Flood Consequences Assessment

Land at MoD Sealand, CH5 2LS

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Executive Summary

This report has been prepared by Metis Consultants Ltd to support the proposed development at DE&S DECA Sealand. It presents a Flood Consequence Assessment, in accordance with the updated Planning Policy Wales – Technical Annex Note 15, including how flood risk can be managed and mitigated.

The site is located in Deeside, Flintshire and comprises a solar farm, classified as a less vulnerable development under Welsh guidance. The existing site is not located in flood risk Zone 2 or 3 for flooding from Surface Water and Small Watercourses. Despite site being in Zone 2 for risk of fluvial flooding, the development is assessed to be of an appropriate nature as it is in line with legislative requirement, contributing to energy security needs and the mitigation of climate change. The development is also in line with Flintshire's Local Development Plan, indicating its importance to regional aims. The development will add negligible impermeable area to the existing site, and therefore, the drainage strategy will utilise the existing drainage capacity of the greenfield land and remain free draining. The low point on the site is within the site boundary and therefore the development will not increase the risk of flooding elsewhere.

The site-specific Flood Consequence Assessment has:

- Met the criteria set out in Planning Policy Wales;
- Assessed the risk to the site from flood events;
- Assessed the risk to the site from site storm water runoff management, and
- Assessed the risk that the development will not increase flooding elsewhere.

The assessment demonstrates that the scheme will not increase the risk of flooding within the area.

Contents

Figures and Tables

Acronyms and Abbreviations

Table 1: Acronyms and abbreviations

Abbreviation	Definition
bgl	Below ground level
BGS	British Geological Survey
DCWW	Dŵr Cymru Welsh Water
DEFRA	Department for Education, Food and Rural Affairs
DEZ	Deeside Enterprise Zone
EA	Environment Agency
FCA	Flood Consequences Assessment
FCC	Flintshire County Council
Ground Control	Ground Control Limited
ha	Hectares
LDP	Local Development Plan
LFRMS	Local Flood Risk Management Strategy
LLFA	Lead Local Flood Authority
LPA	Local Planning Authority
Metis	Metis Consultants
NFM	Natural Flood Management
NRW	Natural Resources Wales
PPW	Planning Policy Wales
SFCA	Strategic Flood Consequences Assessment
SuDS	Sustainable Drainage Systems
TAN 15	Technical Annex Note 15

1 Introduction

1.1 Context

This report has been prepared by Metis Consultants Ltd (Metis) on behalf of Ground Control Ltd (Ground Control) to support the proposed installation of ground mounted photovoltaic solar arrays and ancillary infrastructure. The site is located at DE&S DECA Sealand, Green Lane, Deeside, CH5 2LS.

The total site area of the proposed solar farm is 3.2 ha and lies within the administrative area of Flintshire County Council (FCC).

1.2 Requirement for Flood Consequence Assessment

The requirement for a Flood Consequences Assessment is set out in 'Technical Annex Note 15 (TAN 15) – Development, flooding and coastal erosion' of the Planning Policy Wales Framework (PPW), published in February 2024. Section 6.1 of TAN 15 states:

"A Flood Consequences Assessment is required for any development proposal located fully or partly in Surface Water and Small Watercourses - Flood Zones 2 and 3 , Local Authorities may exercise some discretion for householder applications where the risk may be lower due to the nature of the development being proposed and the requirements should be proportionate to the development proposal. An assessment should also be undertaken for development on sites outside of these zones, but which has the potential to affect the course of surface water and/or excess water from ordinary watercourses. Planning authorities may provide specific local advice on this issue in Development Plans. Planning authorities should ensure any new development adjacent to Flood Zones 2 and 3 for Surface Water and Small Watercourses is appropriately set back to allow for extreme flood events."

The area of the proposed development is not within either Flood Zones 2 and 3 for Surface Water and Small Watercourses, showing the current low risk of flooding at this site. There are, however, Flood Zone 2 and 3 areas close to the site. Therefore, a Flood Consequences Assessment (FCA) has been completed to understand the risk and consequences of flooding on the development and to ensure the risk of flooding is not increased elsewhere.

1.3 Report Structure

This report addresses the requirements of TAN 15 and considers the following aspects:

- Section 2: Policy and Sources of Information – a review of policy relevant to the assessment and sources of information.
- Section 3: Site Assessment – a description of the site location, its topography and hydrology.
- Section 4: Flood Risk – an assessment of flood risk from all sources.
- Section 5: Proposed Design – a summary of the proposed design and the methodology used to reduce and manage flood risk.
- Section 6: Summary and Conclusions – a review of the proposals in the context of site vulnerability and the requirements of TAN 15.

2 Policy and Sources of Information

2.1 Introduction

This section provides a review of the policy relevant to the assessment and sources of information.

2.2 National Planning Policy

National Policy in relation to flood risk is set out in 'TAN 15 – Development, Flooding and Coastal Erosion', to be read in conjunction with the overarching Planning Policy Wales (2024) to provide the national planning policy framework for Wales.

Section 8 sets out the principles of TAN 15 and its impact on development proposals. Paragraph 8.1 states '*The TAN reflects the core principles of the National Strategy for Flood and Coastal Erosion Risk Management in Wales, to adopt a risk-based approach in respect of development in areas at risk of flooding and coastal erosion'*

Paragraph 8.5 sets out the steps of the risk-based approach:

- *A Flood Map for Planning identifying flood zones*
- *Defining developments by their vulnerability during flood events*
- *Advice on permissible uses in relation to the location of development and the consequences of flooding*
- *The preparation of strategic flood consequences and flood consequences assessments at the local level to refine understanding of flood risk*
- *Planning authorities incorporating local flood risk considerations into their planning policies and decisions*

Section 10 is titled 'Flooding and the plan-led system' and details the general requirements for new developments in each of the flood risk zones as well as defended zones.

2.3 Natural Resources Wales

The National Strategy for Flood and Coastal Erosion Risk Management in Wales, (2020) provides Natural Resources Wales (NRW) with a strategic overview role for all forms of flooding and coastal erosion. They also have direct responsibility for the prevention, mitigation and remediation of flood damage for main rivers and coastal areas. NRW is a statutory consultee with regards to flood risk and planning.

2.4 Flintshire Local Development Plan (2015-2030)

The FCC Local Development Plan (LDP) details the planning strategy, policies and proposals which aim to drive growth in the region whilst protecting vulnerable local communities and the surrounding environment. The Flintshire LDP focuses on the period up until 2030 and focuses on supporting the local economy by fostering investment in the

area while also meeting housing need, creating sustainable communities and maintaining existing natural assets.

2.5 Strategic Flood Consequences Assessment

Flintshire County Council (FCC) commissioned the production of a Strategic Flood Consequence Assessment (SFCA) due to their role as a Lead Local Flood Authority (LLFA) and a Local Planning Authority (LPA). This SFCA was commissioned to recognise flood risks to communities in Flintshire and guide Flintshire's Local Development Plan (LDP).

The Flintshire SFCA provides an overview of flood risk, providing the framework within future planning applications are to be reviewed. Requirements and considerations must be addressed to demonstrate that the proposed development is appropriately flood resilient and resistant.

2.6 Local Flood Risk Management Strategy

Flintshire County Council has produced a Local Flood Risk Management Strategy (LFRMS, 2025), which is a key statutory and strategic document, explaining how local flood risk shall be managed within Flintshire.

The LFRMS outlines eight Local Strategy Objectives, stated below:

- *Improve understanding of local flood and coastal risks*
- *Improve communication of risk and to increase preparedness and resilience*
- *Collaborate with other Risk Management Authorities, stakeholders and the public to reduce flood and coastal risk*
- *Reduce exposure to risk and to manage the impacts and consequences of flooding and coastal erosion to individuals, communities and businesses in Flintshire*
- *Consider the contribution flood risk management can make to providing multiple benefits*
- *Develop a prioritised investment programme based on the most at risk communities*
- *Ensure the development of skills required to implement effective and innovative flood risk management measures*
- *Ensure information relating to local flood risk is used to inform planning decisions*

The LFRMS proposes measures and identifies funding options to ensure that FCC becomes more resilient and sustainable, encouraging the use of sustainable drainage systems (SuDS) and natural flood management (NFM).

2.7 Water Authorities

Dŵr Cymru Welsh Water (DCWW) is responsible for the disposal of wastewater within this area.

2.8 Other Sources of Information

A desktop study of the site was carried out using NRW and the GOV.uk websites to ascertain local features, hydrology, and soil characteristics.

Flood mapping and site characteristics, as published on the NRW and GOV.uk websites, has been used as an information source. Guidance set out within the PPW, Flintshire County Council's SFCA and LDP have been used as the base for this site-specific FCA.

3 Site Assessment

3.1 Introduction

This section provides a description of the site location, its topography and hydrology.

3.2 Site Location and Current Use

Figure 1: Site Location (Google, 2025)

The proposed site is located towards the North of Deeside in Wales, within close proximity to the border with England. The land use in the surrounding area is predominantly industrial, with the canalised section of the River Dee flowing through the town to the Dee Estuary. The site is bound by the A458 and Green Lane East across the north and the DE&S DECA Operating Centre to the south, seen in Figure 1.

The total site encompasses an area of approximately 3.2 hectares (ha). The site is located on land designated as brownfield area which was previously used as a sports field. The site is largely flat however there is a slight slope from the north to south. There are no significant features located on the site and the proposed area minimises the removal of existing trees.

The site lies within the administrative area of Flintshire County Council.

The Grid Reference for the site is SJ 33797 70476, with Easting coordinates of 333797 and Northing coordinates of 370476. The nearest postcode to the site is CH5 2LS.

3.3 Geology

The British Geological Survey (BGS) record plans for the area indicates that the site is underlain by Kinnerton Sandstone Formation – Fine to medium grained sandstone. Overlying superficial deposits can also be found at the site. These consist of Tildal flat deposits – Clay, silt and sand. This is illustrated on Figure 2 and Figure 3.

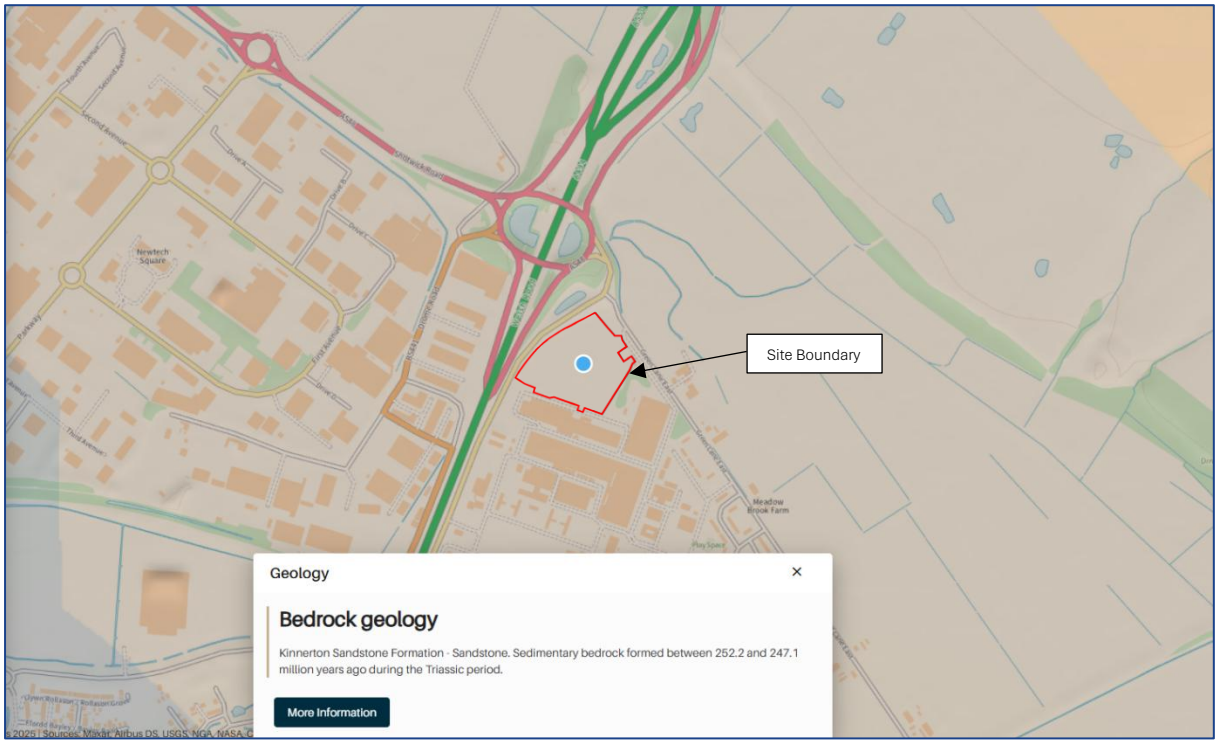


Figure 2: BGS mapping showing bedrock geology information (BGS Geology Viewer)

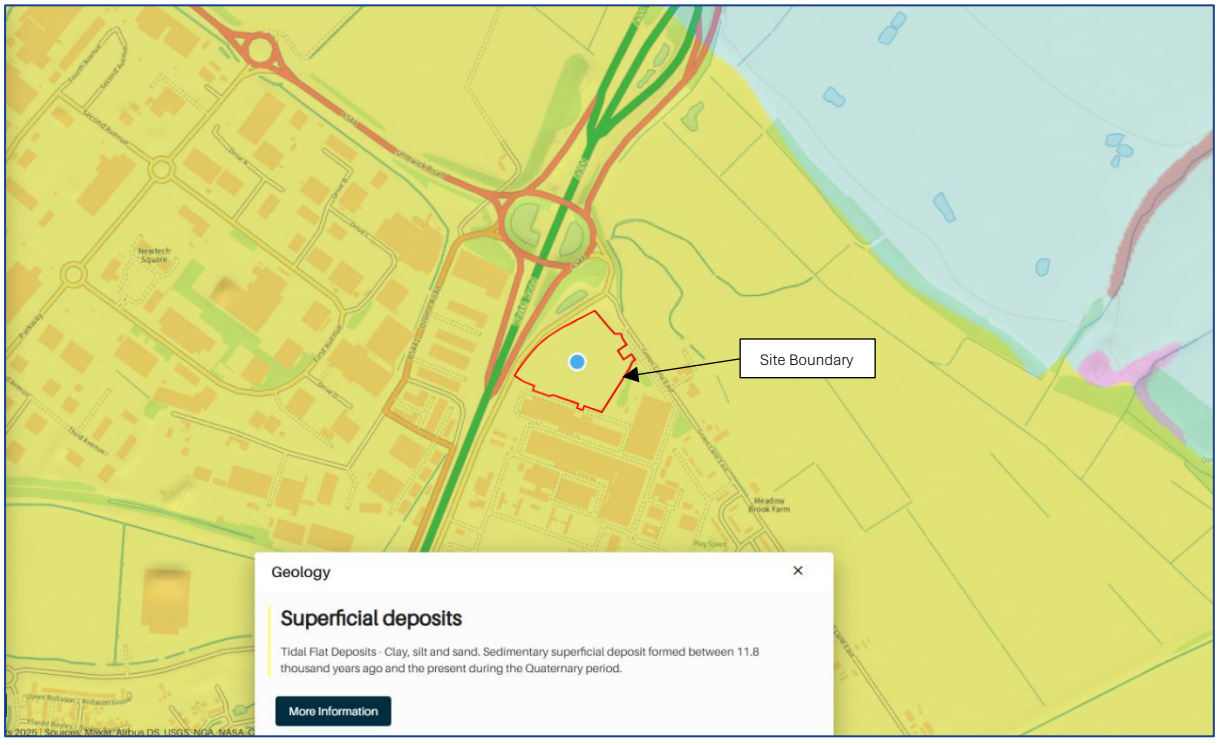


Figure 3: BGS mapping showing superficial geology information (BGS Geology Viewer)

3.4 Hydrogeology

Aquifer designations reflect the importance of aquifers in terms of groundwater as a resource and in their role in supporting surface water flows and wetland ecosystems.

Aquifer maps are split into two different types of aquifer designations namely: Superficial (Drift) which are permeable unconsolidated deposits e.g. sands, gravels, etc, and Bedrock which are solid permeable formations e.g. Sandstone, chalk, etc.

The designations identify the potential of the geological strata to provide water that can be abstracted and have been defined through the assessment of the underlying geology.

Environment Agency (EA) records classes the site as principal strata for bedrock aquifers and secondary (undifferentiated) strata for superficial (drift), see Figure 4. The high permeability of the bedrock geology allows water flow for water supply and river baseflow. The Tidal flat deposits found in the superficial geology have less potential for water flow, hence the reduced aquifer designation at the superficial layer.

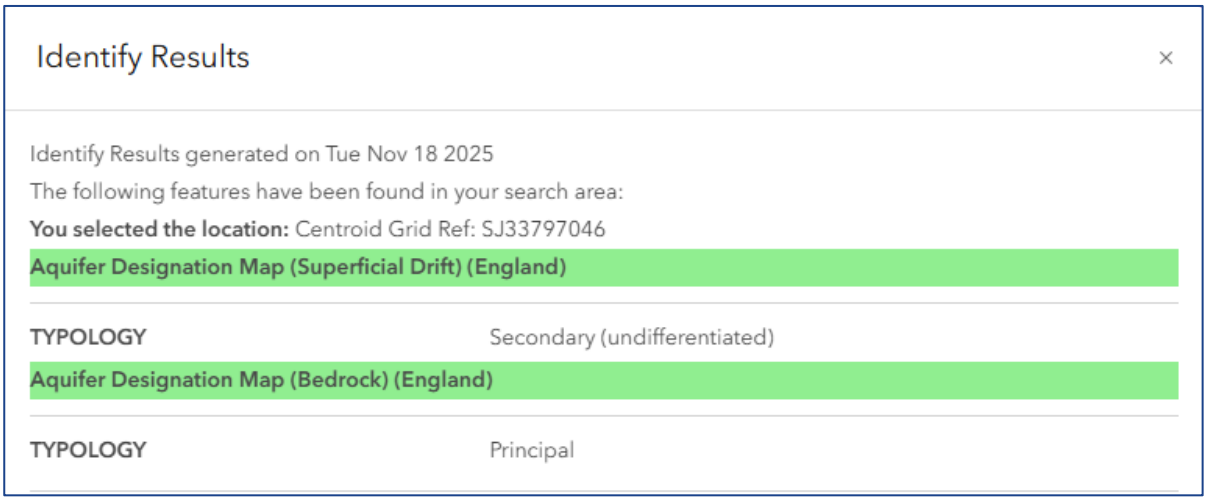


Figure 4: Aquifer designation results (Magic Maps, DEFRA)

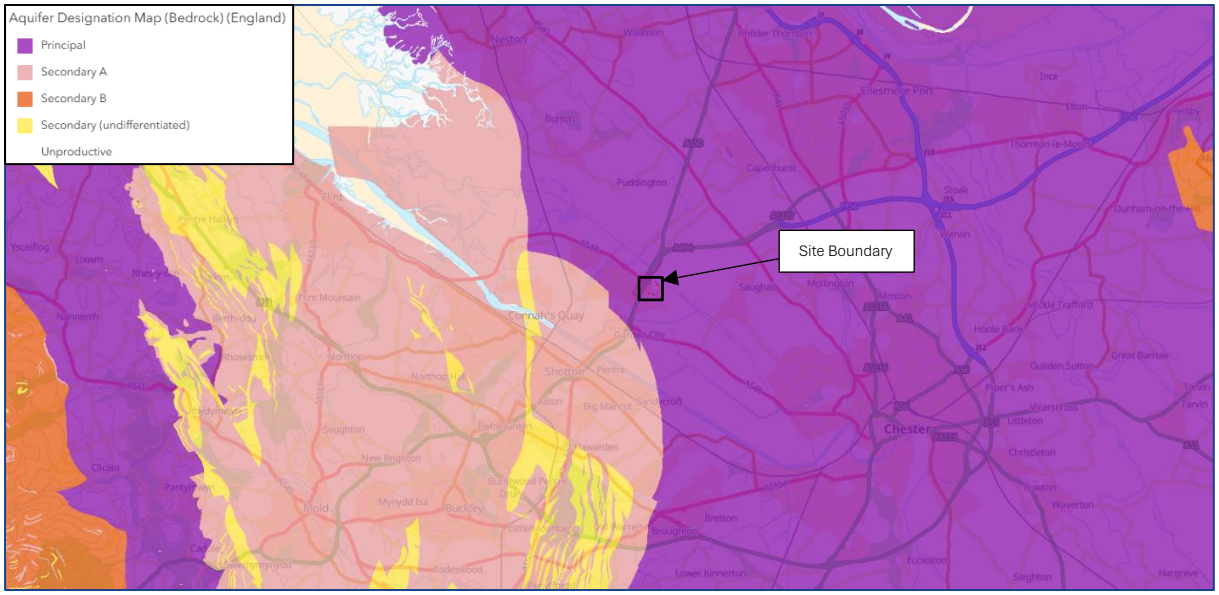


Figure 5: Bedrock aquifer designations map (Magic Maps, DEFRA)

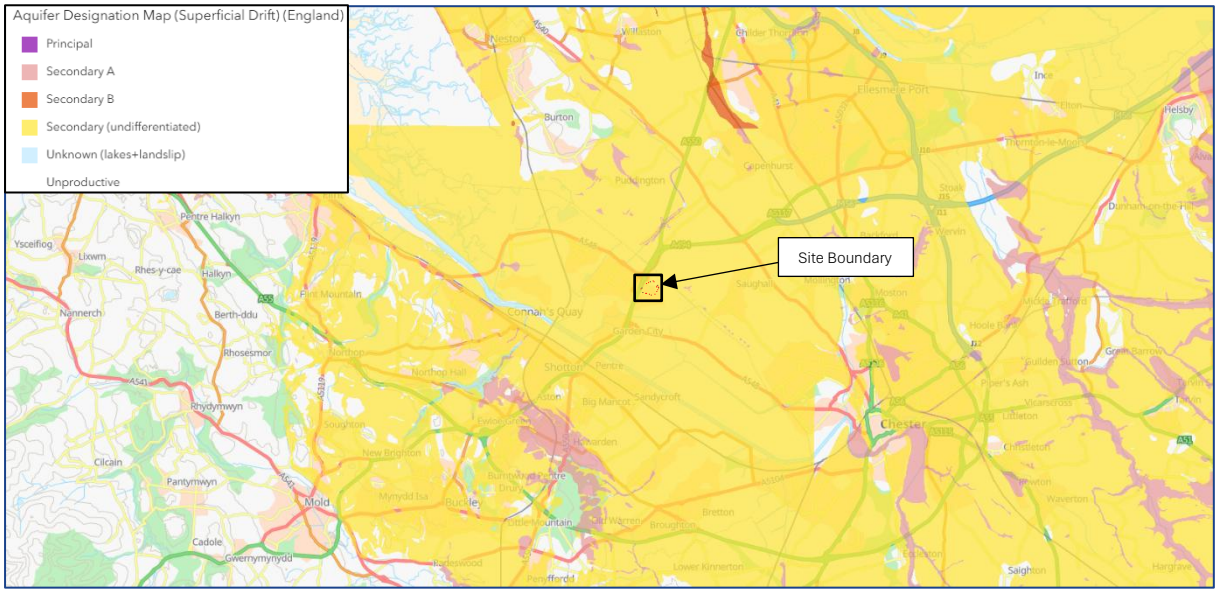
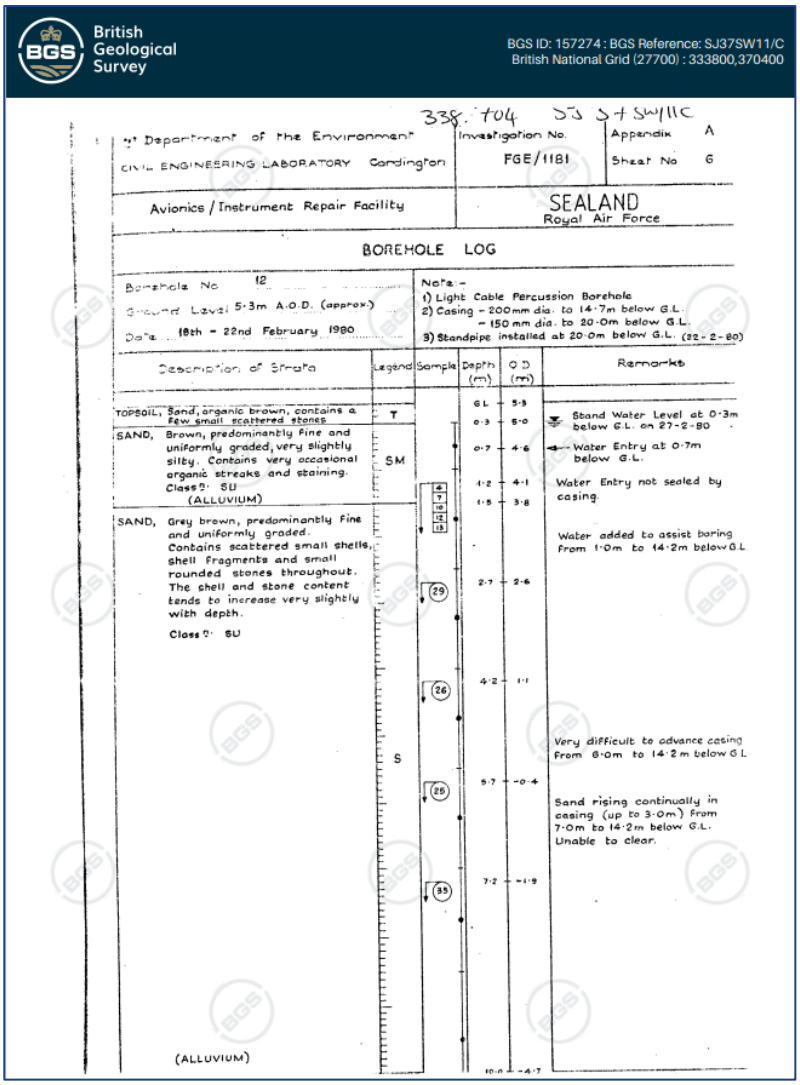


Figure 6: Superficial (drift) aquifer designation map (Magic Maps, DEFRA)

Using the BGS GeoIndex Onshore, historic Borehole records located on the site have been identified. This data provides insight into ground conditions and water level at the site.



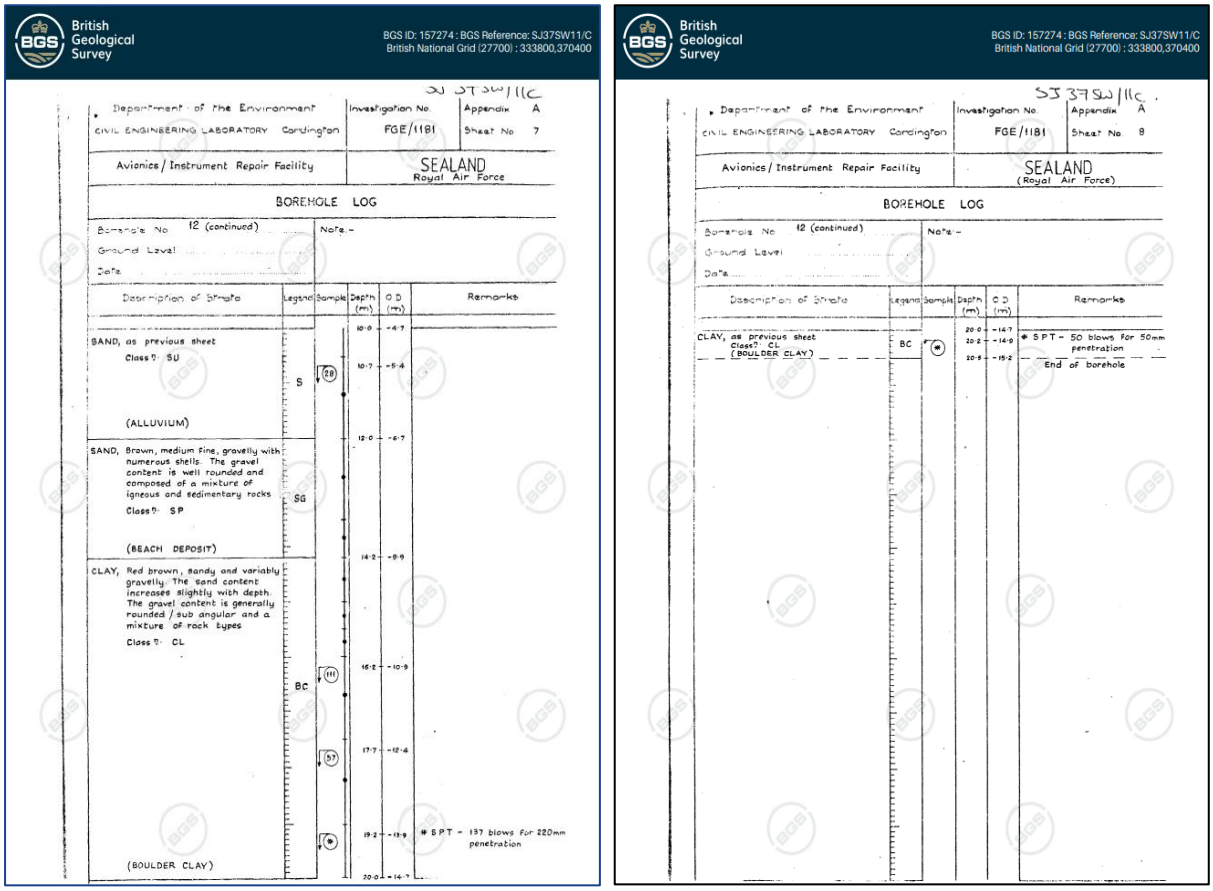


Figure 7: Borehole Record, SJ37SW11 (British Geological Survey)

Figure 8: Location of Borehole SJ37SW11 (British Geological Survey)

There is only one existing borehole record, REF: SJ37SW11, within the site boundary and its content can be seen in Figure 7. The borehole is in the southern section of the site, close to the existing DE&S DECA Sealand infrastructure, see Figure 8.

The borehole log confirms the expected superficial geology, described in Section 3.3, is present at the site. The ground conditions consist of 0.3m of topsoil, organic brown sand and small stones, overlaying fine sands which are found until 14.2m below ground level (bgl). The sand strata is fine and uniformly graded, containing organic fragments such as shells and stones while gravel is present from 12.0m bgl. Below this, red brown clay with sand and gravel content is present until the end of the borehole at a depth of 20.5m.

The water level was recorded at the base of the topsoil, 0.3m bgl. This suggests the site has a high water table and may imply the soil has limited infiltration capacity. However, this borehole record is dated to 1980 so further in situ testing of ground conditions is recommended to confirm current ground conditions prior to construction.

Source Protection Zones for Wales can be found on the Welsh Government's DataMapWales. This data shows that the site is located over 4.2 km away from the nearest Source Protection Zone, see Figure 9.

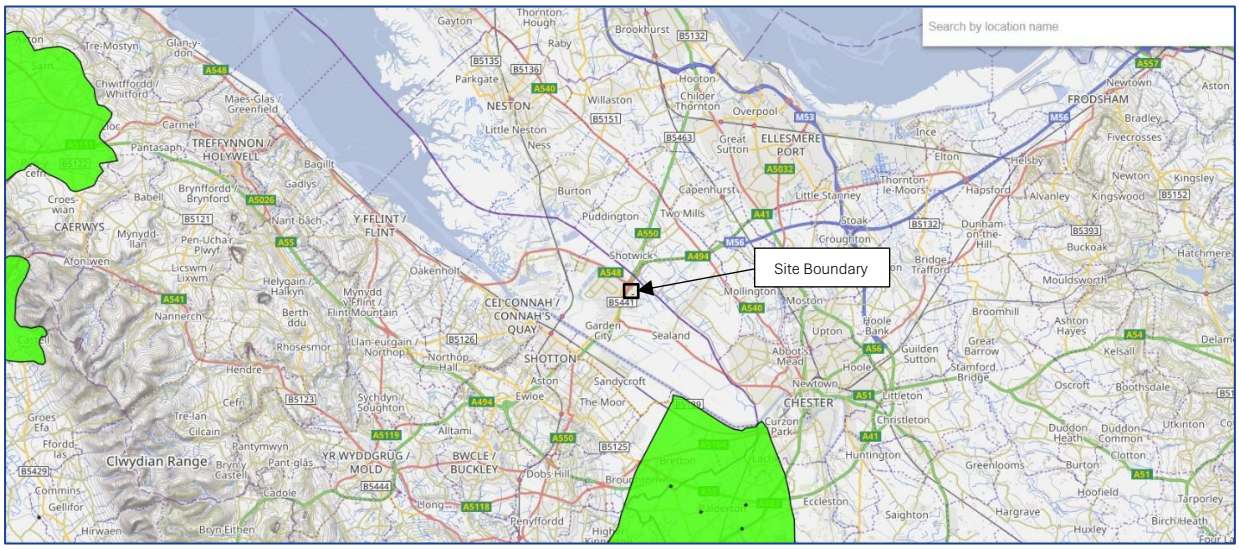


Figure 9: Source Protection Zones (Magic Maps, DEFRA)

3.5 Existing Drainage

The site contains seven manholes within the boundary. These manholes are all located on the south boundary of the site, in close proximity to the buildings at DE&S DECA Sealand. A GPR survey would be recommended to confirm the connectivity of this existing infrastructure. This has not been deemed necessary in the context of this flood consequence assessment as the existing drainage system will not be altered by the proposed development.

4 Flood Risk

4.1 Introduction

This section examines the effect of flooding within the existing site layout from all sources, including fluvial, pluvial and external sources.

4.2 Fluvial and Sea Flooding

Flood Zone 1 has a less than 1 in 1000 annual probability of river flooding or sea flooding. Flood Zone 2 has a medium probability of flooding; between 1 in 100 and 1 in 1000 annual probability of river flooding, or between 1 in 200 and 1 in 1000 annual probability of sea flooding. Flood Zone 3 has a high probability of flooding; 1 in 100 or greater annual probability of river flooding or 1 in 200 or greater annual probability of sea flooding.

TAN 15 Defended Zones are areas where flood risk management infrastructure is present and provides a minimum standard or protection from the Flood Zone 3 risk depending on the type of flooding, 1 in 100 for river flooding and 1 in 200 for sea flooding (plus climate change and freeboard).

According to the Flood Map for Planning, as provided by Natural Resources Wales, the site lies in Flood Zone 2 for rivers, see Figure 10.

For sea flooding, the site lies in Flood Zone 3. However, the site is located in a TAN 15 Defended Zone meaning there is existing infrastructure present to mitigate the Zone 3 sea flood risk, see Figure 11. If the proposed land use of a development within a Defended Zone is vulnerable to flooding and therefore reliant on the existing flood defences, paragraph 10.14 of TAN 15 states that the quality and condition of these defences must be understood to ensure protection from sea flooding at the site.

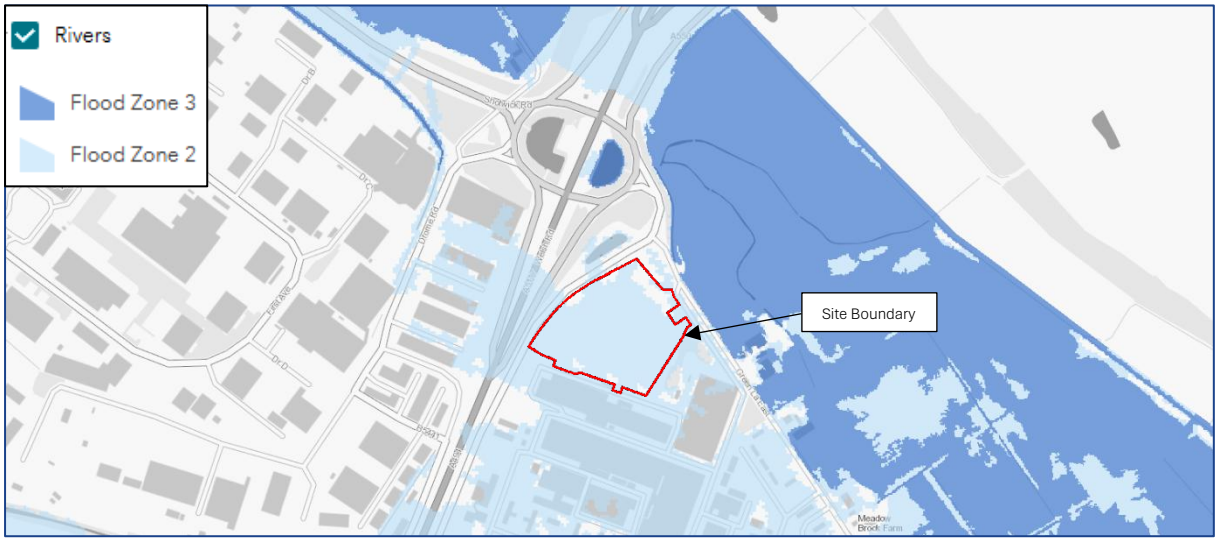


Figure 10: Fluvial Flooding Zones

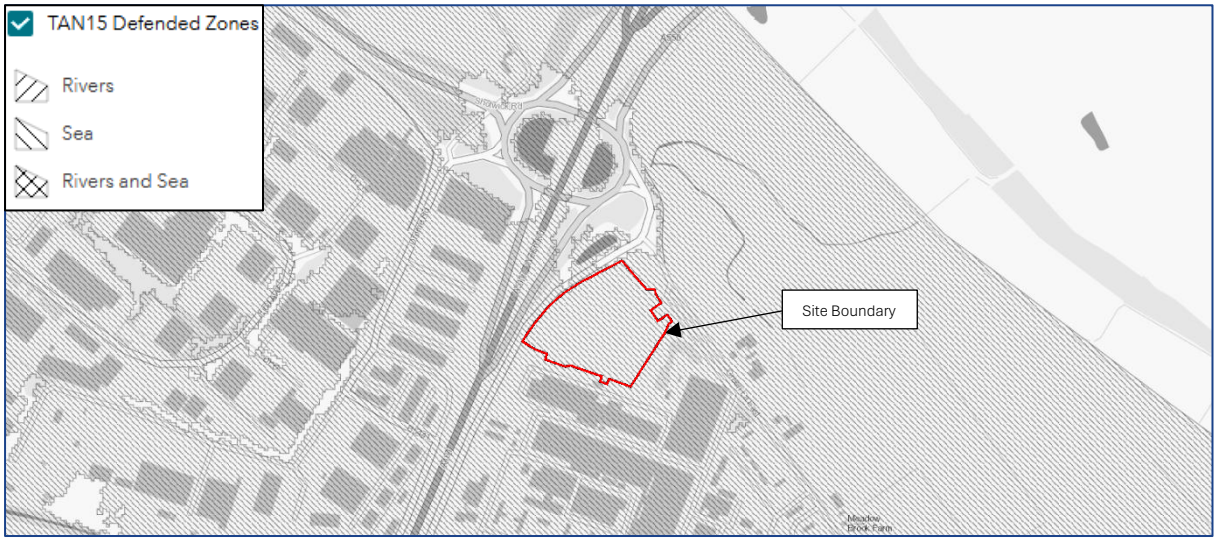


Figure 11: TAN15 Defended Zones for River and Sea Flooding

4.2.1 Existing Flood Defences

The Flood Map for Planning from Natural Resources Wales shows that there are existing flood defences approximately 2km from the site, see Figure 12. The flood defences consist of embankments which canalise the River Dee as it travels through the surrounding industrial area, preventing flooding from the Irish Sea.

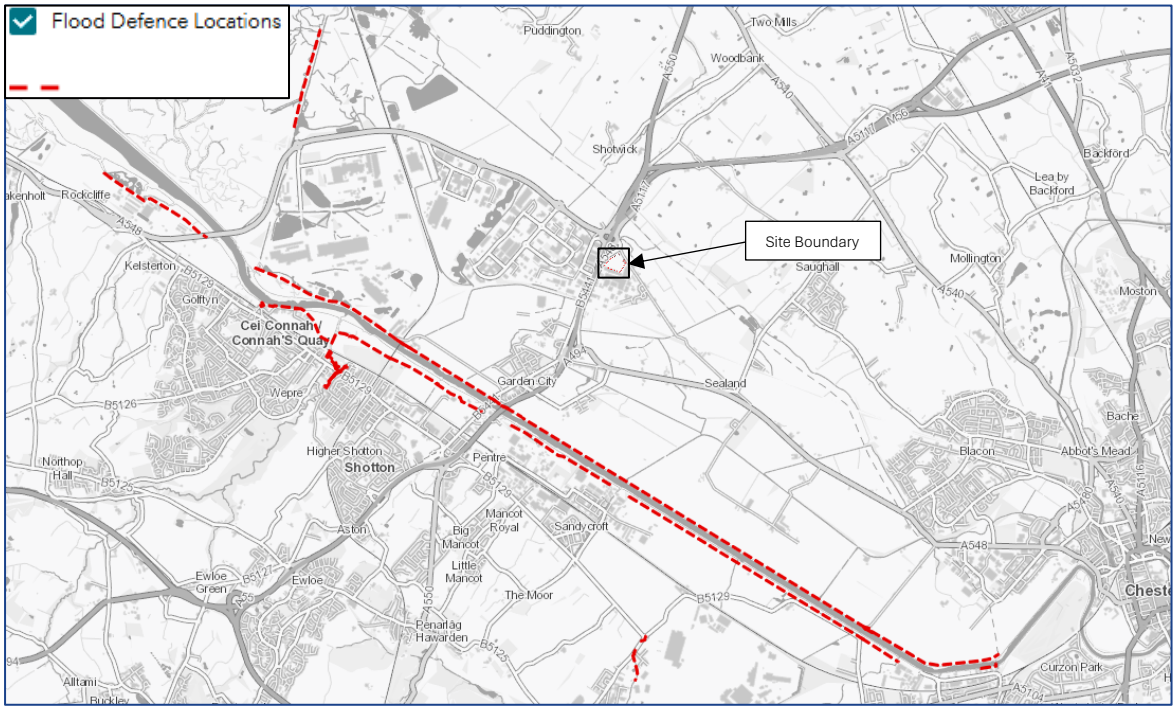


Figure 12: Existing flood defences

4.3 Groundwater Flooding

The proposed development is located in the River Dee catchment. NRW and the EA produced a preliminary flood risk assessment for the River Dee and its tributaries in 2018. The risk of flooding from groundwater in the catchment is assessed on Page 35 and states the risk of groundwater flooding within the catchment area has a 'very low likelihood of occurrence'.

4.4 Pluvial Flooding

4.4.1 Surface Water and Small Watercourses

Flooding from Surface Water and Small Watercourses is also categorised into three zones within the Flood Map for Planning Guidance. Flood Zone 1 has a less than 1 in 1000 annual probability of flooding. Flood Zone 2 has a medium probability of flooding; between 1 in 100 and 1 in 1000 annual probability of flooding while Flood Zone 3 has a high probability of flooding with an annual flooding probability greater than 1 in 100.

The NRW Flood Map for Planning shows that none of the proposed site is within either Zone 2 or 3. This shows there is currently little to no risk of flooding from Surface Water and Small Watercourses in area of the proposed development. There are two areas near the site which are at risk from flooding from Surface Water and Small Watercourses. To the South, land in front of the DE&S DECA operating centre is located in Flood Zone 2 while a small section of the A548 at the southwest of the site is in Flood Zone 3 indicating risk from this type of flooding is present in areas within close to the site.

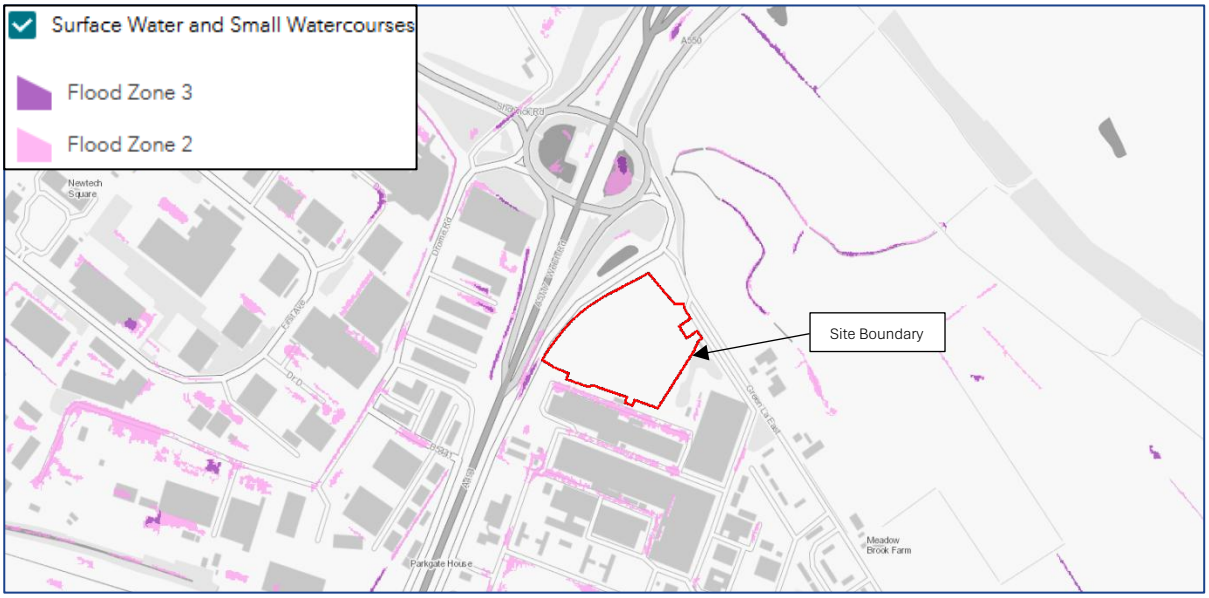


Figure 13: Surface water map for long term flood risk (gov.uk)

4.4.2 Reservoirs, Canals and Other Artificial Sources

According to the Flood Risk from reservoirs map, the southern section of the site is at risk if the Llyn Brenig reservoir were to fail and release all its stored water. The map, seen in Figure 14, illustrates the modelled worst-case scenario and the reservoir, which is located almost 40km to the southwest of the site, is unlikely to cause serious flooding at the site. Therefore, flooding from reservoirs is not considered a risk in this flood consequences assessment.

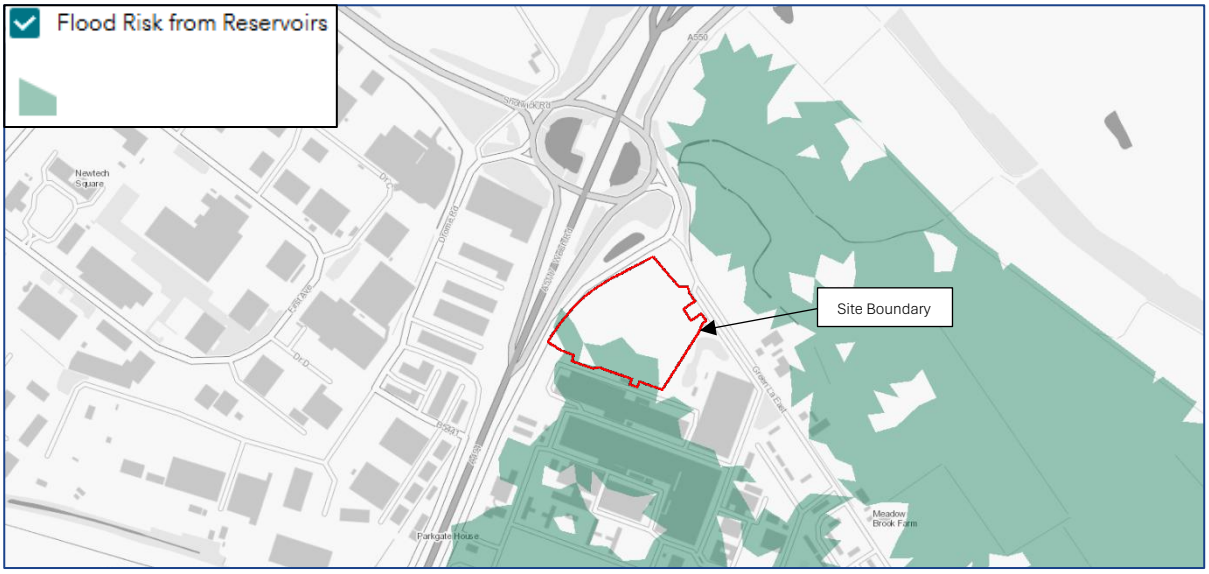


Figure 14: Reservoir flood risk map (gov.uk)

No flooding is expected from canals or other artificial sources.

4.4.3 Sewers

DCWW is obliged to report on incidents of sewer flooding as a UK Water and Sewerage Company. Between 1990 and 2016, both internal (flooding within a property) and external flood events across DCWW's network have been recorded. This encompasses a total of 891 incidents, and their location can be seen on Figure 15: Sewer flooding records from 1990-2016, (Flintshire County Council SFCA). This indicates there are no historic record of sewer flooding incidents within close proximity of the site. It can therefore be assumed that the site is unlikely to be at risk from future sewer flooding events.

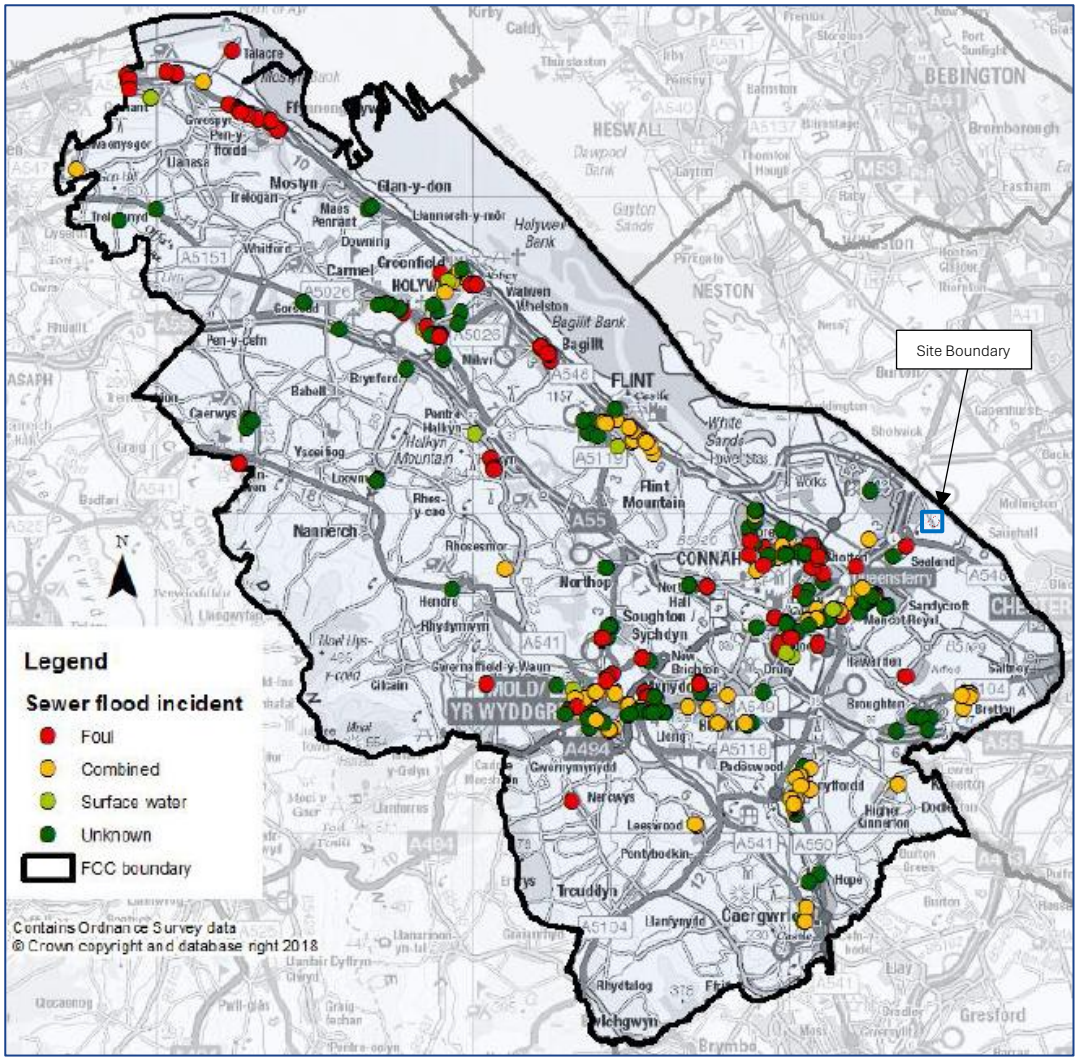


Figure 15: Sewer flooding records from 1990-2016, (Flintshire County Council SFCA)

Locations of storm overflow sites on the DCWW's network can be seen on Figure 16. Overflow events are not likely to have an impact, due to the distance from the development.

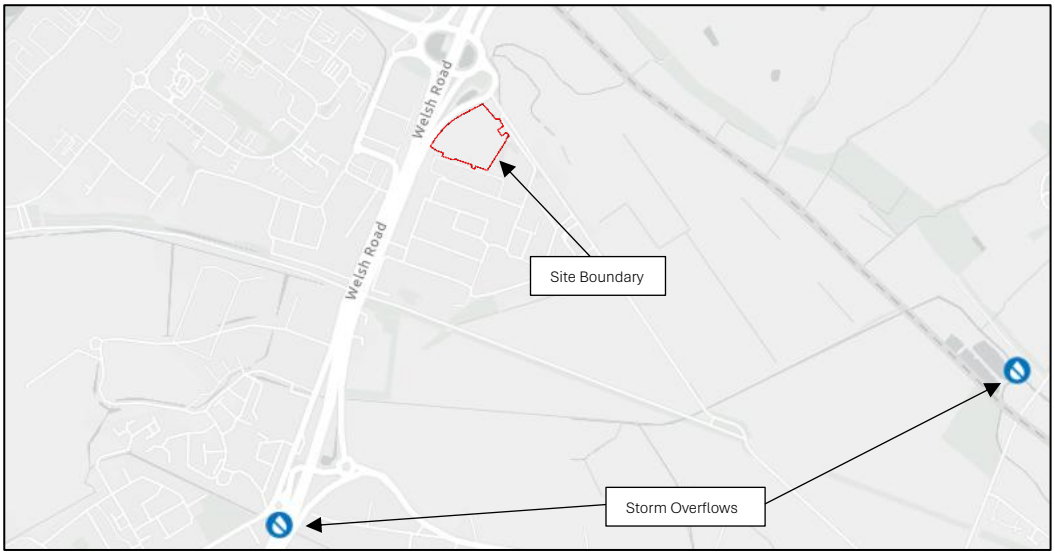


Figure 16: DCWW Storm Overflow locations

4.5 Development Suitability

4.5.1 Flood Risk

The site is located within Zone 2 for fluvial flooding and is located in a Defended Zone for sea flooding, providing protection from the Zone 3 sea flood risk. The development proposed at DE&S DECA Sealand is categorised as a less vulnerable development to flooding as it comprises a renewable energy generation facility. This can be seen in TAN 15 (Figure 4). The proposed development will improve energy security and reduce reliance on non-renewable energy sources. This proposed development is aligned with Flintshire's LDP policy, 'STR14 – Climate Change and Environmental Protection', specifically the detailed policy, 'EN13 – Renewable and Low Carbon Energy Development' aiming to develop 'a resilient Wales' (paragraph 5.14). TAN 15 states (paragraph 10.18) that for a proposal within Flood Zone 2 to be permitted, it must be either 'necessary to implement a strategy of the LDP', 'address energy security needs', or 'mitigate the effects of climate change'. The alignment of the proposed development with each of these legislative requirements demonstrates its suitability within the Zone 2 flood risk area found at the site.

TAN 15 (paragraph 10.13) states that the presence of the flood defences do not guarantee that the protected land will remain free from future flooding, especially as the effects of climate change increase the risk of breaches and over-topping. Therefore, there is a low risk the proposed development will experience a Zone 3 flood event. Developments in Flood Zone 3 should not be permitted unless exceptional circumstances apply. Paragraph 10.23 of TAN 15 states that these exceptional circumstances include any sites which address 'energy security needs' or 'mitigate the impacts of climate change'. The proposed development meets both these criteria as solar farms are a renewable form of energy and will improve energy security for the area. Therefore, this development is appropriate for an area which lies within Flood Zone 3 for risk of sea flooding, accounting for the failure of the flood defences which create the Defended Zone. This demonstrates that the proposed development of a solar farm is extremely suited to the site constraints and aligns with the PPW legislation.

4.5.2 Principle Employment Area

The site is located in the Deeside Enterprise Zone (DEZ), a 200-hectare Zone home to a wide range of manufacturing jobs which is key to meeting the employment targets for FCC and the wider North Wales Region. The proposed development is located in 'PE2: Principal Employment Areas – PE2.11 Deeside Industrial Park and DECA Sealand'. Principle Employment Areas are places identified which have a high likelihood of use for employment development. The LDP, however, does recognise circumstances in which this land can be developed for other uses. The development proposal at DE&S DECA Sealand will allocate the land to Renewable and Low Carbon Energy development, in line with policy STR13 of the LDP, showing the development is integral to the implementation of the LDP despite reallocation of Principal Employment Area land.

Furthermore, the proposed development is aligned with the sustainability targets of the DEZ. The Welsh Government's government aims to develop the DEZ as a global major centre for advanced manufacturing, whilst meeting the targets of the North Wales Energy

Strategy (2020) which requires a 54% reduction in commercial and industrial emissions to meet Welsh Government Net Zero Targets by 2050. This highlights positive impact of the development on the DEZ and therefore the suitability of the proposed development at the site.

5 Proposed Design

5.1 Introduction

This section provides details on the proposed design and the philosophy behind it.

5.2 Methodology

The proposed development will remain completely free draining due to the limited impermeable area added to the existing site. The site is not currently located in a flood risk zone from Surface Water and Small Watercourses, see Section 4.4.1. Therefore, the existing infiltration capacity of the current land will be utilised to drain the site.

5.3 SuDs Hierarchy

The development of the site is in line with the policies outlined in Section 2. Developments should utilise Sustainable Drainage Systems (SuDS), unless there are practical reasons for not doing so, should aim to achieve greenfield runoff rates, and ensure that surface water runoff is managed as close to the source as possible, in line with Table 2.

Table 2: SuDS hierarchy

	SuDS Hierarchy	Constraints / Opportunities
1	Rainwater use, as a resource (rainwater harvesting, blue roofs for irrigation).	Water reuse was not proposed as part of the development due to the lack of infrastructure included within the proposed development in which water could be directed and stored.
2	Rainwater infiltration to ground at or close to source.	Infiltration will be used across the whole site due to small increase in impermeable area added to the site by the proposed development
3	Rainwater attenuation in green infrastructure features for gradual release (green roofs, rain gardens).	Infiltration is proposed as the drainage strategy, therefore this is not applicable
4	Rainwater discharge direct to a watercourse (unless not appropriate).	Not applicable, as no watercourse available to drain to.
5	Controlled rainwater discharge to a surface water sewer or drain.	Not applicable, as infiltration is proposed as the drainage strategy.
6	Controlled rainwater discharge to a combined sewer.	Not applicable, as there is no proposed drainage to a combined sewer.

5.4 Climate Change Effects

As there is no increase to flood risk on the site, the effects of climate change do not have to be incorporated into any calculations.

5.5 Impermeable Areas

Table 3 compares the hardstanding areas for the proposed and existing development. The access track running through the site will consist of a free draining gravel (or similar) build up and therefore not increase the impermeable area of the site. Runoff from the PV modules will drain directly into the ground, not adding impermeable area to the existing site. The impermeable area added by the base of each PV module is assumed to be negligible. Though a small net increase in impermeable area is proposed, the development is not expected to increase the runoff of the existing site.

Table 3: Table of impermeable areas

	Impermeable Area		
Surface Description	Existing (m^2)	Proposed (m^2)	Difference (m^2)
Transformer (Concrete Slab)	0	46.4	+46.4
Total	**0**	**46.4**	**+46.4**

5.6 Drainage Strategy

Due to the build-up of the access road, utilising permeable materials, the access track will remain free draining.

Though the concrete pad required for the transformer will be impermeable, no additional drainage infrastructure is required due to the small increase of impermeable area. The runoff from this area will infiltrate naturally into the surrounding ground.

Runoff from PV modules will infiltrate into the existing ground. Erosion protection may be used to avoid the disintegration of the underlying soil.

5.7 Flood Routing and Designing for Exceedance

Spot height surveys were used to identify the low points across the proposed development site. The site is mostly flat with a maximum elevation change of approximately 40 centimetres. Generally, the existing land slopes from the north of the site to the south towards the low point of the site, which is a small ditch. This ditch stretches from east to west and is the end point for the exceedance flows, see Figure 17. In heavy rainfall events, most surface water runoff will flow towards this this low point and infiltrate into the ground. As the low point of the site is within the site boundary, the site does not impact the flood risk of another area. This shows the proposed development is in accordance with a key requirement of TAN 15.

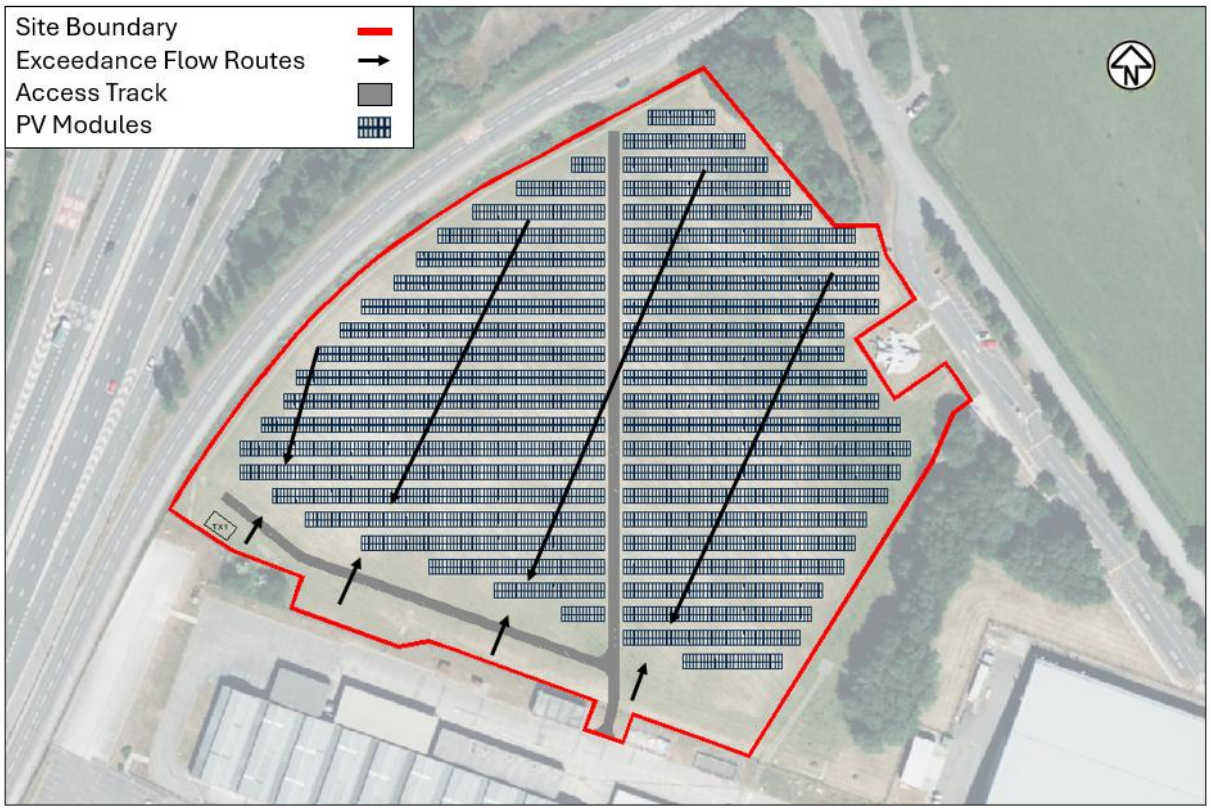


Figure 17: Exceedance Flow Routes

5.8 Water Quality

The proposed development will not have a negative impact on the water quality at the site, as the proposed drainage strategy mimics the current drainage strategy.

5.9 Residual Risk

There is no increase in residual risks as the proposed drainage strategy does not incorporate new drainage infrastructure and utilises the infiltration capacity of the existing land.

6 Maintenance

As the drainage design does not incorporate the use of additional structures, no maintenance activities are required.

It is necessary, however, to ensure the access track is well maintained to ensure it stays free draining and the current land on the site is not changed to ensure the infiltration capacity of the existing area is unaffected.

Erosion protection could also be utilised at the base of the slope of each PV module to avoid the disintegration of the underlying ground, if it is deemed necessary.

7 Summary and Conclusions

7.1 Introduction

This section summarises the previous chapters and assesses the suitability of the development in the context of on-site and off-site vulnerability.

7.2 Summary

This report presents a Flood Consequence Assessment, in accordance with the updated PPW in respect of a proposal for the development of a solar farm at the site in Flintshire, utilising infiltration. This has included an assessment of the benefits provided and how flood risk can be managed and mitigated.

7.3 Assessment of Flood Risk

This Flood Consequence Assessment has demonstrated the following:

- The site is located in Flood Zone 2 for river flooding and Flood Zone 3 for sea flooding. However, it is also within a defended zone for sea flooding, mitigating the risk from this type of flooding, whilst the flood defences remain in good condition.
- The site is at a low risk of groundwater flooding.
- The site has varying risks of pluvial flooding depending on the source. The site has a low risk of flooding from Surface Water and Small Watercourses, a low risk of flooding from sewers, and a low risk of flooding from reservoirs or other artificial sources.
- The appropriate usage for the site has been identified using the PPW – TAN 15, with the proposed development classified as a less vulnerable development to the effects of flooding. The development also provides essential infrastructure as the solar farm contributes to meeting energy security needs and mitigates the impact of the DE&S DECA Sealand sit on climate change by utilising renewable energy sources.
- The FCA has considered the potential impact of the development on surface water runoff rates and has provided evidence that the scheme will not have a negative impact on flooding events.

7.4 Conclusions

It is therefore concluded that this Flood Consequences Assessment demonstrates that the development satisfies the requirements stated in PPW – TAN 15 and can be justified in the proposed location.

The site-specific Flood Consequence Assessment has:

- Met the criteria set out in the PPW - TAN 15;
- Assessed the risk to the site from flood events;
- Assessed the risk to the site from site storm water runoff management, and
- Assessed the risk that the development will not increase flooding elsewhere.

The assessment demonstrates that the scheme will not have a negative impact on flooding events.