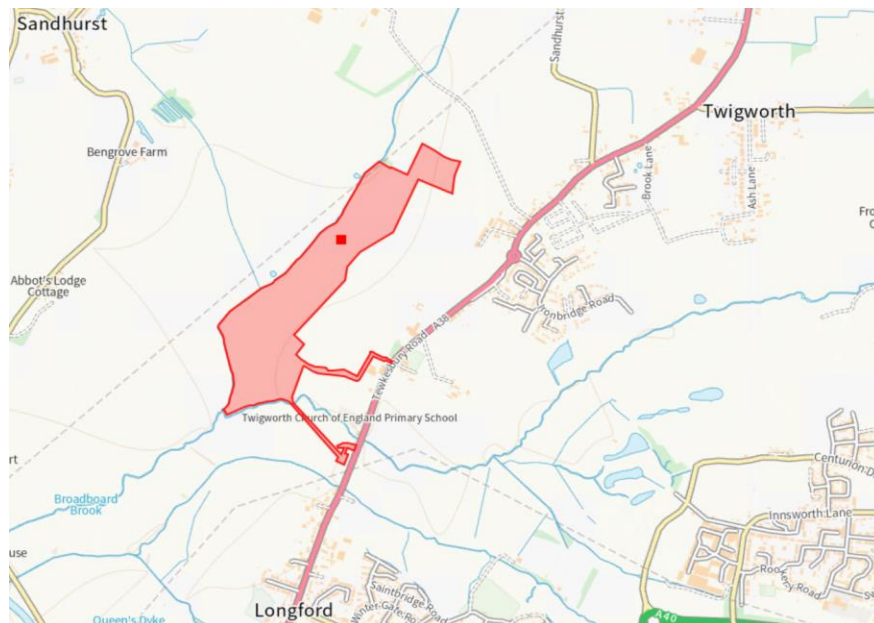


Planning Committee

Date	23 April 2024
Case Officer	Frank Whitley
Application No.	23/00441/FUL
Site Location	Land to the West of Twigworth Court Farm, Tewkesbury Rd, Twigworth
Proposal	Installation of ground mounted solar to export up to 16 MW (AC) electricity, comprising photovoltaic panels and associated infrastructure and works.
Ward	Innsworth
Parish	Twigworth
Appendices	<ul style="list-style-type: none"> Location plan Layout Array details Panel dimensions Access track Control room DNO customer substation Inverter station 1 Inverter Station 2 Inverter Station 3 Inverter Station 4 Landscaping plan
Reason for Referral to Committee	Parish Council objection
Recommendation	Permit.

Site Location



1. The Proposal

- 1.1 Full application details are available to view online at:
<https://publicaccess.tewkesbury.gov.uk/online-applications/applicationDetails.do?activeTab=documents&keyVal=RU38KGQDHDV00>
- 1.2 The application seeks planning permission for Installation of ground mounted solar to export up to 16 MW (AC) electricity, comprising photovoltaic panels and associated infrastructure and works.
- 1.3 It is proposed that at the end of the operational life of the solar farm (40 years) the development would be decommissioned.
- 1.4 The application follows pre-application advice provided under ref 22/00021/PRE, where the principle of solar development on the application site was found generally acceptable by Officers.
- 1.5 A Screening Opinion (application ref 23/00004/SCR) decided that an Environmental Assessment is not required.
- 1.6 The development would comprise:
- 38,000 photo voltaic (PV) panels between 1.8m to 4.3m above ground level, depending upon maximum depth of flood water
 - 4 x inverter containers each 10m long, x 2.6m wide x 3m high
 - Control building container 10.5m long x 2.6m wide x 3m high.
 - District Network Operator (DNO) substation container 8.1m long x 2.7m wide x 3.2m high
 - Customer substation container 8.1m long x 2.7m wide x 3.2m high
 - Containers would be mounted on raised platforms depending on maximum depth of flood water
 - Distribution cable network
 - 1.5km new access track
 - 2m high perimeter security fence and CCTV cameras
 - Temporary Construction compound (approx. 900sqm area)
 - Landscaping and biodiversity enhancements
- 1.7 The solar farm would be accessed by vehicles from the A38 Tewkesbury Road, 1.3km north of the A40 Longford roundabout. The access is currently a gated field entrance, immediately north of the filling station/store/car sales garage at Twigworth, and opposite St Matthew's Church. From here a new vehicle track would be laid, to connect close to the southern end of the solar farm.
- 1.8 There would be a second access off the A38 to the DNO facility, customer substation and auxiliary transformer, where there is an existing gated opening from the A38. From here, a cable would connect to the solar farm underground, with the exception of the Broadboard Brook crossing where it would be carried overhead between two poles. There would be no vehicle access to the solar farm from the DNO facility.
- 1.9 A buffer strip is incorporated into the PV array layout either side of a high-pressure gas pipeline which runs through the southern end of the site.

- 1.10** In addition to location/layout plans, the application is supported by:
- Planning Statement
 - Design and Access Statement
 - Environmental report
 - Landscape proposal
 - Landscape and Visual Impact Assessment (LVIA)
 - Settings Impact Assessment
 - Sequential Test
 - Residential and Amenity Visual Assessments
 - Noise Assessment
 - Landscape and Ecological Management Plan
 - Glint and Glare Assessment
 - Geophysical Survey and Archaeology reports
 - Flood Risk Assessment
 - Construction Traffic Management Plan
 - Arboricultural Assessment and Land Classification Report
 - Ecological Management Plan and Shadow Habitat Regulation Assessment
 - Access Study
 - Statement of Community Involvement
 - Visibility Assessment
 - Residential Visual Amenity Assessment

2. Site Description

- 2.1** The application site is approx. 26ha of flat agricultural land, bounded on its western edge by Cox's Brook and on the southern edge, by Broadboard Brook. The site is 1.2km from the northeast to southwest corners, consisting of five agricultural fields enclosed by hedgerow (hereafter referred to as fields 1-5, numbered north to south).
- 2.2** The red line of the application site connects to the A38 by two projections, one of which would comprise cable/substation infrastructure and the other would be for vehicle access.
- 2.3** The site is almost entirely within Twigworth Parish, though a small section to the south is within Longford Parish. The land is flat and currently is arable/grassed.
- 2.4** A high-pressure gas pipeline runs through field 5, and continues north, running parallel and just outside the eastern boundary of development.
- 2.5** The land is almost entirely within Flood Zone 3 (highest risk of flooding), according to Environment Agency Flood Maps. According to the Agricultural Land Classification System, the land is graded 3b.
- 2.6** The application site is outside of any landscape designation. The Cheltenham/Gloucester Green Belt extends as far west as the A38.
- 2.7** There are no public rights of way crossing the site, though the route of a footpath borders the eastern side of field 1, for a distance of 125m. There is a network of paths locally and the Gloucestershire Way passes 100m to the south of field 5 and the substation facility.
- 2.8** The site is bounded entirely by open agricultural land on its eastern side, and set back from the A38, though in the intervening space is some development on the western side of the A38 comprising residential dwellings, commercial buildings and a school.

- 2.9** Residential dwellings closest to the solar arrays (160m across open field)) would be Nos. 1-3 Twigworth Views, which are located to the rear of Twigworth Court and Business Centre (Grade 2 listed). Twigworth Primary School, nursery to the rear, and a group of residential dwellings on the A38 adjacent would be approximately 230m from the nearest array. Twigworth Lodge Hotel (Grade 2 listed) is also on the western side of the A38 and separated over a distance of approximately 270m.
- 2.10** The most northern part of the development would be within 100m of the approach lane to Wallsworth Hall (Grade 2* listed), part of which is occupied by an art gallery and tea room. Adjacent to the northeastern side of the lane, planning permission has been granted in outline for up to 85 dwellings by an appeal decision dated 21 February 2024 (23/01343/OUT).
- 2.11** The nearest settlement is Twigworth which for the most part is on the eastern side of the A38. Significant residential development has been approved, most notably relating to outline planning permission granted in 2016 for up to 750 dwellings (15/01149/OUT) and several later applications for reserved matters.
- 2.12** To the west of the A38, and in the context of the application site, the area is predominantly rural in character, comprising open arable land, hedgerows, small pockets of woodland, scattered residential properties/farm buildings between small villages and a network of narrow lanes. There are no protected trees within the application site, though there is a group Tree Preservation Order opposite St Matthews Church, and immediately north of the proposed vehicle access point.

3. Relevant Planning History

Application Number	Proposal	Decision	Decision Date
23/00004/SCR	Construction of a solar farm and associated infrastructure (Coxs Brook SPV)	EIA not required	12.4.24

4. Consultation Responses

Full copies of all the consultation responses are available online at <https://publicaccess.tewkesbury.gov.uk/online-applications/>. A site notice has been displayed.

4.1 Twigworth Parish Council- objection

In summary:

- Inappropriate close to residential properties of Twigworth
- visual impact to the outlook of nearby residential properties
- Contrary to policies of Neighbourhood Development Plan
- impact to the character of the local landscape
- impact for users of public rights of way
- Loss of productive arable land
- Impact to heritage assets
- Loss of wildlife habitat
- Traffic impacts, including noise and vibration
- Development is not temporary
- No direct benefit to local community

4.2 Longford Parish Council- objection

In summary:

Flooding, traffic and noise

4.3 Natural England- no objection

Summary: Mitigation Measures should be secured as set out in the Shadow Habitats Regulations Assessment

4.4 Environment Agency- no objection

Summary:

- Site is almost entirely Flood Zone 3 functional flood plain
- Sequential Test (ST) should be applied: *'Development should not be allocated or permitted if there are reasonably available sites appropriate for the proposed development in areas with a lower risk of flooding'*. (para 162 of archived NPPF now para 168)
- Exception test should be applied
- Condition should be applied to ensure that solar panels and buildings are installed above design flood level
- If the Local Planning Authority is minded to approve, conditions are recommended to keep the voided area free of water flow obstruction
- No objection to raised access track above flood level
- Concerns highlighted about flood levels around infrastructure buildings. The EA recommends consultation with emergency planners and emergency services and compliance with national policy guidance
- As regards Flood Evacuation Management Plan (FEMP), EA operates a Flood Warning Service. EA recommends consultation with emergency planners and emergency services to determine whether FEMP would secure safe and sustainable development.

4.5 National Highways- no objection

Based on the location of the proposal we do not consider that the application will result in a severe or unacceptable impact on the Strategic Road Network

4.6 Historic England- no objection

We confirm that while the visual impact of the proposed development from the estate approach to Wallsworth Hall is limited (and could be further mitigated through augmented hedge/tree planting), the change to the landscape, as historically associated with the estate, would result in a small degree of harm. Your authority should take these representations into account and seek amendments, safeguards or further information as set out in our advice.

4.7 Health and Safety Executive - no objection

4.8 Cotswolds National Landscapes- no objection

The Board has no comments to make on the proposed development

4.9 Gloucester Airport- no objection

The submitted glint and glare study has stated that there would be no adverse effects from the proposed solar farm. In this case therefore GAL would have no objection to the proposal

4.10 Exolum Pipeline System Ltd- no objection

4.11 County Council Highways- no objection

- 4.12 Lead Local Flood Authority-** no objection
The proposal is for structures identified as Essential Infrastructure largely in Flood Zone 3. The NPPF allows such development when supported by an exception test. The exception test is satisfied by constructing panels, control rooms, inverter stations, substations and transformers on structures above the 1:100 flood levels. The LLFA has no objection to this proposal.
- 4.13 County Archaeology-** no objection
Acceptable mitigation strategy has been provided and can be secured through condition
- 4.14 Public Rights of Way-** no objection
- 4.15 Tewkesbury Borough Council Emergency Planning Team-** no objection
Summary: Development should not have an impact on other properties by increasing flooding elsewhere, and should not create additional loss of power locally in the event of flood event.
- 4.16 Tewkesbury Borough Council Landscape Adviser -** no objection
Some adverse landscape harm, though no objection overall.
- 4.17 Conservation Officer-** no objection
The impact of the proposed development would generally be insufficient to generate anything above minor harm to the setting of surrounding Heritage assets.
- 4.18 Ecology-** no objection
- 4.19 Newt Officer –** no objection
- 4.20 Environmental Health-** no objection

5. Third Party Comments/Observations

A site notice has been displayed

12 Objections have been received on the following grounds in summary:

- Landscape harm- eyesore and blight on countryside
- Solar farm would be entirely visible from Twigworth Court- clear violation of the Neighbourhood Development Plan states public views from the A38 to May Hill should be maintained
- Risk of flooding and required elevation of equipment
- Outside of settlement boundary
- Fails to protect views according to neighbourhood development plan
- Emergency access issues during flood event
- Impact on wildlife
- Proximity to airport, risk to aircraft traffic from glint and glare
- Potential expansion of solar farm
- Loss of agricultural land
- Noise and light pollution
- Reduction in property values and visual impact
- Should be sited in alternative locations such as roof tops and non-agricultural land
- Development would change the tranquil character of the area creating adverse impact along public right of way. Panels would tower above walkers blocking views.

-
- Harm to heritage assets
 - Would consume what little green space Twigworth has left. Would engulf the area and cause harm to the countryside
 - Current beautiful vistas across Severn Vale countryside
 - Solar arrays up to 4.33m will appear like a robotic army standing in perfect formation ready to advance on Gloucester
 - 4 container buildings up to 5.68m above predicted flood level of 11.58m will look like command centres for the robotic army
 - Connecting cables will short circuit during flooding and could be damaged by burrowing animals
 - Could harm drainage of Cox's Brook into River Severn
 - No reason given to support lifespan of 40 years
 - Poor energy performance
 - Installation will take longer than 6 months if flooding occurs
 - Increase in construction traffic on A38
 - Cumulative impact of other solar farms
 - New planting to screen development would take 10 years to mature

6. Relevant Planning Policies and Considerations

6.1 Statutory Duty

Planning law requires that applications for planning permission must be determined in accordance with the Development Plan unless material considerations indicate otherwise

The following planning guidance and policies are relevant to the consideration of this application:

6.2 National guidance

National Planning Policy Framework (NPPF) and the National Planning Practice Guidance (NPPG).

6.3 Gloucester, Cheltenham and Tewkesbury Joint Core Strategy (JCS) – Adopted 11 December 2017

Policy SP2 (Distribution of New Development)
Policy SD3 Sustainable Design and Construction
Policy SD4 Design Requirements
Policy SD6 Landscape
Policy SD8 Historic Environment
Policy SD9 Biodiversity and Geodiversity
Policy SD14 Health and Environmental Quality
Policy INF1 Transport Network
Policy INF5 Renewable Energy/Low Carbon Energy Development

6.4 Tewkesbury Borough Local Plan to 2011-2031 (TBLP) – Adopted 8 June 2022

Policy NAT1 Biodiversity, Geodiversity, and Important Natural Features
Policy HER2 Listed Buildings
Policy LAN2 Landscape Character
Policy ENV2 Flood Risk and Water Management
Policy ENV3 Solar Farms

- 6.5 Down Hatherley, Norton and Twigworth Neighbourhood Development Plan
Policy E2 Landscape protection in the open countryside
Policy E3 Landscape and new developments

7. Policy Context

- 7.1 Section 38(6) of the Planning and Compulsory Purchase Act 2004 requires that proposals be determined in accordance with the Development Plan unless material considerations indicate otherwise. Section 70 (2) of the Town and Country Planning Act 1990 provides that the Local Planning Authority shall have regard to the provisions of the Development Plan, so far as material to the application, and to any other material considerations.
- 7.2 The Development Plan currently comprises the Joint Core Strategy (JCS) (2017), the Tewkesbury Borough Local Plan to 2011-2031 (June 2022) (TBP), and a number of 'made' Neighbourhood Development Plans
- 7.3 The relevant policies are set out in the appropriate sections of this report.
- 7.4 Other material policy considerations include national planning guidance contained within the National Planning Policy Framework 2021 and its associated Planning Practice Guidance (PPG)

MAIN ISSUES

- Principle of Development
- Site selection
- Loss of agricultural land
- Layout
- Effect on Landscape Character and Visual Amenity
- Flooding and Drainage
- Residential Amenity
- Historic Environment
- Access and Highways
- Ecology and Trees

8. Evaluation

Principle of Development

- 8.1 Under the Climate Change Act 2008, the government seeks to promote renewable energy production in order to reduce greenhouse emissions. The UK is committed under legislation to become the first major economy to achieve Net Zero greenhouse gas emissions by 2050.
- 8.2 The UK Government published its 'Overarching National Policy Statement for Energy' in November 2023 and came into force in January 2024. Para 3.3.20 states that:

Wind and solar are the lowest cost ways of generating electricity, helping reduce costs and providing a clean and secure source of electricity supply (as they are not reliant on fuel for generation). Our analysis shows that a secure, reliable, affordable, net zero consistent system in 2050 is likely to be composed predominantly of wind and solar.

- 8.3** Chapter 14 of the NPPF seeks to meet the challenge of climate change, flooding and coastal change. Para 157 states that
The planning system should support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change. It should help to: shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure
- 8.4** Planning Practice Guidance (PPG) explains that increasing the amount of energy from renewable and low carbon technologies will help to make sure the UK has a secure energy supply, reduce greenhouse gas emissions to slow down climate change and stimulate investment in new jobs and businesses. Planning has an important role in the delivery of new renewable and low carbon energy infrastructure in locations where the local environmental impact is acceptable.
- 8.5** Tewkesbury Borough Council declared a Climate Emergency on 1 October 2019. In achieving its vision for a 'good quality of life', the Tewkesbury Borough Plan incorporates the environment into the three dimensions of sustainable development. The Plan recognises that addressing climate change contributes to achieving its vision.
- 8.6** Policy INF5 (Renewable Energy/Low Carbon Energy Development) of the adopted JCS states:
Proposals for the generation of energy from renewable resources, or low carbon energy development (with the exception of wind turbines), will be supported, provided the wider environmental, social or economic benefits of the installation would not be outweighed by a significant adverse impact on the local environment.
- 8.7** Policy ENV3 of the adopted TBP (Solar Farms) states that in considering proposals for large scale, stand alone solar photovoltaic installations priority will be given to sites on previously developed land or non-agricultural land. Where the proposed use of agricultural land is shown to be necessary, priority will be given to poorer quality agricultural land.
- 8.8** Subject to further determining criteria below, in principle, the development is supported by national, local policies and associated guidance.

Site Selection

- 8.9** The planning application is supported by an Alternative Site Assessment (ASA) Document comprising a Sequential Test required specifically in relation to flooding.
- 8.10** The ASA explains that Developments with a generating capacity roughly in the range 2 to 25 MegaWatts (MW) will typically require a connection to the 33,000 volt (33kV) network. The first stage in site selection is to identify a suitable connection point before assessing planning and environmental considerations. In dialogue with National Grid, the applicant has identified capacity for 16MW in the overhead line between Rotol Road (off Down Hatherley near Gloucestershire Airport) and Castle Meads. Sites greater than 1.5 km from the overhead power line are economically unviable.

- 8.11** Stage 3 of the applicant's ASA excludes land which is subject to statutory designations, in terms of landscape, ecological and/or heritage value. Green Belt (other than in exceptional circumstances), Country Parks, built up areas, Registered Common Land, National Parks, and land crossed by public rights of way is also excluded. Best and Most Versatile Land is also screened out the process.
- 8.12** Site Suitability Investigations at Stage 3 of the ASA process includes an assessment of Flood Zones (at this juncture Officers note that the NPPF does not exclude land at risk of flooding from solar development, (see paragraph 8.64 below).
- 8.13** Stage 3 also includes an assessment of existing land use, where preference is given to brownfield land. However no suitable brown field sites were located within the refined search area.
- 8.14** Preference is given to sites where the overall landscape and visibility of the site is limited, or can be made so with appropriate screening.
- 8.15** Taking into account the size and number of the proposed construction vehicles that will be used, the application explains it is necessary to find a site which has suitable road access with minimal highway improvements required.
- 8.16** In terms of topography and shading characteristics, a site that is mostly flat or south facing is preferred to a site with a north facing slope, as the area of land required is reduced and the amount of electricity generated per hectare of land used is higher. Generally, smaller sites are preferred because this minimises land take and visual impacts. Fewer field boundaries are preferred to minimise shading from existing hedgerows and trees.
- 8.17** The findings of the Stage 3 ASA investigations demonstrated there were no suitable sites in Flood Zone 1 in the refined search area. They were not of sufficient size to be viable and were largely in use for housing and/or commercial purposes. A site in Flood Zone 2 was considered a possibility but was in an existing industrial estate/business park and could not be developed as a solar farm. The only land identified as being potentially suitable within the refined search area was identified as being in Flood Zone 3.
- 8.18** Finally, thorough dialogue with a number of landowners, and carrying out site inspections, the search for suitable sites was narrowed down still further. The outcome of these discussions led to the final section of the proposed application site.

Loss of Agricultural Land

- 8.19** Chapter 15 of the NPPF seeks to conserve and enhance the natural environment. Paragraph 180 states that amongst other things, planning decisions should contribute to and enhance the natural and local environment by recognising the benefits of natural capital, including the economic and other benefits of the best and most versatile agricultural land. Similarly, Chapter 11 of the NPPF seeks to make effective use of land, where planning decisions should promote an effective use of land in meeting the need for homes and other uses, while safeguarding and improving the environment, and encourage multiple benefits from both urban and rural land.
- 8.20** Policy SD14 (Health and Environmental Quality) of the adopted JCS amongst other things states that new development must take into account the quality and versatility of any agricultural land affected by proposals, recognising that the best agricultural land is a finite reserve.

- 8.21 Policy AGR2 of the adopted TBP is also relevant where it states any proposals (for diversification) must be of a scale and use appropriate to the rural setting and be in keeping with the character of its surroundings.
- 8.22 The agricultural holding is approximately 189 hectares. The proposed development would cover approximately 69% of total arable land and 12.4% of the overall holding. Land is currently used in the application site for arable and silage purposes.
- 8.23 According to the submitted Agricultural Land Classification report, the application site is Grade 3b, which is described as *Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass, or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.*
- 8.24 According to the NPPF, Best and Most Versatile Agricultural Land (BMV) is defined as land within Grades 1,2 and 3(a) of the Agricultural Land Classification. The application site is not therefore BMV. There is no conflict with the NPPF, Policies SD14 or AGR2.

Layout

- 8.25 The basic solar module unit would be formed of 27 panels fitted together to form a rectangular array measuring in total 10.4m long x 6.7m wide and 35mm depth. Each array would be angled between 15-35 degrees from horizontal and mounted on a metal frame fixed into the ground. There would be 1407 array modules distributed across the site in parallel rows east to west. The height above ground of each array would be a maximum of 4.3m in the western and central parts of fields 3 and 4, where flood water depth is likely to be at its highest. Elsewhere in fields 2,3,4 and 5, arrays would mostly be up to 4.1m high. The majority of arrays in field 1 would be mounted up to 1.8m height above ground level where the depth of flood water would be least.
- 8.26 The solar panels would connect to four combined inverter/transformer units which would then transfer energy to the grid. There would be one unit in field 1 (inverter station 1), and three in field 4 (inverter stations 2-4).
- 8.27 The inverter station containers would all be the same size (see paragraph 1.5 above) though each would be mounted on a raised platform, taking account of maximum flood water depth in their proposed position. Platforms would be constructed on frames, to allow water to move underneath and to minimise the displacement of water. Table 1 shows the floor level of each inverter container and the roof height of each inverter container above ground level.

Table 1: Inverter container heights above ground level.

	Container floor level above ground (ie maximum flood water depth)	Container roof level above ground.
Inverter 1	1.4m	4.6m
Inverter 2	2.9m	6.1m
Inverter 3	2.7m	5.9m
Inverter 4	2.9m	6.1m

- 8.28 Members should note that the maximum predicted flood water depth includes a margin taking into account predicted climate change impacts, and an additional 300mm as requested by the Environment Agency. As also noted by the Environment Agency, this represents 500mm above the highest recorded flood level at the Sandhurst gauge, recorded in July 2007.

- 8.29** Each inverter container would have an external platform at its floor level, measuring 13.5m x 5.6m accessed by steps from the ground.
- 8.30** Alongside the inverter station in field 1 would be a control room, raised 1.4m off the ground. Total height would be 4.6m above ground.
- 8.31** The application site comprises a single access track from the A38 which would be routed to the outside of the field 5 boundary (where there would be a construction compound) and then through a gated entrance into field 4. Here the access track crosses the oil pipeline over a 30m buffer strip (total width), crossing field 5 and part of field 4. Although the layout buffer strip equates to 15m either side of the pipeline, the applicant has provided a letter from Wales and West Utilities which confirms the minimum 'no excavation' distance either side of the pipeline is 10m. This enables new planting to take place inside the layout buffer strip. The access track runs inside the eastern boundary, past each inverter unit and terminates at the control room in field 1 to the north. The access track would be constructed from crushed stone, and would be at ground level.
- 8.32** The solar array development would be entirely bounded by a 2m dark coloured galvanised wire mesh fence (colour specification to be confirmed at the condition discharge stage), held between wooden posts at 4m intervals. The high pressure pipeline would also be protected by the same specification of fence, on the edge of the buffer strip. There would be gates through the perimeter fence into fields 1 and 5.
- 8.33** The entire solar array fence would be screened on its outside either by the existing strengthened hedge, or by a new hedge, maintained with tree planting to a height dependent upon the height of the solar panels intended to be screened.
- 8.34** The submitted layout indicates that (in approximation) field 1 would be bounded on its eastern side by a 2.5m hedge, field 2 by a 3m hedge, field 3 by a 4m hedge, field 4 by a 6m hedge, and field 5 by a 4m hedge.
- 8.35** The standard hedgerow mix would comprise hawthorn, hazel, field maple, dogwood, blackthorn and crab apple. Hedges would be planted in a staggered row of three transplants, in order to achieve additional depth once established. Where a hedge is intended to reach 6m high, the Trees Officer has discussed a solution directly with the applicant's landscaping consultant. It has been agreed that new tree planting within the hedge would take place at approximately 15m centres, of heavy standard (12-14cm girth) of field maple and wild pear.

DNO and Customer Substation

- 8.36** The DNO and Customer substation facility would be located adjacent to the A38, 75m south of the School House belonging to with Twigworth CofE Primary School. In the intervening space is Hatherley Brook and its bankside vegetation, and an existing car park. The compound is situated almost directly underneath the route of the 33kV overhead power line to which the facility would connect. The much larger 132kV power line is 50m further south, though there would be no connection made to it.
- 8.37** The two substation buildings would each be 8.1m long x 2.7m wide x 3.2m high, each mounted on raised platforms in the same way as the inverter units, taking account of predicted flood water depths. Table 2 shows the shows the floor level of substation containers and transformer, and the roof height of each above ground level.

Table 2: Substation containers and equipment heights above ground level.

	Floor level above ground (ie maximum flood water depth)	Maximum height above ground
DNO Substation container	2.1m	5.3m
Customer Substation Container	2.1m	5.3m
Auxiliary Transformer	2.1m	3.8m
Control Room	1.4m	4.6m

- 8.38** The containers and the transformer would have an external platform at floor level, accessed by steps from the ground.
- 8.39** The substation facility would be screened on its northern, eastern and southern boundaries by the existing and new hedge. In response to concerns about achieving timely effective screening, the revised landscaping strategy includes a proposal to plant 2.4m high feathered trees of native species in the area of the substation.

Connection from Solar arrays to DNO Substation facility

- 8.40** The solar arrays in field 5 would connect to the DNO substation by an underground cable (approx. 275m), except where crossing the Broadboard Brook. Here the cable would run 35m overhead, 8m above ground, between two poles either side of the brook.

Effect on Landscape Character and Visual Amenity

- 8.41** The NPPF at Paragraph 130 states amongst other things that decisions should ensure that developments are sympathetic to local character and history. At Paragraph 174, the NPPF states that decisions should protect and enhance valued landscapes and sites of biodiversity in a manner commensurate with their statutory status or identified quality in the development plan. The NPPF also states in Para 174 that decisions should recognise the intrinsic beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including trees and woodland.
- 8.42** Policy SD6 (Landscape) of the adopted JCS in summary:
- seeks to protect landscape character for its own intrinsic beauty and for its benefit to economic, environmental and social well-being.
 - states proposals will have regard to the local distinctiveness and historic character of the different landscapes in the JCS area, drawing, as appropriate, upon existing Landscape Character Assessments and the Landscape Character and Sensitivity Analysis.
 - applications for development will consider landscape and visual sensitivity, supported by a Landscape and Visual Impact Assessment as appropriate. Proposals should include appropriate mitigation and enhancement.
- 8.43** Policy LAN2 (Landscape Character) of the adopted JCS states all development must, through sensitive design, siting, and landscaping, be appropriate to, and integrated into, their existing landscape setting. Relevant landscape features and characteristics must be conserved and where possible enhanced.

- 8.44** Policies E2 and E3 of the Down Hatherley, Norton and Twigworth Neighbourhood Development Plan 2011 – 2031 seek to protect the landscape in the open countryside, and where new planting is proposed, to incorporate a majority of native species. Amongst other important vistas and landscape features, the enclosed tree-lined drive to Wallsworth Hall is identified in the Development Plan.
- 8.45** The application is supported by a Landscape and Visual Impact Assessment where it explains the Vale of Gloucester provides a largely flat, broad floodplain rising to the north to form Sandhurst Hill, and to the west, beyond the River Severn to form Spring Hill, north to the settlement of Maisemore. Gloucester and Innsworth also lie in the floodplain, before the land rises to form the Cotswold Escarpment to the south east.
- 8.46** The land is flat, and sparsely wooded across the landscape, and is characterised by frequent hedges and hedgerow type trees, parkland, and orchards. There is also unimproved grassland and other grazing marshes.
- 8.47** In the Gloucester Landscape Character Assessment of 2006, the application site is identified as being in Landscape Character Type (LCT) 12, (Floodplain Farmland), with LCT 18 (Settled Unwooded Vale) lying to the west, north and east.
- 8.48** LCT Floodplain Farmland is characterised by:
- Areas subject to winter flooding which provides fertile pastures for summer grazing.
 - Flat landform and limited tree cover
 - Extensive pattern of ditches, streams and brooks
 - Pastoral landscape with unimproved and improved grassland
 - Urban and industrial land uses in the vicinity of Gloucester
- 8.49** LCT Settled Unwooded Vale is characterised by:
- Gently undulating to flat landscape with intermittent locally elevated areas
 - Mixed arable and pastoral land
 - Limited woodland cover with mature hedgerow and trees
 - Bordered by large urban and suburban areas and interspersed with commercial and industrial premises
 - Major transport corridors
 - Network of pylons and transmission lines
- 8.50** In terms of landscape character, Twigworth Farmed Floodplain is assessed as having a medium sensitivity value, with low susceptibility to change.
- 8.51** The LVIA concludes that in terms of landscape character, there would be an adverse effect but the significance of the effect would be graded moderate-minor.
- 8.52** Specific to the application site, is the presence of a number of listed buildings near to the application site, and of particular note is Wallsworth Hall (Grade 2*). The conclusion of the Settings Impact Assessment is that the proposed development would not harm the significance of any of the heritage assets in the wider area.
- 8.53** In terms of Visual Receptors, 12 viewpoints have been selected within the Zone of Theoretical Visibility (ZTV). Six are located on public rights of way, and six on nearby roads. A separate Residential Visual Amenity Assessment accompanies the application.

- 8.54** Visual receptor harm has been identified from the following viewpoints:
- Viewpoint 1 from the A38- moderate to minor harm, decreasing to minor after 15 years
 - Viewpoint 3 from public footpath on north east boundary- moderate, decreasing to negligible after 15 years
 - Viewpoint 7 from public footpath to north west of site- moderate to minor decreasing to negligible after 15 years.
 - Viewpoint 8 from public footpath (Gloucestershire Way) – major to moderate decreasing minor after 15 years
 - Viewpoint 9 from public footpath (Gloucestershire Way) – major to moderate decreasing moderate after 15 years
 - Viewpoint 10 from public footpath west of site –moderate decreasing moderate to minor after 15 years
- 8.55** The Gloucestershire Way is considered a particularly sensitive route due to its popularity with walkers. Harm from all other viewpoints is considered in the LVIA to be minor or negligible.
- 8.56** Officers comment on the submitted LVIA having regard to the opinions of the Borough Council’s own appointed landscape Adviser who has reviewed the application and visited the application site.
- 8.57** The Adviser acknowledges there will be adverse impacts because landscape positives do not outweigh the negatives. In his opinion, even though there is a sizeable change where the alteration would occur, it is relatively discrete and is to an intensively managed agricultural landscape with limited landscape amenity appeal. The Adviser adds that the local landscape feature of note, Wallsworth Hall, would not have its landscape setting altered. Adverse impacts are mitigated by the duration of the effect and once the site is decommissioned, new hedgerow and tree planting would remain as a more lasting beneficial change.
- 8.58** The landscape Adviser also comments that flatter landscapes generally are better hosts for solar farms. Primarily, the edge of the development affects ‘human perception’ rather than the ability to see a greater area of arrays ranging up a slope or hillside. However, this opinion is qualified by potential cumulative effects where wider landscape character harm may occur from a proliferation of solar farms. In relation to an approved solar farm at Maisemore, the Adviser believes there should be no visual link.
- 8.59** The landscape Adviser has stated that generally, he agrees that 15 years after development, the effect on landscape character for the Twigworth Farmed floodplain would be moderate to minor, adverse, but reversible. The description of effects and sensitivity levels given to receptors in the LVIA is found to be fair and reasonable. Additional planting and increased husbandry of landscaping could increase benefits still further.
- 8.60** In terms of visual effects, arrays would be visible in ‘middle distance’ views from a number of residential, commercial buildings on the west side of the A38.
- The residents of Twigworth View looking west to the eastern edge of Fields 1, 2 & 3
 - Residents and workers on the upper floor of the Oakwood Hotel
 - From the occasional residential properties set to the west side of the A38 set between the Twigworth Service Station and The School House
- Arrays would also be visible from Mary P’s Nursery School.

- 8.61** Some concerns are raised about the views from the approach lane to Wallsworth Hall, though not from the Hall itself. The landscape Adviser acknowledges that away from the A38 corridor, the edge of the array development would be visible and would appear 'unnatural, uniform and repetitious in appearance'. Housing development approved by 23/01343/OUT on 21 February 2024 would not be affected by the solar farm as there is sufficient separation over approximately 100m and the dividing feature of Wallsworth Hall Lane.
- 8.62** However Officers comment that this visual harm would be limited to a small number of properties, and not from close range. New planting and enhancement of existing hedgerows would mitigate the visual harm. Further solar arrays closest to the approach lane to Wallsworth Hall in field 1 would for the most part be 1.8m off the ground. Only a small number of panels on the western edge of field 1 would be up to 3.6m off the ground, due to a higher predicted flood water depth closer to Cox's Brook. According to the landscaping plan, the existing hedge of the northern boundary of field 1 is 6m high, and would be maintained at that height.
- 8.63** In terms of the substation facility adjacent to the A38, Officers comment that it would be highly visible at least initially after installation, though in time visibility would be reduced. Given the speed of traffic and screening, only glimpses of the 5m high structures are more likely. Views from the School House to the north are not considered significantly harmful, given the existing proximity of the A38, proximity of power lines and intervening vegetation.
- 8.64** Officers acknowledge the development would lead to significant landscape change, resulting in some adverse harm to character, particularly before and during the establishment of effective screening. However having regard to comments from the Council Landscape Adviser, Officers do not believe impacts to the character of the landscape are sufficiently harmful to warrant refusal of the application.
- 8.65** Solar arrays and the substation would be visible from relatively few local locations due to flat topography and existing field boundaries. Where some visual harm is identified, the landscaping strategy submitted demonstrates that harm can be controlled to an acceptable level. Subject to implementation of a landscaping plan secured by condition, Officers consider there is no conflict with Paragraphs 130 and 174 of the NPPF, Policy SD6 (Landscape) of the adopted JCS and Policy LAN2 (Landscape Character) of the adopted TBP.

Flooding and Drainage

- 8.66** The NPPF states that inappropriate development at risk of flooding should be avoided by directing development away from areas at highest risk.
- 8.67** The Sequential Test required by the NPPF Technical Guidance, forms part for the Alternative Site Analysis (ASA), which has been submitted as a separate document. The ASA explains that proximity to and availability of electricity grid is essential for viability and environmental reasons. A number of alternative sites within the ASA document have been discounted. The selected location of the solar farm includes consideration of a number of constraints and has concluded that the proposed site is the most reasonable within the search area (Paragraph 8.17)

- 8.68** The application site is within functional floodplain. NPPF Technical guidance states that only water-compatible uses and essential infrastructure should be permitted in functional floodplain. It should be designed and constructed to:
- remain operational and safe for users in times of flood
 - result in no net loss of floodplain storage
 - not impede water flows
 - not increase flood risk elsewhere

Essential infrastructure in this zone should pass the Exception Test.

- 8.69** According to NPPF Technical Guidance, Essential Infrastructure includes:
- Essential transport infrastructure (including mass evacuation routes) which has to cross the area at risk
 - Essential utility infrastructure which has to be located in a flood risk area for operational reasons, including electricity generating power stations and grid and primary substations; and water treatment works that need to remain operational in times of flood.
 - Wind turbines.
- 8.70** For the avoidance of doubt, and as acknowledged by the Environment Agency and LLFA, solar farms are considered to fall within these exceptions.
- 8.71** The application is supported by a Flood Risk Exception Test which in summary, explains there are local, regional and national benefits from the proposed development, and that the solar farm can operate safely, without increasing flood risk elsewhere.
- 8.72** Policy INF2 (Flood Risk Management) of the adopted JCS states that development proposals must avoid areas at risk of flooding, in accordance with a risk-based sequential approach.
- 8.73** Policy ENV2 (Flood Risk and Water Management) of the adopted TBP seeks to manage the risk of flooding to and from new development.
- 8.74** The vast majority of the application site is in Flood Zone 3 (highest risk) from fluvial flooding and is functional floodplain. Only a small part of field 1 is in Flood Zone 2. According to the landscaping plan, the existing hedge of the northern boundary of field 1 is 6m high, and would be maintained at that height.
- 8.75** The submitted Flood Risk Assessment explains that according to British Research Establishment (BRE) planning guidance, large-scale ground mounted solar panels do not increase the impermeable area of a site and it is generally considered that they do not contribute to an increase in surface water runoff from the site. Panels are typically mounted in double horizontal rows and are separated by a horizontal rainwater gap. These gaps allow rainwater to drain freely to the ground between the ground. Officers comment that there is anecdotal evidence that more permanent ground vegetation underneath and between panels helps to increase holding capacity of the ground, stabilises soil, and reduces silt and water run off which can otherwise be a consequence of cultivated arable land. In relation to infrastructure equipment and buildings, backfilled trenches and swale features are incorporated into the drainage strategy. These measures are intended to intercept and attenuate runoff, thus preventing unrestricted runoff. Notwithstanding, it is recommended that a surface water disposal scheme is secured by condition.

- 8.76** As a point of clarification, the maximum predicted flood level is the same across the entire application site. Equipment is installed across the site at different heights above ground, because of different ground levels, and hence water depths. The maximum predicted flood level takes into account the latest recommended climate change allowances. Equipment is designed to stand at this flood level (design flood level) which in this case is 11.58m above ordnance datum (AOD). This figure is the precautionary worst case design flood level against which the site has been assessed and is accepted by the Environment Agency.
- 8.77** As an additional safeguard, the Environment Agency has recommended the floor levels of all buildings should be designed 300mm above the maximum predicted flood level. All buildings have been designed accordingly. Electrical connections of each solar panel would be at least 300mm above the design flood level thus avoiding the risk of immersion.
- 8.78** All associated buildings would have their base levels and access doors raised above design flood level (ie maximum predicted depth) to ensure equipment is not damaged. This will be achieved by the use of plinths and 'stilts', with access provided by stairways and ramps.
- 8.79** Permeable gravel tracks would ensure that surface water runoff is reduced to acceptable levels.
- 8.80** Drainage systems are likely to remain in private ownership and therefore the site operator will be responsible for the maintenance of drainage equipment.
- 8.81** The FRA concludes:
- Site topography and taking into account of climate change flood levels, it is feasible to design the farm, taking the appropriate flood risks into account, primarily by raising the infrastructure above the design flood level.
 - Analysis of the likely effects on floodplain storage has concluded that the development will have a negligible impact
 - All other forms of flood risk have been considered and assessed as low or very low.
- 8.82** No objections have been received in relation to flooding and access arrangements, by either the Environment Agency, Lead Local Flood Authority, County Council Highways, Tewkesbury Borough Council Emergency Planning Team.
- 8.83** Officers consider that a satisfactory sequential test has been provided, and there are no other appropriate alternative sites where development of this nature could realistically take place. Officers consider the proposed development is essential infrastructure and is in principle appropriate in the functional flood plain. Further, Officers are satisfied the development would:
- remain operational and safe for users in times of flood
 - result in no net loss of floodplain storage
 - not impede water flows
 - not increase flood risk elsewhere
- Accordingly, the flood risk exception test is deemed to have been met.
- 8.84** Officers consider that refusal of the application on drainage and flood risk grounds would be unwarranted, and that the proposed development where relevant complies with the NPPF, its associated Technical Guidance, INF2 of the adopted JCS and ENV2 of the adopted TBP.

Residential Amenity

- 8.85** Policy INF5 of the adopted JCS (Renewable Energy/Low Carbon Energy Development) supports low carbon energy development, provided the benefits are not outweighed by a significant adverse impact on the local environment, taking account of users and residents of the local area in terms of 'emissions, noise, odour and visual amenity'.
- 8.86** Policy SD4 (Design Requirements) of the adopted JCS seeks to avoid visual intrusion, noise, smell, and pollution in development. Policy SD14 (Health and Environmental Quality) goes further to ensure that new development causes no unacceptable harm to local amenity including neighbouring occupants.
- 8.87** Policy HEA 1 (Healthy and Active Communities) of the adopted TBP seeks to ensure that potential impacts to health and wellbeing are considered in new development.
- 8.88** A noise impact assessment has been submitted which explains that 30 noise sensitive receptors (all residential dwellings) were identified within a study area of 500m around the application site.
- 8.89** The noise impact assessment explains a low background noise level of 25dB is appropriate for a typical low noise rural night-time setting. The day-time background noise levels are assumed to be higher than 25dB and therefore the night-time assessment is considered a worst-case scenario. 25dB is considerably less than the Night Noise Guideline value of 40dB as set out in the World Health Organisation Night-time Guidelines.
- 8.90** An assessment of the acoustic impact showed that a low and negligible impacts during night-time periods are anticipated and therefore no mitigation is required.
- 8.91** The planning application had been assessed by the Council's Environmental Health Officer who has raised no objection regarding noise impacts to nearest sensitive receptors during day and night. Only during the construction phase, the Environmental health Officer has requested a method statement as part of the Construction and Environmental Management Plan, which may be secured by condition.
- 8.92** The application is supported by a Glint and Glare Assessment which in part considers impacts to nearby residential properties. The Assessment has found that eight residential properties within 1km of the site could potentially be affected. Taking into account existing vegetation, only three residential properties would be affected by low level impacts. Once proposed additional screening is taken into account, no impacts are predicted to all eight properties. Officer consider there is very low risk of residential properties being affected by glint and glare.
- 8.93** Officers consider the proposed development complies with requirements where relevant of the NPPF, INF5, SD4, SD14 of the adopted JCS and HEA1 of the adopted TBP.

Historic Environment and Archaeology

- 8.94** The NPPF at Chapter 16 (Conserving and Enhancing the Historic Environment) states that when considering impacts, great weight should be given to the asset's conservation.

- 8.95** Policy SD8 (Historic Environment) of the adopted JCS states that designated and undesignated heritage assets and their settings will be conserved and enhanced as appropriate to their significance, and for their important contribution to local character, distinctiveness and sense of place.
- 8.96** Policy HER2 (Listed Buildings) of the adopted TBP states that development within the setting of listed buildings will be expected to have no adverse impact on those elements which contribute to their special architectural or historic interest., including their settings.
- 8.97** Policy HER4 of the adopted TBP states that Scheduled Monuments and sites of national archaeological importance will be preserved in situ and provision should be made for excavation and recording.
- 8.98** A Heritage Impact Assessment (HIA and incorporated into the Settings Impact Assessment) has been submitted.
- 8.99** The assessment identifies the following designated heritage assets, due to their proximity to the study site, and potential for intervisibility with the proposed development:
- Wallsworth Hall and gate piers (Grade II*)
 - Twigworth Court
 - Stable Blocks north of Twigworth Court
 - Twigworth Lodge Hotel
 - Bengrove Farm
- 8.100** In addition to the listed buildings the following non-designated historic buildings are identified
- The Church of St Matthew
 - Former Twigworth Primary School (60m north of the A38 substation)
- 8.101** Wallsworth Hall is situated 500m northwest of the nearest edge of field 1. The HIA recognises it is a heritage asset of the highest national significance and its setting comprises several distinct elements. The first element is the experience obtained between the bridge over Cox's Brook and the Hall itself. (280m separation on the approach lane) Here, the architectural interest is best experienced with glimpses of the façade, in conjunction with its gate piers. Secondly, views from the remainder of the approach lane before Cox's Brook are the clock tower, visible over trees. The final element noted in the HIA are the long views of the surrounding landscape, which demonstrates the relationship of the Hall with the surrounding rural area.
- 8.102** Historic England has been consulted and report that visual impacts of the proposed development are limited, though could be further mitigated through augmented hedge/tree planting. The change to the landscape, as historically associated with the Wallsworth Estate, would result in a small degree of harm. It is recommended that more discussion takes place with the Council's landscape Adviser. The formal position adopted by Historic England in respect of Wallsworth Hall and its setting is that development is likely to remain harmful, albeit at the lower end of less than substantial, as defined by the NPPF. Historic England advise that it would be for the Council to weigh any harm against the public benefits of the scheme, as required by the NPPF.
- 8.103** The Conservation Officer has been consulted and reports as follows, and that in his opinion, heritage impacts are limited to the following assets:

8.104 Bengrove Farm (Grade 2 listed)

The farm sits in an area of open countryside north west of the proposed development. Due to distance and topography, it is likely that some distant views of the solar farm will be possible, but not of sufficient magnitude to impact upon the setting of the historic asset.

The Setting of Twigworth Lodge Hotel (Grade 2 listed)

Due to distance and topography, and its position next to the A38, harm to the significance of the building would be limited.

The Approach to Wallsworth Hall (Grade 2*listed)

The Conservation Officer acknowledges the experience of the approach to Wallsworth Hall is particularly sensitive to change and visual intrusion where the private drive passes through open countryside. Accordingly, any views of the solar panels would be unacceptable. In response to the Conservation Officer concerns, Officers point out the following:

- The edge of the approach road to Wallsworth Hall is entirely within the applicant's control and therefore it would be possible to augment existing landscaping proposals where considered necessary. Additional planting along the edge of the approach road and to the northern edge of field 1, could be secured by way of an appropriate landscaping condition. According to the landscaping strategy plan, the hedge on the northern boundary of field 1 is already 6m high and would be maintained at that height. The arboricultural survey confirms the northern boundary currently comprises a group of ash trees, a group of field maple trees, a lime tree as well as the hawthorn/blackthorn field boundary hedge.
- Approximately 80% of solar panels in field 1 would be no higher than 2.3m above ground. Only a small number would be up to 3.3m above ground level. The Conservation Officer appears to have assumed a worst case scenario of 4.3m high in field 1.
- At the point of discharging a landscaping condition, Officers would be entitled to insist on larger transplants, in order to achieve more rapid screening.
- Discussions have taken place between the applicants landscaping Adviser and the Council's Tree Officer. This discussion has led to development of an enhanced illustrative landscaping scheme which will be presented to Members at Committee.

The Setting of the Old School (Location of Substation)

The Conservation Officer has confirmed the Old School House is not listed but is a historic Victorian village school building of stone and brick with neo gothic styled details. The building is in a prominent location and contributes positively to the historic character of the area. The building is considered a non-designated heritage asset. The Conservation Officer's opinion is that the substation buildings would have the potential to appear prominent, dominant, utilitarian and industrial. In response to the Conservation Officer concerns, Officers point out the following:

- Land surrounding the substation forms part of the enhanced illustrative landscaping scheme which will be presented to Members at Committee.
- The substation would be sited on land within the control of the applicant, so a more effective landscaping screen could be planted as required at the point of discharging a landscaping condition.
- The existing road side hedge along the edge of the A38 is well established and for the most part is an effective screen. Where a gap exists, further tree/shrub planting is possible.

8.105 Paragraph 208 of the NPPF requires that where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal.

- 8.106** Officers consider there are very significant public benefits from the proposed development by its contribution to addressing the harmful effects of climate change, and the need to meet the government's targets under the Climate Change Act 2008 (2050 Target Amendment) Order 2019 of reducing greenhouse gases. Further, The UK Government published its 'Overarching National Policy Statement for Energy' in November 2023 and came into force in January 2024. Paragraph 3.3.20 states that *Wind and solar are the lowest cost ways of generating electricity, helping reduce costs and providing a clean and secure source of electricity supply (as they are not reliant on fuel for generation).*
- 8.107** Members will also recall that Tewkesbury Borough Council declared a Climate Emergency on 1 October 2019.
- 8.108** For the above reasons, Officers consider the proposed development carries very significant weight in terms of the balancing exercise required by Paragraph 208.
- 8.109** In terms of the significance of Wallsworth Hall, it should be noted that Historic England has assessed the level of harm as the lower end of less than substantial. Concerns have been raised by the Conservation Officer, though clarification has been provided against the consultation response. Further, additional mitigation can be secured by way of an appropriate condition. No concerns have been raised by the Council's Tree Officer regarding the means to achieve this mitigation.
- 8.110** Officers consider there are clear public benefits from the proposed development and the balancing exercise required by Paragraph 208 of the NPPF weighs in favour of the application.
- 8.111** Paragraph 209 of the NPPF requires that the effect of an application on the significance of a non-designated heritage asset should be taken into account. For these assets, a balanced judgement will be required having regard to the scale of harm and the significance of the asset.
- 8.112** For the same reasons which apply to Paragraph 208, Officers consider there are very considerable public benefits in favour of development. The Conservation Officer has expressed concerns about level of harm to the significance of the Old School building. However, Officers consider the substation facility should be viewed in its immediate context which includes the A38 and large electricity pylons very close by. Officers also refer to the Landscape Character Type 'Floodplain Farmland' which includes in its character (amongst others) 'urban and industrial land uses in the vicinity of Gloucester'. Accessible alternative sites which would avoid either landscape, environmental, and heritage harms appear very limited. On balance and taking into account that harm can be further mitigated by additional landscaping and by controlling colour of buildings and equipment, Officers consider the balanced judgement lies in favour of development. For this reason, there is no conflict with associated legislation, namely the Planning (Listed Buildings and Conservation Areas) Act 1990.
- 8.113** In terms of archaeology, a desk-based assessment, geophysical survey, and trial trenching evaluation have been carried out and results submitted in accordance with Paragraph 200 of the NPPF. Three areas of interest have been found, two dating from the Roman period and one of Medieval origins. Assessments have been carried out under the supervision of the County Council archaeologist who has advised that in these areas of interest, works are limited in depth to avoid damage to archaeological assets. Elsewhere, targeted trial trenching has been completed.

8.114 Further to trial trenching, an archaeological management plan has been completed and its scope has been agreed with the County Council archaeologist who has no objections, subject to development proceeding in accordance with the management plan.

8.115 Subject to the above procedures being followed, Officers consider the development complies with the NPPF and Policy HER4 of the adopted TBP.

Access and Highways

8.116 The NPPF at Chapter 9 seeks to promote sustainable transport.

8.117 Policy INF 1 (Transport Network) requires that developers should provide safe and accessible connections to the transport network to enable travel choice for residents and commuters. Chapter 10 of the adopted TBP states that an efficient and safe transport system is critical to the success of the Borough and the quality of life of its residents and visitors.

8.118 The application is supported by a:

- Draft construction traffic management plan,
- Code of construction practice,
- Technical note comprising an access study and personal injury collision review (updated following initial Highways holding objection)
- Delivery route plan

8.119 In relation to access and highways, the application concludes that construction is expected to last six months. Deliveries would approach from the south only, according to the submitted delivery route plan. Access to the main site would be by an existing field entrance adjacent to the filling station/store/car sales garage at Twigworth, and opposite St Matthews Church. Access to the substation facility would be from the A38, in a position between the bridge crossings of the Broadboard Brook and Horsbere Brook.

8.120 During construction, (and decommissioning) an average of 6-10 HGV delivery vehicles would arrive at the site per day. Where possible, deliveries would be made outside of typical network peak hours and only between daytime hours Monday to Friday and Saturday mornings. Officers recommend a further control to preclude any activity on Sundays and public/bank holidays. There would be approximately 50 workers on site during construction with up to 30 associated vehicle trips involving smaller car and minibus movements.

8.121 The layout of a temporary construction compound has been provided, which would be situated at the western end of the access track, immediately outside of the main solar site. The compound measuring approximately 30m x 30m would comprise a storage area, drying room, canteen, offices, car park, wheel wash area, and turning area within for articulated vehicles.

8.122 National Highways has been consulted and has raised no objections.

- 8.123** Gloucestershire County Council Highways has been consulted and initially expressed some concerns with the following, leading to holding objection.
- Concerns that approaching HGVs to the access on the A38 would have to cross the centreline of the highway without additional clarification on access dimensions and visibility
 - Clarification required on speed surveys
 - Clarification required on car and vehicle parking arrangements
 - Clarification required on road surfacing proposals
- 8.124** Following the initial concerns, the applicant has submitted a revised highways technical note which has been reviewed by the Highways team. Additional access drawings have been provided and additional explanation provided to the satisfaction of the Highways team. Conditions are recommended to secure a finalised Construction Management Plan, access treatment and confirmation of visibility splays, to be secured prior to the commencement of development.
- 8.125** In terms of Glint and Glare impacts to Highways receptors, 21 locations have been identified where solar reflection could be visible. Taking into account existing built form and vegetation, solar reflection would only be experienced at three highways locations, and to a low level. Once landscaping is established, there would be no impact.
- 8.126** Where other travel modes are considered, there would be no impact to train drivers. The Glint and Glare Assessment has also addressed potential aviation impacts. The approach paths of Gloucestershire Airport have been investigated and impacts are deemed acceptable. There are no views of the development from the Air Traffic Control Tower. The impact to aviation assets is deemed not significant. The Airport Safety Officer has been consulted and has confirmed there would be no adverse effects from the proposed solar farm.
- 8.127** Subject to recommended conditions, Officers consider the proposed development complies with relevant aspects of the NPPF and Policy INF1 of the adopted JCS.

Ecology and Trees

- 8.128** Chapter 15 of the NPPF seeks to conserve and enhance the natural environment, in part by protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils, and minimising impacts on and providing net gains for biodiversity.
- 8.129** Policy SD9 of the adopted JCS (Biodiversity and Geodiversity) states amongst other things that the biodiversity and geological resource of the JCS area will be protected and enhanced in order to establish and reinforce ecological networks that are resilient to current and future pressures. Similarly, the adopted TBP Policy NAT1 (Biodiversity, Geodiversity and Important Natural Features) requires amongst other things that proposals will, where applicable, be required to deliver a biodiversity net gain across local and landscape scales, including designing wildlife into development proposals.
- 8.130** Policy INF3 (Green Infrastructure) of the adopted JCS states that Development proposals that will have an impact on woodlands, hedges and trees will need to include a justification for why this impact cannot be avoided and should incorporate measures acceptable to the Local Planning Authority to mitigate the loss.

- 8.131** Policy NAT1 (Biodiversity, Geodiversity and Important Natural Features) requires amongst other things that proposals will, where applicable, be required to deliver a biodiversity net gain across local and landscape scales, including designing wildlife into development proposals.
- 8.132** The application is supported by
- Ecological Impact Assessment (EclA)
 - Draft Landscape and Ecological Management Plan
 - Shadow Habitat Regulation Assessment (sHRA)
 - Wintering Bird Scoping Report Assessment
 - Breeding Bird Survey
- 8.133** The submitted sHRA concludes that two potential sites could be affected by development, namely Severn Estuary Special Protection Area (SPA) and secondly the River Severn Special Area of Conservation (SAC), together with the nearby watercourses Cox's Brook and Hatherley Brook. The applicant has reviewed Natural England documents regarding wintering and passage roosts of functionally linked land and concluded the application site is not of particular importance to bird species associated with the Severn Estuary. Where wetland birds fly over solar panels, there is very low anecdotal evidence that wetland birds mistake solar panels for water. The sHRA explains that there are no pathways for adverse impact on qualifying species of the SPA as a result of development. Equally, and subject to the implementation of a Construction and Environmental Management Plan, the development would not have an adverse impact on the River Severn and its tributaries.
- 8.134** Natural England has been consulted and agree with the conclusions of the sHRA. There are no objections to development, subject to the imposition of appropriate ecological and environmental conditions.
- 8.135** The EclA has identified three SSSIs and one Local Nature Reserve within 5km of the application site. Innsworth Meadow SSSI is within 1km.
- 8.136** The ecological survey has included investigations for the presence of badger, great crested newts, bats, otter, dormouse, water vole and breeding birds. A summary of impacts is set out in the EclA, which concludes that in terms of existing habitats, bats, birds and reptiles, impacts would be 'not significant' in each case, though plainly there is scope for considerable enhancement as required by Biodiversity Net Gain policies and legislation through the production of a Landscape and Environmental Management Plan (LEMP).
- 8.137** The wintering bird scoping report concludes there are no species cited in the Severn Estuary SPA designation were recorded during the survey.
- 8.138** Submitted ecological information has been assessed by the Council's own ecological Adviser, who has raised no objection to the development subject to conditions to secure an updated Code of Construction Practice, and a revised Landscape and Environmental Management Plan. The submitted Biodiversity Net Gain Assessment Results metric indicates that development would be expected to achieve an 11% increase in hedgerow units and a 56% increase in habitat units in accordance with required policy and legislation.

- 8.139** In terms of trees, an arboricultural impact assessment has been provided. The assessment confirms no individual trees would be removed in order to facilitate development. Only small sections of six hedgerows (Category C, low quality) are proposed to be removed to create gaps to route the access track through or to enable the construction of the security/deer fencing. One lime tree on the eastern boundary would be subject to a 2.5m crown lift in order to construct the security/deer fence. The group of trees opposite St Matthew's Church protected by a Tree Preservation Order are sufficiently distant from the access and set back from the A38 that they would be unaffected by development.
- 8.140** Officers consider appropriate biodiversity net gain would be secured. Ecological harm is not considered significant. Subject to appropriate conditions the development complies with Chapter 15 of the NPPF, Policies SD9, INF3 of the JCS and NAT1 of the TBP.

9. Conclusion

- 9.1** The application states that with the assumed output of 16MW, it is estimated the solar farm would produce enough electricity to supply the average annual electricity needs of around 4955 households. The generation of renewable energy supports the UK's transition to a low carbon economy.
- 9.2** Officers consider that policies of the Development Plan which support renewable energy attract very significant weight.
- 9.3** Against the benefits of development, harms have been identified in terms of landscape character and visual amenity impacts. However, these harms are localised and affect relatively flat land where existing and enhanced landscaping would further screen solar arrays and infrastructure. New hedgerow and tree planting is likely to persist beyond 40 years at which time the development would be decommissioned and the land restored to agricultural condition.
- 9.4** The development is proposed in a functional floodplain, though in this case Officers consider the sequential and exception tests required by the NPPF and adopted JCS have been met. It has been sufficiently demonstrated there are no realistic alternative sites available, and by appropriate design, development would not impede water flows or increase flood risk elsewhere.
- 9.5** Subject to further details to confirm detailed aspects, Officers consider development would not cause significant harm to residential amenity, heritage or ecological assets or the transport network.
- 9.6** On balance, the harms of development are not considered to outweigh the very significant benefits of renewable energy generation. Officers consider the proposal would accord with relevant policies as outlined above. Therefore, it is recommended that planning permission be granted subject to the recommended conditions.

10. Recommendation

- 10.1** The proposal accords with relevant policies as outlined above, it is therefore recommended the application be **permitted** subject to the following conditions:

11. Conditions

- 1 The development hereby permitted shall not be begun after the expiration of three years from the date of this consent.

Reason: Required to be imposed by Section 91 of the Town and Country Planning Act 1990 as amended by Section 51 of the Planning and Compulsory Purchase Act 2004.

- 2 The development hereby permitted shall not be carried out other than in accordance with the following approved documents:

Received 3 May 2023

Location Plan 1.1 PLA01

General Layout 2.1 PLA01

Overhead line details 2.13 PLA01

Deer Fence and gates 2.11 PLA01

Security Camera Details 2.10 PLA01

Received 24 July 2023

Array details amended 2.2 PLA02

Mounted Panel Dimensions amended 2.3 PLA02

Access Track amended 2.12 PLA02

Received 22 March 2024

Inverter Station 1 amended 2.5 PLA03

Inverter Station 2 amended 2.6 PLA03

Inverter Station 3 amended 2.7 PLA03

Inverter Station 4 amended 2.8 PLA03

DNO Customer Substation amended 2.14 PLA02

Control Room amended 2.9 PLA02

Reason: To ensure that the development is carried out in accordance with the approved plans.

Prior to commencement conditions

- 3 Notwithstanding the submitted details, prior to commencement of the development hereby permitted details of a revised construction management plan shall be submitted to and approved in writing by the Local Planning Authority. The approved plan shall be adhered to throughout the construction period. The plan shall include but not be restricted to:

- Parking of vehicle of site operatives and visitors (including measures taken to ensure satisfactory access and movement for existing occupiers of neighbouring properties during construction);
- Details of daily, hourly and total vehicle movements types with scheduling and management arrangements.
- Routes for construction traffic;
- Any temporary access to the site;
- Locations for loading/unloading and storage of plant, waste and construction materials;
- Method of preventing mud and dust being carried onto the highway;
- Arrangements for turning vehicles;
- Arrangements to receive abnormal loads or unusually large vehicles;
- Pre and post construction highway condition surveys with photographic evidence based on evidenced start and finish dates immediately before and after works;

- Method Statement for the installation of PV mounting frames and substation to include noise assessment
- Methods of communicating the Construction Management Plan to staff, visitors and neighbouring residents and businesses.

Reason: In the interests of maintaining highway safety, residential amenity and to protect the environment.

- 4** The development hereby approved shall not be commenced until visibility splays are provided from a point 0.6m above carriageway level at the centre of the access to the application site and 2.4 metres back from the near side edge of the adjoining carriageway, (measured perpendicularly), for a distance of 109 metres north and 116 metres south measured along the nearside edge of the adjoining carriageway and offset a distance of 0.6 metres from the edge of the carriageway. These splays shall thereafter be permanently kept free of all obstructions to visibility over 0.6m in height above carriageway level.

Reason: In the interests of maintaining highway safety, residential amenity and to protect the environment.

- 5** The development hereby approved shall not be commenced until pedestrian visibility splays of 2m x 2m measured perpendicularly back from the back of footway where existing shall be provided on both sides of the access. These splays shall thereafter be permanently kept free of all obstructions to visibility over 0.6m in height above the adjoining ground level.

Reason: To ensure motorists have clear and unrestricted views of approaching pedestrians when pulling out onto the adopted highway, in the interest of highway safety.

- 6** Notwithstanding submitted details, an amended Code of Construction Practice (CCP) shall be submitted prior to the commencement of works. The CCP shall not be implemented other than in accordance with approved details.

Reason: In the interests of safeguarding and enhancing ecological assets.

- 7** The development hereby approved shall not be commenced until the existing and any temporary access gates have been removed and set back over 20 metres from the adjoining carriageway edge and made to open inwards only.

Reason: In the interests of highway safety to ensure no waiting vehicles obstruct the highway.

- 8** No development including demolition, site clearance, materials delivery or erection of site buildings, shall start until measures to protect trees/hedgerows on and adjacent to the site have been installed in accordance with details that have been submitted to and approved in writing by the Local Planning Authority.

These measures shall include:

1. Temporary fencing for the protection of all retained trees/hedgerows on and adjacent to the site whose Root Protection Areas (RPA) fall within the site to be erected in accordance with BS 5837(2012) or subsequent revisions (Trees in Relation to Design, Demolition and Construction). Any alternative fencing type or position not strictly in accordance with BS 5837 (2012) shall be agreed in writing by the Local Planning Authority prior to the start of development. The RPA is defined in BS5837(2012).

2. Construction Exclusion Zone (CEZ): The area around trees and hedgerows enclosed on site by protective fencing shall be deemed the CEZ. Excavations of any kind, alterations in soil levels, storage of any materials, soil, equipment, fuel, machinery or plant, site compounds, cabins or other temporary buildings, vehicle parking and delivery areas, fires and any other activities liable to be harmful to trees and hedgerows are prohibited within the CEZ, unless agreed in writing by the Local Planning Authority.

The approved tree protection measures shall remain in place until the completion of development or unless otherwise agreed in writing with the Local Planning Authority.

Reason: To ensure adequate protection measures for existing trees/hedgerows to be retained, in the interests of visual amenity and the character and appearance of the area.

- 9 No development shall take place (including demolition, ground works, vegetation clearance) until a construction and environmental management plan (CEMP: Biodiversity) has been submitted to and approved by the Local Planning Authority. The approved CEMP shall not be implemented other than as approved by the Local Planning Authority.

Reason: In the interests of protecting and enhancing ecological assets.

- 10 The site access points onto the highway shall be widened with surfaced hardstanding in accordance Rappor Technical Note 22-0469 Issue 02 received 8th April 2024 to allow for swept path HGV turning with bound hardstanding within 15 metres of the highway and drainage within the site.

Reason: In the interests of highway safety to ensure no vehicles waiting obstructing the highway.

- 11 Prior to commencement of the development a management and maintenance plan to ensure surface water flows across the site are not unduly impeded during the operational phase shall be submitted to and approved in writing by the Local Planning Authority. The scheme shall include details of regular management measures and specific measures to be incorporated following a flood event, to be undertaken by a suitably qualified party, including inspection and cleaning of backfilled trenches and swales and clearance of vegetation debris. The development shall thereafter be undertaken in accordance with the approved plan.

Reason: To ensure the continued operation and maintenance of drainage features serving the site and avoid flooding.

Prior to First Operation conditions

- 12 Prior to first operation of the development, a SuDS management and maintenance plan shall be submitted to and approved in writing by the Local Planning Authority. The approved SuDS maintenance plan shall be implemented in full in accordance with the agreed terms and conditions.

Reason: To ensure the continued operation and maintenance of drainage features serving the site and avoid flooding.

- 13** Notwithstanding the submitted details, no above ground development shall take place until a Biodiversity Net Gain Assessment using the Defra Biodiversity Metric (or any updated or replacement metric used as the industry standard) including a schedule for implementation of works has been submitted to and approved in writing by the Local Planning Authority. The assessment shall include details to demonstrate the development would secure measurable net gains for biodiversity and its future maintenance. The development shall be implemented in accordance with the approved details and thereafter be similarly maintained.

Reason: To ensure the development would deliver a biodiversity net gain across the local and landscape scales.

- 14** Prior to first operation of the development, a Flood Evacuation Management Plan shall be submitted to the Local Planning Authority for approval. The approved management plan shall not be implemented other than as approved, and for the lifetime of development.

Reason: In the interests of safe operation of the development.

- 15** The development shall not become operational until details of the landscaping have been submitted to and approved in writing by the Local Planning Authority. The landscaping shall be implemented in accordance with the approved details no later than the first planting season following the development becoming operational. The landscaping shall thereafter be maintained as approved for the lifetime of development. If during this time any trees, shrubs or other plants are removed, die, or are seriously diseased these shall be replaced during the next planting season with others of similar size and species unless the Local Planning Authority gives written consent to any variation.

Reason: In the interest of visual amenity.

- 16** Prior to first operation of the development a landscape and ecological management plan (LEMP) shall be submitted to, and approved by the Local Planning Authority. The LEMP shall be written in accordance with BS42020. The LEMP shall also include details by which the long-term implementation of the plan will be secured and who is responsible for its delivery. The plan will detail how habitats on site will be managed including remedial actions where necessary, to ensure that that the development meets its aims and objectives. The LEMP should also detail how a positive net gain in biodiversity habitat units can be achieved and maintained in the long term. The LEMP is to include details set out within the Ecological Impact Assessment (Environmental Solutions Ltd, April 2023). The LEMP shall not be implemented other than as approved by the Local Planning Authority.

Reason: In the interests of protecting and enhancing ecological assets.

- 17** Prior to their installation, a colour finishing specification for PV mounting panels, control room, inverters, substation containers, platforms, supporting frames and fencing shall be submitted to the Local Planning Authority for approval. Development shall not take place other than in accordance with the approved colour specification, and shall be maintained as approved for the lifetime of development.

Reason: In the interests of maintaining visual amenity

- 18** The bottom of solar panels shall be set no lower than 11.88mAOD. This level is 300mm above the design flood level of 11.58mAOD.

Reason: To allow freeboard to protect the development from flooding and ensure it remains operational over its lifetime

- 19** Voided areas underneath buildings, containers and equipment shall be kept free from additional obstruction for the lifetime of development, other than where and to the extent permitted by approved plans in Condition 2.

Reason: To ensure flood water flows are not obstructed.

- 20** Not less than 12 months before the end of life of the development hereby permitted, or not less than 12 months from the cessation of electricity production by the development, whichever is the sooner, a Decommissioning Method Statement shall be submitted to and approved in writing by the Local Planning Authority. The Decommissioning Method Statement (DMS) shall include details of the removal of the solar PV equipment and all associated cabling, buildings, infrastructure and access tracks, together with a timetable for these works. The DMS shall also include details of the proposed site restoration. The site shall be decommissioned, and the site restored in accordance with the approved DMS and timetable within 6 months of the expiry of the 40 year period of planning permission, or within 18 months of the cessation of electricity production by the development, whichever is the sooner.

Reason: In the interests of visual amenity and to return the site to agricultural land.

- 21** Development shall not proceed other than in full accordance with the Landgagge Heritage Archaeological Management Plan (2nd issue dated 6 December 2023).

Reason: In the interests of preserving and recording archaeological assets on the site.

- 22** No removal of trees/scrub/hedgerows shall be carried out on site between 1st March and 31st August inclusive in any year, unless otherwise approved in writing by the Local Planning Authority.

Reason: To ensure that the nature conservation interest of the site is protected

12.1 Informatives

- 1** In accordance with the requirements of the NPPF the Local Planning Authority has sought to determine the application in a positive and proactive manner by offering pre-application advice, publishing guidance to assist the applicant, and publishing the to the Council's website relevant information received during the consideration of the application thus enabling the applicant to be kept informed as to how the case was proceeding.
- 2** The Local Highway Authority has no objection to the above subject to the applicant obtaining a section 184 licence. The construction of an access will require the extension of a verge and/or footway crossing from the carriageway under the Highways Act 1980 - Section 184 and the Applicant is required to obtain the permission of Gloucestershire Highways on 08000 514 514 or highways@gloucestershire.gov.uk before commencing any works on the highway. Full Details can be found at www.gloucestershire.gov.uk .

- 3 The development hereby approved and any associated highway works required, is likely to impact on the operation of the highway network during its construction (and any demolition required). You are advised to contact the Highway Authorities Network Management Team at Network&TrafficManagement@gloucestershire.gov.uk before undertaking any work, to discuss any temporary traffic management measures required, such as footway, Public Right of Way, carriageway closures or temporary parking restrictions a minimum of eight weeks prior to any activity on site to enable Temporary Traffic Regulation Orders to be prepared and a programme of Temporary Traffic Management measures to be agreed.
- 4 The applicant's attention is drawn to the need to ensure that the provision of the visibility splay(s) required by this consent is safeguarded in any sale of the application site or part(s) thereof.
- 5 Construction Management Plan (CMP) It is expected that contractors are registered with the Considerate Constructors scheme and comply with the code of conduct in full, but particularly reference is made to "respecting the community" this says: Constructors should give utmost consideration to their impact on neighbours and the public
 - Informing, respecting and showing courtesy to those affected by the work;
 - Minimising the impact of deliveries, parking and work on the public highway;
 - Contributing to and supporting the local community and economy; and
 - Working to create a positive and enduring impression, and promoting the Code.The CMP should clearly identify how the principal contractor will engage with the local community; this should be tailored to local circumstances. Contractors should also confirm how they will manage any local concerns and complaints and provide an agreed Service Level Agreement for responding to said issues.

Contractors should ensure that courtesy boards are provided, and information shared with the local community relating to the timing of operations and contact details for the site coordinator in the event of any difficulties. This does not offer any relief to obligations under existing Legislation.