per Day (m ³ /d)	Annual Volume (m ³ /yr)	Total For Operational Period (40 years) (m ³)
Potable	17.3	6,314.5	25,258	0.55	182.5	7,300
Non-Potable	34	12,410	49,717	10.3 [^]	3,759.5	150,380
<i>Total (Potable + Non-Potable)</i>	51.3	18,724.5	74,975	10.85	3,942	157,680
Watering of new planting	6.4 [*]	2,336 [*]	7,008 [*] (Total over 3 years)	Not applicable		

^{*}The timing of landscape planting is likely to be predominantly after construction works so although included under 'construction phase' this water demand is unlikely to significantly coincide with the water demand for construction works.

[^]Includes water required for solar panel cleaning as a daily volume distributed across a calendar year.

- 2.4.2. A typical rate of 51.3 m³/day has been estimated for the construction phase, excluding water required for irrigating new landscape planting (which would not coincide with the rest of the construction works). As worst-case scenario, a peak water demand of around 269 m³/day has been estimated.
- 2.4.3. It is estimated that typically 6.4 m³ of water would be required per day for irrigation of landscape planting (trees and shrubs but not grassland) and that this commitment would likely be for the first three years post construction, after which the need for irrigation is expected to stop. This is on the basis of fortnightly irrigation of new planting between May and September for the first three years of the five year establishment period. There are no watering requirements after the establishment period.
- 2.4.4. Dust suppression has been calculated as taking place on 45 days throughout the year (see Table B2 in Appendix B). This is based on the frequency of application taken from the Water Demand and Source Options Appraisal for the Beacon Fen Energy Park⁷, which is also based in Lincolnshire and which was granted a DCO in August 2026. However, to reflect a worst case scenario, a further assessment of water demand has been carried out assuming dust suppression is needed on 75% of days between May and September (i.e. a total of 115 days). If this were the case, the typical rate per day for all non-potable water would increase from 34 m³/d to 69.4 m³/d, with an annual volume of 25,331 m³/d. However, this would be dependent on weather conditions prevailing at the time.
- 2.4.5. In accordance with the Outline Landscape and Ecology Management Plan (OLEMP) [REP1-070], the new shrub and tree planting would require watering for the first five years, also known as the establishment period. This consists of two to three years of active watering and one to two years of monitoring and watering, if required, for example during drought conditions. There is no requirement for any watering of landscape planting after the five year establishment period. Nearly all new planting will be done after other construction activities, so there would be minimal overlap between the construction water and planting water demands.
- 2.4.6. Of the two phases, and as set out in **ES Chapter 11: Hydrology and Flood Risk** [REP1-020], it is estimated that the construction phase will have the highest water demand, with an estimated peak daily water demand of around 269 m³/day. This peak value is calculated using the highest possible parameters such as the peak number of workers (which has been identified on a precautionary

⁷ <https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN010151-000794-6%202%2011%20Chapter%2011%20Water%20Resources%20and%20Flood%20Risk%20Revision%202%20Clean.pdf>

basis) and would only occur on site, if at all, for a short period of time. The typical rate accounts for this and provides a volume for an off-peak day.

- 2.4.7. The operational phase does not have a peak period, and it is estimated this phase will consume only up to 11 m³/day, which is below the threshold where Anglian Water Services requires a Water Resource Assessment form to be submitted. Note that this includes water needed for solar panel cleaning as a daily volume. The water needed for welfare alone within on-site offices is just 0.55 m³/d. Water for panel cleaning does not need to be potable standard, but just sufficiently clean for use in the cleaning operation.

3. Water Supply Options

3.1. Overview

- 3.1.1. Following feedback from the Environment Agency and Anglian Water Services that other options for water supply should be considered, the following have been considered and are discussed further below in order of preference:
1. Connection to Anglian Water Services network or tankering by commercial suppliers (which could include Anglian Water Services when direct mains connection is not possible);
 2. Trading of existing abstraction licenses; and
 3. New on-site abstraction.
- 3.1.2. Although not a water supply option itself, to minimise water use during construction and operation of the Scheme, options for water reuse and recycling will be considered with commitments secured through the outline environmental management plans.

3.2. Connection to Anglian Water Services network

- 3.2.1. **ES Chapter 2: The Scheme [AS-017]** and **ES Chapter 11 Hydrology and Flood Risk [REP1-020]** note that it is not proposed that water supply is drawn from mains water for the construction and decommissioning of the Scheme, unless otherwise agreed by Anglian Water (mains water supplier). In addition, use of mains water is not proposed for panel cleaning and the filling of the firefighting water storage tanks at the BESS Compound. However, connection to mains supply was proposed for the operational water use of welfare facilities within the On-Site Substations (estimated water demand of up to 0.55 m³/day). This approach was set out in the ES, in order to avoid significant effects on Anglian Water Services within a water stressed area. However, during the meeting with Anglian Water Services on the 28 September 2026, Anglian Water Services

believe that connecting to the Mains would be the best option for the Scheme, subject to their review of the connection and availability of water.

3.2.2. A review of desk-based utilities information indicates that Anglian Water Services' water pipelines are located within the following locations within the Order Limits:

- Solar Development Area: Cloot Drove, Queens Bank, Martins Road, and Langary Gate Road;
- Grid Connection Route: A151 High Road, Broad Gate, Delgate Bank, Austendyke Road, and Moulton Chapel Road.

3.2.3. If post-DCO consent, a connection into Anglian Water Services' network was sought, this would be subject to an additional consent from Anglian Water Services. However, at Anglian Water Services request, and in order to confirm whether an agreement for a connection could be agreed post-DCO consent, an Anglian Water Services Water Resource Assessment form is provided within Appendix C of this document. The Applicant is also in the process of submitting an enquiry to Anglian Water Services through their website.

3.2.4. If a further connection into Anglian Water Services' network was sought post-DCO consent, this may require the construction of additional pipeline network. The length and location of the connection would be subject to detailed design. However, it would result in additional groundworks / excavation, and potentially additional watercourse crossings and road works. The same mitigation as set out within the **Outline Construction Environmental Management Plan (OCEMP)** [REP1-061], **Outline Construction Traffic Management Plan (OCTMP)** [APP-278] and **Outline Archaeological Mitigation and Management Strategy (OAMMS)** [REP1-078] would be applied. As a result, no new or materially different significant effects are considered likely.

3.2.5. Furthermore, in accordance with Schedule 14 of the **Draft DCO** [REP1-006], paragraph 2(4), any application to the relevant planning authority to discharge the Requirements of the DCO must include a statement to confirm whether it is likely that the subject matter of the application will give rise to any materially new or materially different environmental effects in comparison with those reported in the Environmental Statement and if it will, then it must be accompanied by information setting out what those effects are. As such, the final designs would be bound by the environmental effects reported within the Environmental Statement.

3.3. Tankering by Commercial Suppliers

3.3.1. **ES Chapter 2: The Scheme** [AS-017] and **ES Chapter 11 Hydrology and Flood Risk** [REP1-020] note that tankering of water by commercial suppliers is proposed for the Scheme for all construction and decommissioning water supply,

and during operation for panel cleaning and for the filling of firewater storage tanks in the BESS Compound.

- 3.3.2. Table 3-1 summarises commercial suppliers that operate within Lincolnshire. The Applicant has contacted these suppliers to confirm in principle whether they could supply water for a solar scheme in Lincolnshire, considering the estimated water demand set out within Section 2 of this document. The conclusions of this exercise are also summarised in Table 3-1.
- 3.3.3. Water tankers used by commercial suppliers are typically available in a variety of sizes from 1,000 litres (i.e. 1 m³) to 30,000 litres (i.e. 30 m³). Based on an average water demand of around 51.3 m³ per day during construction (excluding watering of new planting, which would not coincide with other construction uses), this would require around two to three tanker deliveries per day during construction, depending on tanker size. However, as there are multiple construction compounds, water deliveries to any one location would typically be on a weekly basis. The traffic assessment presented in **ES Chapter 15: Traffic and Access** [APP-066] has considered these tanker movements on a precautionary basis.
- 3.3.4. Commercial suppliers to be used at construction will be confirmed following the appointment of construction contractors and the development of a detailed construction methodology for the Scheme. Similarly, the arrangements for operational water supply will be confirmed prior to operation. However, the Applicant considers that the use of commercial suppliers for the provision of water is a feasible option for the Scheme.

Table 3-1: Commercial suppliers for tankering water

Supplier	Availability to provide water supply
Temporary Water Solutions	No response received at the time of writing.
Liquiline Water Services / Water Direct	Confirmed availability. Have existing licenses in place with utility providers to extract water.
Universal Tankers	Confirmed availability. Have existing licenses in place with utility providers to extract water.
Tardis	No response received at the time of writing.
GreensH2O	Confirmed availability. Have existing licenses in place with utility providers to extract water.

- 3.3.5. It is also noted that the use of commercial suppliers has been committed to on other solar schemes in Lincolnshire in order to avoid impacts on water stressed areas. For instance, this approach is consistent with the Tillbridge Solar Project near Gainsborough (consented in October 2025), which is of comparable size to the Scheme (i.e. approximately 1,350 ha as opposed to the approximately 1,100

ha for Solar Development Area of the Scheme). This approach was also agreed with Anglian Water Services⁸.

3.4. Trading of Existing Abstraction Licences

- 3.4.1. As described within **ES Chapter 11: Hydrology and Flood Risk** [REP1-020], information received from the Environment Agency on abstraction shows that there are 10 surface water abstractions within 1 km of the Scheme. These are shown in **ES Figure 11-1 Surface Water Features and their Attributes** [APP-106]. The licenced abstractions are listed in Table 3-2.

Table 3-2 Licenced Water Abstractions within 1 km of the Scheme

Reference on Figure 11-1 of the ES	Licence Number	Purpose and Source
SW1	Licence AN/031/0014/058	Abstraction from an unnamed tributary of the River Welland for trickle irrigation .
SW2	Licence AN/031/0014/047	Abstraction from BHB02 for 'transfer between sources'.
SW3	Licence AN/031/0014/046	Abstraction from WEL01 for 'transfer between sources'.
SW4, SW5, and SW6	Licence 5/32/11/*0019	Abstraction from BHB01, WEL01 and CXD01 for spray irrigation , respectively.
SW7 and SW8	Licence 5/31/14/*5/0247	Abstraction from Vernatt's Drain for spray irrigation and general farming and domestic.
SW9 and SW10	Licence 5/31/14/*5/0185	Abstraction from WEL01 and NEW01 for spray irrigation .

- 3.4.2. Although not known for certain, it is possible that some of this water would be used on agricultural fields present on the Site, and thus following conversion to a solar farm, would not be needed or would be needed to a lesser capacity. If this is the case, or where there is spare capacity available in the licenced local sources, there may be an option to trade all or part of the licence. Although only 10 abstractions are listed in Table 3-2, it is possible that there are further licenced

⁸ Tillbridge Solar Project (2025) Volume 9 Statement of Common Ground with Anglian Water Services. Available at: <https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN010142/documents?searchTerm=Chapter%2010&itemsPerPage=25> [Accessed 25/09/2026]

abstractions within a short distance of the Scheme, which may be potential options for licence trading.

- 3.4.3. No new physical works would be required to obtain water using licence trading, however, any licence trade must be approved by the Environment Agency who will need to be satisfied that it will not harm the environment (e.g. lead to deterioration in the status of any Water Framework Directive water body) or the rights of other lawful water users. As such, if post-DCO consent, licence trading was sought, this would be subject to an additional consent from Environment Agency.

3.5. New On Site Abstraction

- 3.5.1. Both the superficial and bedrock strata are designated as unproductive. Bedrock geology underlying the majority of the Solar Development Areas and Inter Array Connections is mudstone. The superficial geology is predominantly tidal flat deposits of clay and silt, with the exception of alluvial deposits of clay, silt sand and gravel to the west associated with the floodplain of the River Welland. Some superficial deposits between Crowbit and Crowland are classed as Secondary A and Secondary (undifferentiated) aquifers. Based on available information the ground conditions beneath the site are only likely to yield limited amounts of water and be of limited importance at a local level. Furthermore, before any borehole could be exploited the source would need to be investigated firstly through feasibility desk studies and subsequently by on site surveys, ground investigations, with relevant permission from the Environment Agency.
- 3.5.2. As described in Section 1.5, water may be available from the Nene catchment at higher flows (i.e. Q30 and above) which potentially could be a source of water during construction works. If more than 20 m³/d is to be abstracted a licence from the Environment Agency would be required, and potentially permission from the relevant IDB. However, any abstraction <20 m³/d would still need to consider the availability of water, environmental impact, and the legal right of other abstractors, with these factors being more acute in the summer months when greater water is likely to be needed for construction (e.g. dust suppression).
- 3.5.3. Overall, abstracting water from local watercourses and drilling a borehole for the abstraction of groundwater have been currently discounted as potential options in favour of other options, due to uncertainty with regards to source availability, practicalities and costs associated with implementing these options, and the potential for significant environmental effects within a water stressed area. Furthermore, this option may also require the application of a new water resource licence from the Environment Agency if more than 20 m³/d was to be abstracted. As such, new on-site abstraction from surface water and groundwater has not been proposed as it is believed that sufficient water can be obtained from other already licenced sources.

3.6. Water Reuse

- 3.6.1. The Applicant has committed to investigating further options for the reuse of water during construction and operation as part of detailed design, within the **OCEMP** [REP1-061] and **OOEMP** {REP1-063} respectively. This water may be useful to reduce the external supply needs for some activities such as dust suppression, wheel wash facilities or irrigation of landscape planting. However, suitable collection and storage facilities would be required.
- 3.6.2. For example, during construction, tanks for rainwater harvesting could be installed on the roofs of construction compounds and the water subsequently used for dust suppression, wheel washing, irrigation of new landscaping and toilet flushing. Similarly, during operation, tanks for rainwater harvesting could be installed on the roofs of any On-Site Substation buildings and the water used in welfare facilities, e.g. for toilet flushing.
- 3.6.3. However, it is noted that the area of available roof space during construction and operation is limited and, therefore, volumes of any water harvested are not likely to be substantial. In addition, the availability would be dependent on the weather and it would not likely coincide with periods of when the water is required for dust suppression or irrigation. As such, although the Scheme is committed to investigating and implementing options for rainwater harvesting, it may not be considered a reliable source of water.
- 3.6.4. Additionally, as rainwater would contain organic matter and chemicals, it would require treatment prior to use as bacteria could grow as it is stored. This would be a further limitation.
- 3.6.5. Further opportunities may exist for water recycling during construction. For example, runoff water from wheel wash could be directed to a settlement tank, filtered, where required, and recirculated into the wheel-wash system, rather than being disposed of after each use.

4. Conclusion

- 4.1.1. This document sets out the estimated water demand for the Scheme during construction and operation and considers options for its water supply. Water demand during decommissioning would not exceed that set out for the construction phase and so has not been itemised explicitly. In summary:
 - A typical rate of 51.3 m³/day has been estimated for the construction phase (excluding water required for irrigating new landscape planting (which would not coincide with the rest of the construction works)).
 - Water estimates for dust suppression are based on a recently consented nearby solar scheme⁷. However, a further assessment has been carried out assuming dust suppression is needed on 75% of days between May-

September (i.e. 115 days). If this were the case, the typical rate per day for all non-potable water would increase from 34 m³/d to 69.4 m³/d, although this would be dependent on prevailing weather conditions.

- As a worst-case scenario, a peak water demand of around 269 m³/day has been estimated for during the construction phase. This reflects when the maximum number of construction workers are present, although this will be for a short time only.
- Typically 6.4 m³ /day of water would be required for irrigation of landscape planting (trees and shrubs but not grassland) and that this commitment would likely be for the first three years post construction, after which the need for irrigation is expected to stop. This is based on new planting being watered fortnightly between May-September for the first three years of the five year establishment period. Landscape planting does not need watering after the establishment period.
- Water demand is substantially less during operation with an average daily rate of around 11 m³/ day. This accounts for all operational water use including cleaning of solar panels spread across the year. Welfare water demand during the operation phase is just 0.55 m³/d.

4.1.2. **ES Chapter 2: The Scheme [AS-017] and ES Chapter 11 Hydrology and Flood Risk [REP1-020]** note that during construction water is to be obtained from commercial third parties, where the water would be obtained from licenced sources and would be delivered to Site by tanker. Estimates of water demand indicate that this would be logistically possible, and a number of commercial providers have been identified.

4.1.3. Alternative options for water supply include direct connection into the Anglian Water Services network and licence trading of existing abstraction licences. However, these options would require further consents from Anglian Water Services and the Environment Agency post-DCO consent. In response to consultation, the Applicant is now submitting a Water Resource Assessment request to Anglian Water Services (see Appendix C).

4.1.4. Abstracting water from local watercourses and drilling a borehole for groundwater abstraction have been discounted as potential options, due to uncertainty with regards to source availability, practicalities and costs associated with implementing these options, and the potential for significant environmental effects within a water stressed area.

4.1.5. Opportunities also exist for water reuse and recycling (such as rainwater harvesting) and the **OCEMP [REP1-061]** and **OOEMP [REP1-063]** have been updated to include a commitment to investigate these options post-DCO consent to minimise water demand requirements. However, it is not considered that these options could solely be relied upon.

Appendix A Consultation

Title:	Meridian Solar – Anglian Water & Environment Agency Water Supply Meeting		
Date:	28 September 2026	Time: 11:00	Location: Teams
Attendees:	██████████ EIA Coordinator, AECOM	██████████ – Planning Specialist, Environment Agency	
	██████████ EIA Coordinator, AECOM	██████████ – Water Specialist, Environment Agency	
	██████████ Water Environment Lead, AECOM	██████████ – Anglian Water	
	██████████ Water Scientist, AECOM	██████████ – Anglian Water	

No.	Key Discussion Points:
1	Current Position and Water Demand Meridian note that the Scheme does not propose abstraction from natural water sources as part of the current application. The current DCO position is that water required during construction and decommissioning would not be supplied through a permanent mains connection but would come from a third party commercial source tankered in. For operational water use in on-site substations, the DCO currently allows for either a mains supply or a commercial third-party supply. The project team has subsequently worked with the relevant design teams to identify the activities requiring water and to develop more detailed estimates of demand. During construction, the principal water requirements identified are: • welfare facilities, including drinking water, toilets and showers; • dust suppression; • wheel/vehicle washing; • landscape planting and establishment; • water associated with trenchless crossings; and • concrete-related washdown. Additional requirements associated with the grid connection include water for works around overhead line structures, underground cabling and HDD activities. During operation, the principal requirements are welfare facilities, the initial filling of the firefighting water store and annual cleaning of the solar PV panels. The latter is currently estimated at just under 4,000 m³ per year. The current draft estimate is approximately 64 m³/day during construction for a typical day, increasing to approximately 265 m³/day at peak construction, excluding landscape irrigation, noting these values are under review and may be updated for

No.	Key Discussion Points:
	Deadline 2 submission. Typical operational demand is estimated at just under 11 m ³ /day.
2	Construction worker water demand Meridian note that the Environmental Statement used an assumption of approximately 90 litres per person per day for construction workers. Following further consideration and benchmarking, the project team is now considering an assumption of approximately 55 litres per person per day. This is based on relevant guidance and benchmarking against other solar DCO projects. The Meridian team considers that this provides a more representative assumption for construction workers than the previous figure, which was considered to be more reflective of household water use.
3	Dust Suppression Dust suppression was identified as an area where there remains some uncertainty in estimating demand. The current approach assumes dust suppression at entry and exit points within the solar development area and, at present, approximately 25% of access tracks associated with the grid connection. The methodology is still being reviewed to ensure a consistent approach across the Scheme. Meridian noted that the need for dust suppression will depend on factors including weather conditions, construction activities and the location of sensitive receptors. Meridian note that the Scheme has used assumptions from the Beacon Fen DCO as a starting point for estimating the number of days during which dust suppression may be required. As this is a local scheme that was recently granted its DCO (August 2026) we believe this is a reasonable assumption. The potential for capturing and storing water on site for subsequent reuse was discussed, particularly in relation to reducing the volume of water that would need to be brought onto the site for activities such as dust suppression (but also wheel washes or watering of landscape planting). The precise arrangements, including the location and spatial requirements of any temporary storage facilities, have not yet been established. Meridian noted that these matters are intended to be investigated further as the Scheme progresses and the contractor is appointed, when there will be greater certainty regarding the construction arrangements and available space. The water supply strategy is being developed on a conservative basis and does not rely on these measures being implemented to demonstrate that the Scheme can meet its water demand, although the commitment is there to investigate and implement practical measures with the Outline Construction Environmental Management Plan and Outline Operational Environmental Management Plan updated at Deadline 1 to secure this.
4	Landscape and irrigation Landscape establishment represents another potentially significant water demand.

No.	Key Discussion Points:
	The current estimate is approximately 30 m³/day on a typical basis, with a potential peak of approximately 438 m³/day. The estimates relate principally to the establishment of trees and shrubs, as seeding of grass does not require an irrigation commitment. Approximately 50 km of shrubs and trees are proposed, covering an estimated area of approximately 125,000 m². Meridian noted that active irrigation is expected to be most important during the first one to three years following planting, with the requirement for the next two years of the initial establishment period expected to reduce or not be needed. Beyond the establishment period there is no obligation for Meridian to water new landscape planting. The one exception is potentially during drought periods, and this is being considered. The trigger and objective of this (if required) also needs to be determined. It was acknowledged that the current landscape water demand estimates may be conservative and are subject to further review.
5	Rainwater harvesting and water use The potential for rainwater harvesting and reuse was discussed as a means of reducing the quantity of water that would need to be brought onto the site. Examples discussed included capturing water from compound roofs and potentially capturing and temporarily storing runoff for subsequent use, subject to water quality and practical considerations. Meridian noted that the Outline Construction Environmental Management Plan and Outline Operational Environmental Management Plan include a commitment to investigate these opportunities as the Scheme progresses. At present, the precise space requirements and locations for any storage or harvesting facilities have not been established. It was noted that this is likely to depend on the contractor and detailed design. Meridian confirmed that the current water supply assessment is being developed on a conservative basis and does not rely upon rainwater harvesting or reuse being available in order to meet the assessed demand.
6	Potential Water Supply Sources – current proposal Meridian explained that the application currently identifies commercial water suppliers as a potential source of construction water. A number of suppliers have been contacted and have provided positive indications that they could potentially supply the quantities required without problem for the duration of the construction works, although they are not specific of where they obtain their water. It was noted that there appears to be a good public water network within the Order Limits of the Scheme. Anglian Water indicated that further investigation of a mains connection could provide useful information on the potential capacity available and whether it could provide some or potentially all of the Scheme's water requirements.

No.	Key Discussion Points:
	Meridian noted this and confirmed the project will submit a pre-application enquiry to Anglian Water.
7	Tankering and Traffic Anglian Water also noted that a peak demand of approximately 265 m³/day could result in a significant number of tanker movements if tankering were the sole source of supply. Meridian noted that this would contribute additional vehicles on to local roads but that the transport assessment contains contingency within the construction traffic assumptions and that the current anticipated tanker movements are accommodated within the worst-case traffic assessment.
8	Other potential sources The Environment Agency raised whether other sources could contribute towards meeting the Scheme's water demand. There are a number of licensed abstractions within approximately 1 km of the Order Limits, predominantly associated with spray irrigation. It is expected that many other licenced applications exist slightly further from the Order Limits. The possibility of using existing licences that may become redundant once the site is converted to solar or otherwise have headroom available was identified as an option that could be investigated further, noting that any licence trading is subject assessment and the necessary permissions from the Environment Agency. The potential for groundwater abstraction through a borehole was also raised by the Environment Agency. An abstraction of up to 20 m³/day does not require a license and may not require permission to investigate the resource, although this would need to be confirmed through discussions with the Environment Agency's local Groundwater Team/ Water Resource Licencing Team. Regardless, site investigations would be needed to investigate the feasibility of any resource and consideration given to potential effects on other lawful water users, licensed abstractions and water features (that may involve preparing a Hydrogeological Impact Assessment). Overall, it was acknowledged that further assessment would need to be undertaken before this could be considered as a viable option.
9	Approach to the water supply strategy Anglian Water and the Environment Agency indicated that the water supply strategy should consider a range of potential sources and options, rather than relying on a single source. The options discussed included: • Anglian Water mains supply; • Commercial suppliers and tankering; • Rainwater harvesting and reuse;

No.	Key Discussion Points:
	• Use of existing licensed abstraction sources where appropriate; and • Potential groundwater abstraction. The purpose of considering multiple options is to establish a practical and sufficiently resilient combination of sources, recognising that individual options may have constraints relating to capacity, environmental effects, cost, logistics or feasibility. Meridian noted that they will consider these options further as part of the Water Supply Strategy. However, there may be limitations as to what level of detail can be provided at this stage and before the close of the Examination.
10	DCO documentation and ongoing engagement Meridian noted that the project is working towards finalising the Water Supply Strategy for Deadline 2. It was acknowledged that the strategy is still developing and that there may subsequently be a need to update relevant DCO application documentation to reflect the emerging position. Potential updates to the Statements of Common Ground and, where appropriate, other DCO documentation were identified for consideration as the position develops. Meridian noted that they will maintain engagement with the Anglian Water and the Environment Agency and would arrange a further meeting once the full Water Supply Strategy has been made available for review.

Appendix B Water Demand Information

Table B1 Key Parameters Construction Phase

Key Input	Unit	Value	Assumption	Source
Peak daily onsite workforce	Workers	855	in 2031	Para 2.10.28 of ES Chapter 2: The Scheme [AS-017].
Working hours per week	Hours	65	Core construction working hours on-site will run from 07:00 to 19:00 (with working days comprising one 12-hour shift) on Monday to Friday and 08:00 to 13:30 on Saturday (with working days comprising one 5-hour shift), and employees travelling to and from the Order Limits outside these times. It is anticipated there would be no Sunday or Bank Holiday working, with some exceptions.	Para 2.4.1 of OCEMP [REP1-061]
Solar Development Area	m ²	10,670,000	No comments.	Para 2.1.9 of ES Chapter 2: The Scheme [AS-017].
Grid Connection Route area	m ²	5,100,000	No comments.	Para 2.1.9 of ES Chapter 2: The Scheme [AS-017].
Length of grid connection	m	13,000	No comments.	Para 2.1.5 of ES Chapter 2: The Scheme [AS-017].
Length of access tracks	m	4,500 in Solar Site (only access points) 17,400 in Grid Connection	No comments.	Provided by design team.
Width of access tracks	m	6 m (8 m at passing places) in Solar Development Area	No comments.	Table 2-1 of ES Chapter 2: The Scheme [AS-017].

Key Input	Unit	Value	Assumption	Source
		4 m throughout the Grid Connection (8 m at passing places)		
No. vehicle movements per day	Number	632	Vehicle movements at peak construction	Table 5-4 of OCTMP [APP-278]
No. HGV movements per day	Number	278	HGV movements at peak construction	Para 2.10.35 of ES Chapter 2: The Scheme [AS-017].
No. LGV movements per day	Number	150	LGV movements at peak construction	Para 2.10.35 of ES Chapter 2: The Scheme [AS-017].
Solar Development Area construction time	Days	730	8 quarters predicted	Plate 2-13 of ES Chapter 2: The Scheme [AS-017].
Grid Connection Route construction time	Days	1552	17 quarters predicted	Plate 2-13 of ES Chapter 2: The Scheme [AS-017].

Table B2 Water Demand Calculations Construction Phase

Line No.	Activity	Quality Requirement	Peak Daily Rate (m ³ /d)	Typical Daily Rate Averaged Over 1 Year (m ³ /d)	Parameter				Calculation Explanation
					1	2	3	4	
1	Water use for drinking and facilities including toilets and showers	Potable	42.75	17.3	855	0.055	0.475	0.854	Parameter 1 = peak no. workers on site [no. workers] (see construction key parameters) Parameter 2 = typical household per person consumption [m³/d] Parameter 3 = ratio of average to peak workforce, derived from the construction programme Parameter 4 = working-day to calendar-day factor (26 working days / 30.44 calendar days), as consumption occurs only on working days Peak rate = Parameter 1 x Parameter 2 Typical rate = Parameter 1

Line No.	Activity	Quality Requirement	Peak Daily Rate (m ³ /d)	Typical Daily Rate Averaged Over 1 Year (m ³ /d)	Parameter				Calculation Explanation
					1	2	3	4	
									x Parameter 2 x Parameter 3 x Parameter 4
2	Watering during establishment of new hedgerows and native woodland	Non-potable	212.9	6.4	125,000	-	3.5	0.03	In OLEMP [REP1-071], the following is proposed: 13.8km of proposed band of shrubs; 34.6km of proposed band of shrubs and scattered trees and 1.6km of strengthened band of scattered trees; With a worst-case scenario width of 2.5m for the bands, this calculates as an area of 125,000 m ² [Parameter 1]. Water demand is based on a crude averaging of potential evaporation calculated from data at the Redmere COSMOS station for the highest

Line No.	Activity	Quality Requirement	Peak Daily Rate (m ³ /d)	Typical Daily Rate Averaged Over 1 Year (m ³ /d)	Parameter				Calculation Explanation
					1	2	3	4	
									demand month, July. [Parameter 3, mm/d] Water demand also takes effective rainfall (1 mm/day) and landscape coefficients which change depending on the type of planting (0.7 for shrubs and 0.8 for trees), as well as Parameter 3. Peak demand is (Parameter 1 x Water Demand)/1000. Typical daily rate over 1 year assumes twice monthly watering May to September inclusive (5 months) therefore peak daily rate is factored according to Parameter 4

Line No.	Activity	Quality Requirement	Peak Daily Rate (m ³ /d)	Typical Daily Rate Averaged Over 1 Year (m ³ /d)	Parameter				Calculation Explanation
					1	2	3	4	
3	Dust suppression	Non-potable	185.85	22.3	6	8850	3.5	0.12	Parameter 1 = width of access track [m] (see Construction key parameters). Parameter 2 = GCR: length of tracks [m] (see construction key parameters) x 0.25 assuming that only 25% of the length will need to be irrigated on any one day; Solar Development Area is only at entry and exist points. Parameter 3 = evaporation estimate [mm/d] (as for watering above). Parameter 4 = factor to convert peak rate into daily average rate assuming need is only in: May, June, July (5 days),

Line No.	Activity	Quality Requirement	Peak Daily Rate (m ³ /d)	Typical Daily Rate Averaged Over 1 Year (m ³ /d)	Parameter				Calculation Explanation
					1	2	3	4	
									August (10 days) and September (20 days). However, an additional sensitivity test has been completed based on dust suppression being needed 75% of days May-Sept, as a worst case. Peak rate calculated as parameter 1 x parameter 2 x parameter 3. Typical rate is peak rate x parameter 4.
4	Wheel wash	Non-potable	15.8	6.32	25	632	0.4	-	Parameter 1 = volume of water required per vehicle per day for wheel washing (i.e. 25 l/d). Parameter 2 = no. vehicle movements per day (peak construction) (see Construction key parameters) Peak daily rate =

Line No.	Activity	Quality Requirement	Peak Daily Rate (m ³ /d)	Typical Daily Rate Averaged Over 1 Year (m ³ /d)	Parameter				Calculation Explanation
					1	2	3	4	
									parameter 1 x parameter 2 Typical rate assumes 50% of peak vehicle movements over 5.5 day working week (Parameter 3 used as a factor) Typical rate = peak rate x Parameter 3.
5	Plant washing	Fresh Non-potable	7.13	2.88	0.1	428	6	0.475	Plant washing is limited to low-volume pressure washing of wheels, tracks and steps, consistent with the wheel wash approach. It is not a full plant wash-down and no recirculation plant is assumed. Parameter 1 = water per item of plant washed [m ³] (100 litres) Parameter 2 = no. HGV and LGV movements per day (peak construction) (see Construction key

Line No.	Activity	Quality Requirement	Peak Daily Rate (m ³ /d)	Typical Daily Rate Averaged Over 1 Year (m ³ /d)	Parameter				Calculation Explanation
					1	2	3	4	
									parameters). Assuming that this number is proportional to amount of plant requiring washing on site. Parameter 3 = washing frequency: each item washed once per 6-day working week Parameter 4 = ratio of average to peak workforce, used as a proxy for average plant on site Peak rate = Parameter 1 x Parameter 2 / Parameter 3 Typical rate = peak rate x Parameter 4 x working-day to calendar-day factor (0.854)
6	Consumptive water for trenchless	Non-potable	10	0.03	0.1	100	2	50	Parameter 1 = water required per metre of

Line No.	Activity	Quality Requirement	Peak Daily Rate (m ³ /d)	Typical Daily Rate Averaged Over 1 Year (m ³ /d)	Parameter				Calculation Explanation
					1	2	3	4	
	drilling (e.g. HDD)								drilling [m³/m] based on precautionary values. Parameter 2 = rate of drilling for one rig [m/d] Parameter 3 = no. HDD crossings [no.] Parameter 4 = approximate drilling length per crossing [m] Peak rate = Parameter 1 x Parameter 2. The peak depends only on one rig operating and is therefore unchanged at 10 m³/d. Typical rate = Parameter 1 x Parameter 3 x Parameter 4 / cable route construction duration (286 working days) Total consumptive volume over both crossings = 0.1 x 2 x 50 = 10 m³

Line No.	Activity	Quality Requirement	Peak Daily Rate (m ³ /d)	Typical Daily Rate Averaged Over 1 Year (m ³ /d)	Parameter				Calculation Explanation
					1	2	3	4	
7	Concrete production (no on-site batching, wash-down water only)	Fresh Non-potable	0.4	0.06	0.2	173	1038	572	All concrete is delivered as ready-mix, so no mixing water is drawn on site. Parameter 1 = wash-down water per concrete delivery [m3] Parameter 2 = no. ready-mix deliveries over the programme [loads] Parameter 3 = volume of ready-mix concrete delivered [m3] indicative Parameter 4 = total construction working days Peak rate = Parameter 1 x 2 deliveries on a peak day Typical rate = Parameter 1 x Parameter 2 / Parameter 4

Table B3 Water Demand for Grid Connection Route at Construction (Provided by design team) (Daily value calculated based on 4 year construction period)

Line No.	Water use category	Basis / assumption	Estimated quantity	Estimated water allowance	Total estimated water requirement	Estimated daily water consumption (m ³) based on max estimate
1	Pylon working areas	Nominal 4,000 m ² per pylon to allow extra stone area for crane pad provision, with approximately 300 mm of topsoil/subsoil stripping and stockpiling, delivery, placement and compaction of approximately 300 mm of MOT Type 1 stone.	36 pylons excluding gantries; total area approximately 144,000 m ²	Based on access track figures of 10–20 m ³ /km for a 4 m wide track, equivalent to approximately 2.5–5.0 litres/m ²	360–720 m ³	0.49
2	Overhead line works – foundations and structure installation	Cleaning of site concrete plant and chutes used in placing concrete, plant cleaning, and foundation reinstatement. Concrete is assumed to be batched off site and delivered directly to site by concrete mixer truck. Water for concrete batching, piling/foundation concrete, and concrete mixer truck washout is assumed to be included within the concrete supply and delivery operation.	13 km OHL route	50–100 m ³ /km	650–1,300 m ³	0.89
3	300 m underground cable (UGC) section	Cable trenching, duct installation, bedding, cable sealing end interface works, dust suppression, and cleaning.	0.3 km	100–250 m ³ /km equivalent	30–75 m ³	0.05

Line No.	Water use category	Basis / assumption	Estimated quantity	Estimated water allowance	Total estimated water requirement	Estimated daily water consumption (m ³) based on max estimate
4	Two CSEC sites	Localised concrete placement support, hardstanding, drainage, cleaning of site concrete plant and chutes used in placing concrete, plant wash-down, and dust suppression. Concrete is assumed to be supplied from off-site batching. The two CSEC sites also include permanent access roads of approximately 290 m and 330 m respectively, involving approximately 400 mm of topsoil/subsoil stripping and removal/reuse from site, delivery, placement and compaction of approximately 400 mm of MOT Type 1 stone, with each length of road covered by a final layer of tarmac.	2 CSEC sites plus permanent access roads of 290 m and 330 m, total permanent access road length approximately 620 m	25–75 m ³ /site for CSEC works, plus 10–20 m ³ /km for permanent access road construction based on access-track figures	56–162 m ³	0.11
5	Reinstatement	Dismantle and remove from site access tracks, bellmouths to public highway, construction satellite compounds, construction UGC compound and pylon working areas. Reinstatement topsoil/subsoil.	Access tracks, bellmouths, two satellite compounds, one UGC compound and 36 pylon working areas; total reinstatement area	Based on access track figures of 10–20 m ³ /km for a 4 m wide track, equivalent to approximately 2.5–5.0 litres/m ²	662–1,324 m ³	0.91

Line No.	Water use category	Basis / assumption	Estimated quantity	Estimated water allowance	Total estimated water requirement	Estimated daily water consumption (m ³) based on max estimate
			approximately 264,860 m ²			

Table B4 Key Parameters Operational Phase

Key Input	Unit	Value	Assumption	Source
Peak daily onsite workforce	Workers	10	Peak daily workers	Para 2.3.1 of OOEMP [REP1-063]
Solar Array Area	m ²	10,670,000	-	Para 2.1.9 of ES Chapter 2: The Scheme [AS-017]
Stored fire water volume	m ³	360	1,500 L per minute for 4 hours	Table 2-1 of ES Chapter 2: The Scheme [AS-017]
Annual volume of water required for panel cleaning	m ³	3,386	-	Table 3-8 of OOEMP [REP1-063]

Table B5 Water Demand Calculations Operational Phase

Line No.	Activity	Quality Requirement	Peak Daily Rate (m ³ /D)	Typical Daily Rate Averaged Over 1 Year (m ³ /D)	Parameter		Calculation Explanation
					1	2	
1	Water use for drinking and facilities including toilets and showers	Potable	-	0.5	10	0.055	Parameter 1 = average no. workers on site [no. workers] (see Operation key parameters) Parameter 2 = typical household per person consumption [m3/d]
2	Water used for firefighting / suppression and for the testing of the firefighting system	Fresh Non-Potable	360	0.99	360	365	Peak rate is volume of fire water stored at the site (see Operation Key parameters, Parameter 1). Typical rate calculated assuming that system will be tested annually at full capacity, the annual average rate is peak rate divided by no days in a year [parameter 2]
3	Panel Cleaning	Sufficiently clean water with no added chemicals	3386	9.3	-	-	Peak rate assumes all panels cleaned in 1 day (not realistic, included only for clarity of calculation). Note Table A4 provides annual volume.
4	Cooling system for batteries	Fresh Non-Potable	-	-	-	-	Table 3-8 of OOEMP [REP1-063] states 'The BESS containers will also possess an internal fire suppression system. No fluids from the internal fire suppression system will be directed to swales, these will be isolated and contained separately for off-site disposal at a suitable licenced waste facility.'
5	Irrigation of onsite habitats	Fresh Non-Potable	-	-	-	-	Assumed that there is no requirement for watering during operation based on OLEMP [REP1-070].

Appendix C Anglian Water Services – Water Resource Assessment Form

Water Resource Assessment

The need for a Water Resource Assessment

Anglian Water is committed to supporting sustainable economic growth across the East of England. However, due to the impacts of climate change and to help protect the environment, the amount of water that businesses, including Anglian Water, can abstract is reducing. This situation is reducing our ability to be flexible with new requests to supply non-domestic connections which were not planned for in the Water Resources Management Plan 2025-2050 (WRMP24).

Whilst Anglian Water are taking steps to respond to this challenge with the construction of two new reservoirs and strategic pipeline transfers, these will take time to deliver. As such it is more crucial than ever that we work together with businesses, to ensure we are aware of their water demands for growth, and that demand management and water efficiency solutions are implemented to maximise what water is available.

Whilst Anglian Water has a statutory duty to supply water for domestic purposes (e.g., drinking water, hand-basins, toilets and showers) for non-household properties (e.g., schools, hospitals, offices, shops and hairdressers), there is no legal duty to provide water for non-domestic usage (e.g., agri-food production or car washes) where it might put at risk our ability to supply water for domestic purposes. When a site is designated as an NSIP or SDO, we will do our utmost to provide the water required for your project. However, this is subject to a director level review within Anglian Water and can take some time to approve. In some instances, even NSIPS and SDOs may ultimately be refused their requested non-domestic water request.

Anglian Water has adopted a [‘Non-Domestic Water Requests Policy’](#) which states that requests over 20m³/day will be declined. However, for Nationally Significant Infrastructure Projects that are requesting over 20m³/day of non-domestic water (as defined above) for a scheme, a Water Resource Assessment must be completed. This is so we can better understand water demands, water efficiency measures and more effectively forecast water supply requirements. This will help enable us to support projects that help achieve national ambitions such as achieving net zero carbon and unlocking sustainable growth.

Water Resource Assessment (WRA)

We advise that the WRA is used to inform the Preliminary Environmental Impact Report at the Statutory Consultation stage of the Development Consent Order (DCO) process and the Environmental Statement at submission. This will include engagement with environmental regulators. The WRA will also need to be submitted to Anglian Water’s pre-planning team also, so that the request for non-domestic water can be considered further. To guide this, we have set out below the information we expect to be included.

1. Contact and project details

Applicant name	Meridian Solar Farm Limited
Applicant address	10 Lower Thames Street, London, EC3R
Applicant contact name	Redacted
Applicant contact email	Redacted

Applicant contact phone number	Redacted
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Agent name (if applicable)	AECOM
Agent address	Aldgate Tower, 2 Leman Street, London, E1 8FA
Agent contact name	Redacted
Agent contact email	Redacted
Agent contact phone number	Redacted

Retailer name (if applicable)	NA
Retailer address	NA
Retailer contact name	NA
Retailer contact email	NA
Retailer contact phone number	NA
Water SPID	NA
Sewerage SPID	NA
Trade Effluent DPID	NA

Site address/location details	Meridian Solar, Approximate Grid Reference TF284135
Site contact name	Site contacts have not yet been established
Site contact role	As above
Site contact email	As above
Site contact phone number	As above

Site type / usage	Solar Farm
Hours of production	Core working hours will be 07:00 to 19:00 Monday to Friday, and 07:00 to 13:00 on Saturday, year-round. There will be no works on Sundays and Bank Holidays. Some works activities may need to occur out of these hours/times due to activities requiring to be undertaken continuously (such as HDD and cable jointing). Where on-site works are to be conducted outside the core working hours, they will comply with the restrictions stated in the Outline Construction Environmental Management Plan (OCEMP) [REP1-061] and any other restrictions agreed with the relevant planning authorities pursuant to the consent process under section 61 of the Control of Pollution Act 1974.
Days of production	Monday-Saturday
Peak production period	Peak construction period expected during 2031
When will your connection be required	TBC, anticipated timescales below: 2029 – 2033 for construction 2033 – 2073 for operation
Number of full-time employees on site	Construction: up to 855 (peak month); 184 average Full Time Equivalents (FTE). Operation: 10 FTE

Number of jobs supported by new/additional supply and discharge request	Construction: 184 average FTE. Operation: 10 FTE
Financial investment linked to request	-
Project planning route and status - please provide details and timeframe	NSIP – DCO Application submitted in March 2026. Assumed decision by September 2027.

2. Existing site supply and discharge (if applicable)

Non-domestic water demand	
Mains (potable) water consumption	0
Annual water consumption (m ³ /year)	NA
Average daily water demand (m ³ /day)	NA
Peak daily water demand (m ³ /day)	NA
Peak hourly water demand (m ³ /hour)	NA
Borehole water consumption	
Annual water consumption (m ³ /year)	NA
Average daily water demand (m ³ /day)	NA
Peak daily water demand (m ³ /day)	NA
Borehole licence reference (please attach)	NA
Other water consumption (specify source)	
Annual water consumption (m ³ /year)	NA
Average daily water demand (m ³ /day)	NA
Peak daily water demand (m ³ /day)	NA
Anglian Water/site water connection location (Grid ref)	
Meter Serial Number and size	None
Site water supply internal and external pipe diameters	NA
Site water supply pipe length to first point of use	NA
On-site water storage volume	
Effective water storage volume (m ³)	0
Height above ground level of inlet to storage	NA
Storage inlet control device (ball-valve, motorised valve, etc)	NA
Percentage of process supplied by on-site water storage	NA

Trade effluent	
Total trade effluent volume (m ³ /year)	0
Average daily trade effluent discharge (m ³ /day)	NA
Peak daily trade effluent discharge (m ³ /day)	NA
Trade effluent consent reference (if applicable)	NA

Trade effluent connection location (Grid ref)	NA
Trade effluent treatment plant description	NA
Trade effluent composition	NA

3. New (or additional needs) site supply and discharge requirements

This should include any temporary non-domestic water uses for construction.

Water demand																																										
Quantity of water requested for domestic purposes (m³/day)	Construction: 17.3 m³/d Operation: 0.55 m³/day																																									
Quantity of water requested for non-domestic (process) purposes (m³/day)	Construction: 34 m³/d for the main construction phase and 6.4 m³/day for watering of landscape planting. These phases are unlikely to significantly coincide. Operation: 10.3 m³/d for annual solar panel cleaning, expressed as a daily amount (cleaning will be done on occasions throughout the year rather than daily).																																									
Any water required for the purposes of firefighting	360 m³ of water is to be stored on site at the BESS compound for use in the event of a fire to cool adjacent structures / ground and prevent a fire at the BESS spreading. This will be a one-off requirement.																																									
Quality of water required i.e. potable or non-potable	Potable / non-potable as discussed above.																																									
Average daily demand (m³/day)	Construction & Operation: See screenshot below as taken from Table 2-2 of the WSS for estimated typical daily rates required during construction (post construction establishment period for landscape planting) and during operation. Table 2-2-Summary-of-Water-Demand-Calculations¶<table><tr><th rowspan="2">Water Use Type¶</th><th colspan="3">Construction-Phase¶</th><th colspan="3">Operational-Phase¶</th></tr><tr><th>Typical Rate-Per-Day (m³/d)¶</th><th>Annual-Volume- (m³/yr)¶</th><th>Total-For-Construction-Period-(40-years)-(m³)¶</th><th>Typical Rate-Per-Day (m³/d)¶</th><th>Annual-Volume- (m³/yr)¶</th><th>Total-For-Operational-Period-(40-years)-(m³)¶</th></tr><tr><td>Potable¶</td><td>17.3¶</td><td>6,314.5¶</td><td>25,258¶</td><td>0.55¶</td><td>182.5¶</td><td>7,300¶</td></tr><tr><td>Non-Potable¶</td><td>34¶</td><td>12,410¶</td><td>49,717¶</td><td>10.3^¶</td><td>3,759.5¶</td><td>150,380¶</td></tr><tr><td>Total- (Potable- +Non-Potable)¶</td><td>51.3¶</td><td>18,724.5¶</td><td>74,975¶</td><td>10.8¶</td><td>3,942¶</td><td>157,680¶</td></tr><tr><td>Watering- of-new-planting¶</td><td>6.4^¶</td><td>2,336^¶</td><td>7,008^*-(Total-over-3-years)¶</td><td colspan="3">Not-applicable¶</td></tr></table>	Water Use Type¶	Construction-Phase¶			Operational-Phase¶			Typical Rate-Per-Day (m³/d)¶	Annual-Volume- (m³/yr)¶	Total-For-Construction-Period-(40-years)-(m³)¶	Typical Rate-Per-Day (m³/d)¶	Annual-Volume- (m³/yr)¶	Total-For-Operational-Period-(40-years)-(m³)¶	Potable¶	17.3¶	6,314.5¶	25,258¶	0.55¶	182.5¶	7,300¶	Non-Potable¶	34¶	12,410¶	49,717¶	10.3^¶	3,759.5¶	150,380¶	Total- (Potable- +Non-Potable)¶	51.3¶	18,724.5¶	74,975¶	10.8¶	3,942¶	157,680¶	Watering- of-new-planting¶	6.4^¶	2,336^¶	7,008^*-(Total-over-3-years)¶	Not-applicable¶		
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Peak daily demand (i.e. the highest volume we might have to supply in a day in m³/day)	Construction: 269 m³/d. It is estimated that the construction phase will have the highest water demand, with an estimated peak daily water demand of 269 m³/day. This peak value is calculated using the highest possible parameters																																									

	such as the peak number of workers (which has been identified on a precautionary basis) and would only occur on site, if at all, for a short period of time. The typical rate accounts for this and provides a volume for an off-peak day. Operation: 11 m³/day. There are anticipated to be up to 10 permanent staff during operation on site, which would result in an estimated usage of 550 litres per day (0.55 m³/day) based on an estimate of 55 litres per person. In addition, during the operational phase, there will be a requirement once a year for washing of the panels. This will use clean water with no added chemicals. This will be at 3 m³ for every 1,000 panels, with a requirement for approximately 3,386 m³ of water once per year, as set out in the Outline Operational Environmental Management Plan (OOEMP) [REP1-063].																																									
Diurnal and annual profile (m ³)	Construction: Peak estimated in 2031. TBC based on final construction programme. See screenshot below as taken from Table 2-2 of the WSS for estimated annual water demand during construction and subsequent watering of landscape planting. Operation: The water use during the operational phase will be stable with no spikes in water use anticipated over the period. See screenshot below as taken from Table 2-2 of the WSS for estimated annual water demand during operation. Table-2-2-Summary-of-Water-Demand-Calculations¶¶ <table><tr><th rowspan="2">Water-Use-Type¶</th><th colspan="3">Construction-Phase¶</th><th colspan="3">Operational-Phase¶</th></tr><tr><th>Typical-Rate-Per-Day-¶ (m³/d)¶</th><th>Annual-Volume-¶ (m³/yr)¶</th><th>Total-For-Construction-Period(40-years)(m³)¶</th><th>Typical-Rate-Per-Day-¶ (m³/d)¶</th><th>Annual-Volume-¶ (m³/yr)¶</th><th>Total-For-Operational-Period(40-years)(m³)¶</th></tr><tr><td>Potable¶</td><td>17.3¶</td><td>6,314.5¶</td><td>25,258¶</td><td>0.55¶</td><td>182.5¶</td><td>7,300¶</td></tr><tr><td>Non-Potable¶</td><td>34¶</td><td>12,410¶</td><td>49,717¶</td><td>10.3¶</td><td>3,759.5¶</td><td>150,380¶</td></tr><tr><td>Total-(Potable+-Non-Potable)¶</td><td>51.3¶</td><td>18,724.5¶</td><td>74,975¶</td><td>10.8¶</td><td>3,942¶</td><td>157,680¶</td></tr><tr><td>Watering-of-new-planting¶</td><td>6.4¶</td><td>2,336¶</td><td>7,008*-(Total-over-3-years)¶</td><td colspan="3">Not-applicable¶</td></tr></table>	Water-Use-Type¶	Construction-Phase¶			Operational-Phase¶			Typical-Rate-Per-Day-¶ (m³/d)¶	Annual-Volume-¶ (m³/yr)¶	Total-For-Construction-Period(40-years)(m³)¶	Typical-Rate-Per-Day-¶ (m³/d)¶	Annual-Volume-¶ (m³/yr)¶	Total-For-Operational-Period(40-years)(m³)¶	Potable¶	17.3¶	6,314.5¶	25,258¶	0.55¶	182.5¶	7,300¶	Non-Potable¶	34¶	12,410¶	49,717¶	10.3¶	3,759.5¶	150,380¶	Total-(Potable+-Non-Potable)¶	51.3¶	18,724.5¶	74,975¶	10.8¶	3,942¶	157,680¶	Watering-of-new-planting¶	6.4¶	2,336¶	7,008*-(Total-over-3-years)¶	Not-applicable¶		
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Timescales to require the water, including any ‘ramping up’ to the full volumes e.g. construction needs and timescales	4 year construction period plus up to 5 years post construction establishment period for landscape planting, although expectation is that watering would mainly be needed for first three years, and this is weather dependent. 40 year operational life.																																									
Trade effluent																																										

Total trade effluent volume (including existing if appropriate) (m ³ /year)	NA – during construction porta-cabin type facilities will be in use. Operational requirements for substation facilities will be met with a sealed cesspit emptied under contract.
Average trade effluent volume (including existing if appropriate) (m ³ /day)	NA
Peak trade effluent volume (including existing if appropriate) (m ³ /day)	NA
Project planning route and status – please provide details and timeframe	NSIP – DCO Application submitted in March 2026. Assumed decision by September 2027.

4. Water efficiency measures

As set out above, and in Anglian Water’s Non-Domestic Water Requests Policy, there is a need to make best use of what water is available across the region, through implementation of water efficiency measures. We expect evidence of high levels of water efficiencies that you are considering implementing as part of your development and processes.

Potential ideas and solutions that we would want evidence on include:

- Maximisation of existing onsite resources (e.g. own borehole)
- Consideration of non-water based or close-loop cooling systems
- Capture and reuse of water from water-based cooling systems e.g. blowdown
- Sharing of resources with neighbouring facilities, considering all water-based resources such as steam, water/effluent reuse, rainwater harvesting
- Specification of highly rated white goods
- Sub-metering on site
- Evidence of water audit systems
- Infrastructure or systems that could manage the timing of water take e.g. onsite storage and control system, production flexibility
- Onsite measures to improve the water environment e.g. wetland

Please set out below what steps you have undertaken or will implement to ensure your processes (including during construction phases), and development are as water efficient as possible:

The Applicant has committed to investigating further options for the reuse of water during construction and operation as part of detailed design, within the **OCEMP** [REP1-061] and **OOEMP** [REP1-063] respectively. This water may be useful to reduce the external supply needs for some activities such as dust suppression, wheel wash facilities or irrigation of landscape planting. However, suitable collection and storage facilities would be required.

For example, during construction, tanks for rainwater harvesting could be installed on the roofs of construction compounds and the water subsequently used for dust suppression, wheel washing, irrigation of new landscaping and toilet flushing. Similarly, during operation, tanks for rainwater harvesting could be installed on the roofs of any On-Site Substation buildings and the water used in welfare facilities, e.g. for toilet flushing.

However, it is noted that the area of available roof space during construction and operation is limited and, therefore, volumes of any water harvested are not likely to be substantial. In addition, the availability would be dependent on weather and it would not likely coincide with periods of when the water is required for dust suppression or irrigation. As such, although the Scheme is committed to investigating and implementing options for rainwater harvesting, it may not be considered a reliable source of water.

Additionally, as rainwater would contain organic matter and chemicals, it would require treatment prior to use as bacteria could grow as it is stored. This would be a further limitation.

Further opportunities may exist for water recycling during construction. For example, runoff water from wheel wash could be directed to a settlement tank, filtered, where required, and recirculated into the wheel-wash system, rather than being disposed of after each use.

Glossary

Term	Definition
Baseline	Environmental conditions at specific periods of time present on, or near, the Site, against which future changes as a result of the Scheme are measured or predicted.
Battery Energy Storage System (BESS)	Battery energy storage system that would allow for the storage, import and export of electricity by the Scheme.
Development Consent Order (DCO)	An application made to the Planning Inspectorate for consent to carry out a Nationally Significant Infrastructure Project. The Planning Inspectorate issues a recommendation to the relevant Secretary of State who decides if development consent is granted.
Environmental Impact Assessment (EIA)	A systematic process of assessing a scheme's likely significant environmental effects undertaken in accordance with the EIA Regulations
Environmental Statement (ES)	A formalised statement that includes the information that is reasonably required to assess the environmental effects of the Scheme and which the Applicant can, having regard to current knowledge and methods of assessment, reasonably be required to compile, but that includes at least the information referred to in the EIA Regulations.
Grid Connection Route	The 400kV overhead line connection (via steel lattice style towers with a standard height of approximately 50m) within the Grid Connection Corridor between the Solar Development Area and the proposed National Grid Weston Marsh Substation. The Grid Connection would connect the Scheme to the national electricity transmission system (NETS).

Abbreviations

Abbreviation	Term
BESS	Battery Energy Storage System
BSMP	Battery Safety Management Plan
DCO	Development Consent Order
ERP	Emergency Response Plan
ES	Environmental Statement
NETS	National Electricity Transmission System
NPS	National Policy Statement
OEMP	Operational Environmental Management Plan
SuD	National standards for sustainable drainage systems

