
FORMER BRITON FERRY HEALTH CENTRE BRITON FERRY

FLOOD CONSEQUENCE ASSESSMENT & OUTLINE DRAINAGE STRATEGY

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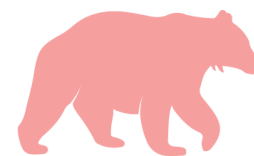
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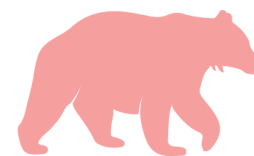
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Revision	Date	Notes	Author	Approved
-	30/03/2026	First Issue	WH	PC



1.0 INTRODUCTION

Bear Consulting has been instructed to prepare a Flood Consequence Assessment (FCA) and Outline Drainage Strategy in support of a Section 73 application (Ref: P2025/0646) relating to the Former Briton Ferry Health Centre, Hunter Street, Briton Ferry, Neath Port Talbot (SA11 2SF).

The application seeks to vary planning permission P2023/0767 (granted 23 August 2024) for the redevelopment of the site to provide a residential care facility. The proposed amendments include:

- Reduction in the number of bedrooms from 40 to 24
- Reduction in building footprint
- Amendments to roof form, elevations and materials
- Revised landscaping, planting and boundary treatment.

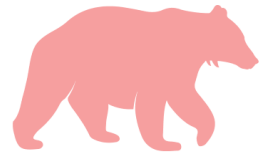
This FCA has been prepared in accordance with Technical Advice Note 15 (TAN15): Development, Flooding and Coastal Erosion (Welsh Government, 2025) and relevant supporting guidance.

The purpose of this assessment is to:

- Confirm the existing flood risk affecting the site
- Assess whether the amended development materially alters the previously established flood risk profile
- Demonstrate that flood consequences can be managed in accordance with TAN15
- Define appropriate mitigation measures, including a flood-compatible structural strategy
- Provide an outline drainage strategy demonstrating that surface water runoff can be effectively managed without increasing flood risk elsewhere.

To inform the design development of the amended scheme, JBA Consulting were commissioned by the client to prepare a Flood Risk Statement (Appendix F). This document is included within this FCA as supporting technical evidence to explain the flood risk context and the basis of the proposed finished floor levels and mitigation strategy.

This FCA has been prepared in response to consultation comments from NRW and the Lead Local Flood Authority, in order to explain and justify the design approach, including the adopted floor levels and passive flood mitigation strategy.



2.0 EXISTING SITE AND DEVELOPMENT SUMMARY

2.1 Site Description

The site comprises approximately 0.28 hectares of previously developed land located at the Former Briton Ferry Health Centre, Hunter Street, Briton Ferry.

The site is situated within an urban area and is bounded by existing residential and commercial development. Vehicular access is taken from Hunter Street. The red line in Figure 1 shows the proposed development boundary.

Topographical survey data (Appendix A) indicates that ground levels across the site range between approximately 4.1mAOD and 5.4mAOD. The site forms a localised topographic low point, with surrounding land generally falling towards the site.

The site is currently partially hardstanding with areas of soft landscaping. Existing drainage is assumed to discharge to the local combined sewer network.

Soilscapes mapping (Appendix C) indicates clayey soils with poor drainage characteristics and high groundwater susceptibility. BGS mapping (Appendix D) confirms underlying mudstone and tidal flat deposits, further supporting limited infiltration potential.

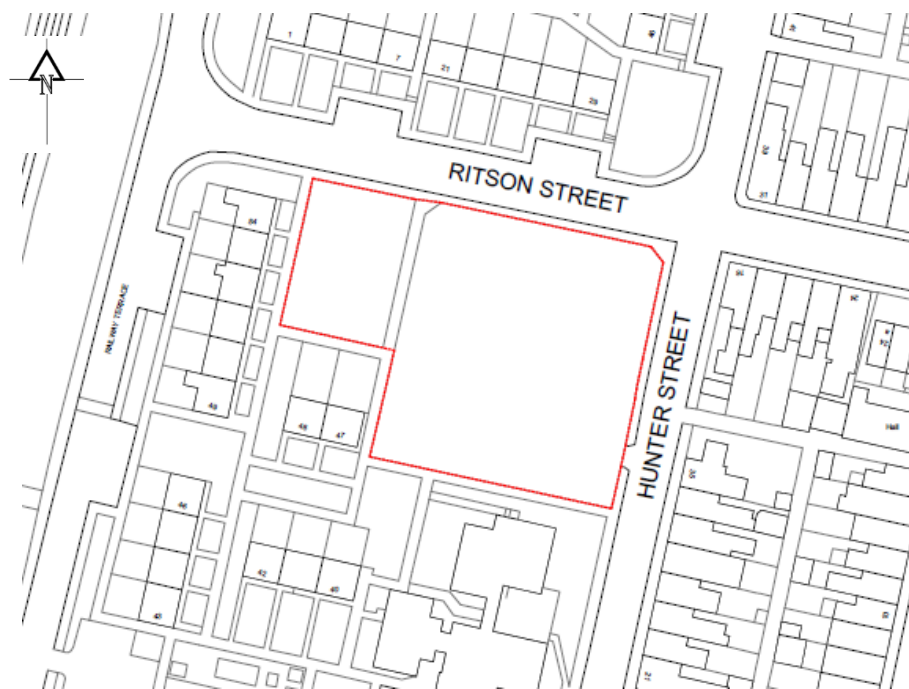
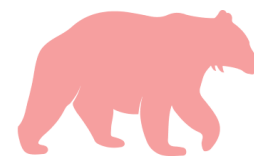


Figure 1 – Site Location

The site also sits within a wider local topographic low point relative to surrounding land, which is relevant to both surface water accumulation and the routing of floodwater toward the site.



2.2 Approved Development

Planning permission P2023/0767 granted consent for the redevelopment of the Former Briton Ferry Health Centre site to provide a residential care facility with associated access, parking, landscaping and site works.

The current Section 73 application relates to amendments to that approved scheme. This FCA has therefore been prepared to consider the amended proposals in flood risk terms and to demonstrate that the revised development remains acceptable having regard to the flood risk affecting the site.

2.3 Proposed Development (Amended Scheme)

The Section 73 application proposes amendments to the approved scheme comprising:

- Reduction in the number of bedrooms from 40 to 24
- Reduction in building footprint
- Amendments to roof form, elevations and external materials
- Revised landscaping, planting and boundary treatment

The site boundary and the use of the site as a residential care facility remain unchanged. The proposed development therefore continues to constitute Highly Vulnerable Development in accordance with TAN15.

The amended scheme results in a reduction in built footprint and impermeable area relative to the previously approved development and does not introduce any new flood risk mechanisms.



2.4 Vulnerability Classification

Under TAN 15 (2025), the proposed development falls within the “Highly Vulnerable” category, as it comprises a residential care home.

Vulnerability category	Types
Highly vulnerable development	All residential premises (including hotels, Gypsy and Traveller sites, caravan parks and camping sites). Schools and childcare establishments, colleges and universities. Hospitals and GP surgeries. Especially vulnerable industrial development (e.g. power generating and distribution elements of power stations, transformers, chemical plants, incinerators), and waste disposal sites. Emergency services, including: ambulance stations, fire stations, police stations, command centres, emergency depots. Buildings used to provide emergency shelter in time of flood.
Less vulnerable development	General industrial, employment, commercial and retail development. Transport and utilities infrastructure. Car parks. Mineral extraction sites and associated processing facilities (excluding waste disposal sites). Public buildings including libraries, community centres and leisure centres (excluding those identified as in Highly Vulnerable category and emergency shelters). Places of worship. Cemeteries. Equipped play areas. Renewable energy generation facilities (excluding hydro generation).
Water compatible development	Boatyards, marinas and essential works required at mooring basins. Development associated with canals. Flood defences and management infrastructure. Open spaces (excluding equipped play areas). Hydro renewable energy generation.

Table 1 – Development vulnerability categories extracted from TAN15 (March 2025)

It is noted that an extant planning permission exists for a larger care home development at the site. This assessment therefore considers the proposed scheme in the context of this fallback position and demonstrates that the amended proposals represent a reduction in scale and a betterment in flood risk terms.

3.0 PLANNING CONTEXT AND FLOOD ZONE CLASSIFICATION

3.1 Planning Status

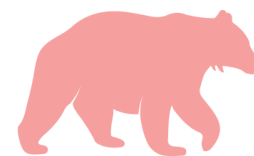
At the time of writing, a Section 73 application (Ref: P2025/0646) has been submitted to Neath Port Talbot County Borough Council and is under consideration.

3.2 Relevant National and Local Policy

This FCA report has been prepared in accordance with:

- Technical Advice Note 15 (TAN 15): Development, Flooding and Coastal Erosion (Welsh Government, March 2025).
- Welsh Government National Standards for Sustainable Drainage (SuDS).

Where relevant, reference has also been made to other current Natural Resources Wales (NRW) policy and guidance.



3.3 Development Location Flood Zone

According to the NRW Flood Map for Planning (Appendix E), the site is located within:

- Sea Flood Zone 3
- Surface Water and Small Watercourses Flood Zones 2 and 3

The site is not located within a TAN15 Defended Zone.

Given the Highly Vulnerable classification of the proposed development, it is necessary to demonstrate that flood consequences can be acceptably managed in accordance with TAN15.

4.0 SOURCES OF FLOOD RISK

4.1 Identify Relevant Sources of Flooding

A desk-based review has been undertaken, including reference to the Natural Resources Wales (NRW) Flood Map for Planning (FMfP) (Appendix E), to identify potential sources of flood risk affecting the site.

The following sources of flooding have been considered:

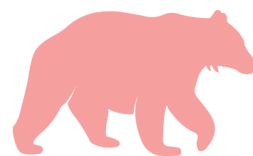
Surface Water and Small Watercourses Flooding

According to the NRW Flood Map for Planning (Appendix E), the site is located within Surface Water and Small Watercourses Flood Zones 2 and 3, indicating a high probability of flooding from surface water sources across most of the site.

The site forms a localised topographic low point and is therefore susceptible to the accumulation of runoff and routed overland flow from surrounding higher ground. JBA also note that national-scale mapping of surface water and small watercourse risk may misrepresent culverted features and should therefore be treated as precautionary at site level.

Surface water flooding at the site is likely to interact with other mechanisms, including tidal flooding and potential sewer surcharge, influencing both the timing and routing of floodwater across the site.

On this basis, surface water flooding is considered a significant flood mechanism and has been a key consideration in the development of the proposed design and mitigation strategy.



Flood Zone	Probability	Explanation
Zone 2	Medium	Areas with 0.1% to 1% (1 in 1000 to 1 in 100) chance of flooding from surface water and/or small watercourses in a given year, including the effects of climate change.
Zone 3	High	Areas with more than 1% (1 in 100) chance of flooding from surface water and/or small watercourses in a given year, including the effects of climate change.

Table 2 – NRW Surface Water and Small Watercourses Flood Zones

River Flooding

The NRW Flood Map for Planning confirms that the site is not located within River Flood Zones 2 or 3. There are no significant fluvial watercourses in close proximity that present a material risk to the site. On this basis, the risk of flooding from rivers is considered negligible.

Flood Zone	Probability	Explanation
Zone 2	Medium	Areas with 0.1% to 1% (1 in 1000 to 1 in 100) chance of flooding from rivers in a given year, including the effects of climate change.
Zone 3	High	Areas with more than 1% (1 in 100) chance of flooding from rivers in a given year, including the effects of climate change.

Table 3 – NRW Rivers Flood Zones

Sea Flooding

According to the NRW Flood Map for Planning (Appendix E), the site is located within Sea Flood Zone 3, defined as areas with a greater than 0.5% (1 in 200) annual probability of tidal flooding, including the effects of climate change.

The mapping does not identify the site as being located within a TAN15 Defended Zone. JBA also state that the site is not located within an area that benefits from flood defences. Accordingly, a precautionary approach has been adopted in this assessment.

The JBA Flood Risk Statement (Appendix F), commissioned by the client, identifies indicative maximum flood levels on site as approximately:

- 6.16mAOD for the 0.5% AEP tidal event including climate change
- 6.88mAOD for the 0.1% AEP tidal event

Flooding is expected to occur through tidal inundation and subsequent routing of floodwater through the surrounding urban environment.



Flood Zone	Probability	Explanation
Zone 2	Medium	Areas with 0.1% to 0.5% (1 in 1000 to 1 in 200) chance of flooding from the sea in a given year, including the effects of climate change.
Zone 3	High	Areas with more than 0.5% (1 in 200) chance of flooding from the sea in a given year, including the effects of climate change.

Table 4 – NRW Sea Flood Zones

Flood Risk from Reservoirs

There are no reservoirs located in the vicinity of the site.

The NRW Flood Map for Planning indicates that the site is not within an area at risk of reservoir flooding. The risk from this source is therefore considered negligible.

Sewer Flooding

Sewer flooding may occur during periods of heavy rainfall when the sewer system becomes surcharged or exceeds capacity.

Local authority discussions have identified that the surrounding sewer network has the potential to surcharge during heavy rainfall events and may contribute to localised flooding in the area, although the precise interaction between sewer exceedance, surface water runoff and other mechanisms has not been formally quantified.

Whilst detailed modelling or records are not available to quantify this risk, it has been considered qualitatively within this assessment.

The proposed development incorporates mitigation measures including:

- Controlled discharge at greenfield runoff rates
- Use of non-return valves to prevent backflow
- A drainage strategy designed to manage on-site runoff effectively

On this basis, the development is not expected to increase the risk of sewer flooding.

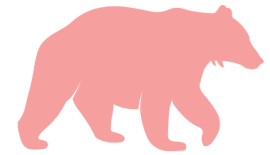
Groundwater Flooding

Groundwater flooding is defined as the emergence of groundwater at the ground surface or within man-made structures.

Soilscapes and BGS mapping (Appendices C and D) indicate that the site is underlain by clay-rich soils with low permeability and potential for elevated groundwater levels.

Whilst groundwater levels may fluctuate, no evidence of significant groundwater flooding has been identified.

The proposed development incorporates a permeable sub-base and void beneath the building, reducing sensitivity to groundwater conditions.



On this basis, the risk of groundwater flooding is considered low.

4.2 Known Historic Flooding

Based on available NRW Flood Map for Planning information, there are no recorded historic flood extents specifically affecting the site.

However, anecdotal evidence from the LPA and LLFA indicates that localised flooding has occurred in the surrounding area, likely associated with surface water runoff and sewer surcharge during heavy rainfall events.

4.3 Existing Flood Defences

The JBA Flood Risk Statement and the NRW Flood Map for Planning indicate that the site is not located within an area that benefits from flood defences and is not within a TAN15 Defended Zone.

Whilst flood defences are present within the wider estuarine system, these are not identified as providing formal protection to the site in the context of TAN15.

Flood risk has therefore been assessed on a precautionary basis. Residual flood risk associated with tidal flooding, including overtopping or exceedance of defences elsewhere within the estuarine system, has been considered within this assessment.



5.0 FLOOD RISK ASSESSMENT AND ACCEPTABILITY OF FLOOD CONSEQUENCES

This section assesses the acceptability of the proposed development having regard to the requirements of Technical Advice Note 15 (TAN15): Development, Flooding and Coastal Erosion (Welsh Government, 2025).

The site is located within Sea Flood Zone 3 and within Surface Water and Small Watercourses Flood Zones 2 and 3. The proposed development is classified as Highly Vulnerable.

5.1 Frequency Thresholds

In accordance with TAN15, Highly Vulnerable development should be designed to remain flood-free during the design flood event, defined as:

- 1% AEP (1 in 100 year) fluvial event + climate change
- 0.5% AEP (1 in 200 year) tidal event + climate change

The JBA Flood Risk Statement (Appendix F), commissioned by the client, identifies indicative maximum flood levels on site of approximately:

- 6.16mAOD for the 0.5% AEP tidal event including climate change

The proposed finished floor level (FFL) of the development is set at 6.280mAOD.

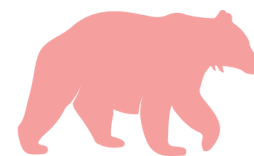
Finished Floor Levels (FFLs) for the proposed development are set at 6.280mAOD. This level has been selected with reference to the 0.5% AEP tidal flood event including climate change, for which an indicative level of 6.16mAOD has been identified (JBA Consulting, Appendix F). The proposed FFL therefore provides an appropriate freeboard above this extreme design event.

The adopted finished floor level therefore ensures that the development remains above the design tidal flood event, with an appropriate allowance for uncertainty in the indicative modelling outputs.

Notwithstanding this, the JBA levels are indicative and have therefore been used as a pragmatic design basis rather than as a substitute for site-specific hydraulic modelling.

Vulnerability category		Flood Event Type	
		Rivers	Sea
Highly vulnerable development	Emergency services (command centres and hubs)	0.1%+CC (1 in 1,000)	0.1%+CC (1 in 1,000)
	All other types	1% +CC (1 in 100)	0.5%+CC (1 in 200)
Less vulnerable development		1% +CC (1 in 100)	0.5% +CC (1 in 200)
Water compatible development that may be occupied by people		1% +CC (1 in 100)	0.5% +CC (1 in 200)

Table 5 – Frequency thresholds for Flood events in which development must be flood-free extracted from TAN15 (March 2025)



5.2 Flood Mechanisms

The site is affected by multiple interacting flood mechanisms, including:

- Tidal flooding associated with the wider estuarine system
- Surface water and overland flow due to the site's position as a localised topographic low point
- Potential interaction with sewer surcharge during heavy rainfall events

Flooding at the site is therefore expected to occur through a combination of water accumulation and routing through the surrounding urban area.

5.3 Design Considerations

The development has been specifically designed to respond to these flood mechanisms through a combination of level setting and structural mitigation.

A key component of the design is the incorporation of a void beneath the building footprint. This allows floodwater to:

- Enter beneath the structure
- Be temporarily stored without displacement
- Pass through the site without obstruction

This approach ensures that the development does not reduce floodplain storage or alter flood routing across the site. It is particularly suited to sites where floodwater is expected to accumulate and route across the site, as it allows the development to accommodate floodwater rather than displace it.

This approach has also been selected in preference to a simple land-raising solution. Whilst raising ground levels could reduce flood risk to the building itself, it has the potential to displace floodwater and increase flood risk elsewhere.

The proposed design therefore adopts a passive flood-compatible approach, allowing floodwater to enter and pass beneath the building rather than being displaced, in accordance with the principles of minimising off-site impacts.

5.4 Tolerable Conditions

TAN15 provides guidance on tolerable flood conditions during extreme events (e.g. 0.1% AEP).

Whilst exceedance of the design event may occur during extreme scenarios, the proposed development incorporates measures to manage residual risk, including:

- Finished floor levels set above the design flood level
- Passive flood-compatible design allowing water to pass beneath the structure
- Safe refuge within the building

Given the nature of the development and the mitigation measures proposed, it is considered that the flood consequences are capable of being managed.

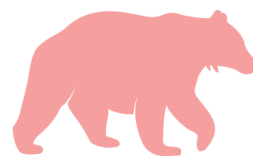


Table 5 below shows the tolerance condition under which new development may be considered acceptable in extreme events.

Types of new development	Maximum depth of flooding (mm)	Maximum velocity of flood waters (metres/sec)
Highly vulnerable development	600	0.15
Less vulnerable development	600	0.3

Table 6 – Tolerable conditions in an extreme flood event extracted from TAN15 (March 2025)

5.5 Acceptability Criteria

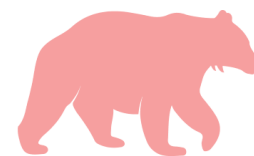
In accordance with TAN15, the development is considered to be acceptable where:

- It does not increase flood risk elsewhere
- Flood consequences are manageable
- Occupants can remain safe during flood events
- Appropriate mitigation measures are incorporated

The proposed development satisfies these criteria as:

- The void beneath the building ensures no displacement of floodwater
- The development does not impede overland flow paths
- Finished floor levels provide protection against the design flood event
- A drainage strategy manages surface water runoff without increasing risk

On this basis and having regard to the mitigation measures incorporated within the scheme, it is considered that the proposed development is acceptable in flood risk terms, subject to the planning authority's assessment and application of TAN15.



6.0 MITIGATION MEASURES

6.1 Finished Floor Levels

The finished floor level of the development will be set at 6.280mAOD.

This level has been selected having regard to the later-epoch uplifted indicative flood levels identified within the JBA Flood Risk Statement (Appendix F) and ensures that internal areas remain above the 0.5% AEP tidal flood level including climate change.

The proposed mitigation strategy, including raised finished floor levels and the incorporation of a flood-compatible undercroft void, ensures that the development appropriately responds to tidal flood risk.

6.2 Void Beneath Building

The development incorporates a void beneath the building footprint, created through a piled foundation system supporting a suspended ground floor slab over a free-draining stone piling mat.

The under-slab void allows floodwater to enter, pass beneath the building and dissipate in a controlled manner. This is a passive flood management measure and does not form part of the formal surface water drainage strategy.

Whilst limited localised infiltration may occur within the underlying materials during flood conditions, this is incidental and is not relied upon as a drainage mechanism.

The key benefits of this approach include:

- No displacement of floodwater
- No loss of floodplain storage
- No obstruction to flood flow paths
- Passive flood resilience without reliance on active systems

6.3 Sub-Surface Drainage System

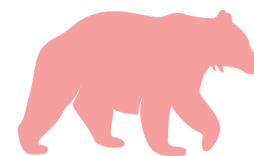
A perforated drainage network will be installed within the stone piling mat in a herringbone arrangement.

This system will:

- Collect floodwater entering the void
- Facilitate movement of water through the sub-base
- Convey water toward a designated gravel-filled collector trench / drainage blanket

Water collected within the sub-surface system will discharge to a gravel-filled collector trench/drainage blanket, as shown on the Proposed Drainage Layout (Appendix I).

This provides additional temporary storage and facilitates the controlled movement of water within the sub-surface environment pending discharge through the wider drainage system.



The sub-surface drainage arrangement beneath the building is intended to facilitate the movement and controlled discharge of water from the void, rather than promoting infiltration to ground. The final arrangement of the sub-surface drainage system and any associated openings or control measures will be confirmed at detailed design stage, having regard to buildability, maintenance requirements and the need to ensure that floodwater can enter, pass through and dissipate without increasing flood risk to third parties.

6.4 Flood Storage Basis and Resilience Measures

A preliminary volumetric comparison undertaken as part of the design development indicates that the proposed development results in an increase in built form relative to the pre-demolition condition (Appendix G).

The pre-demolition building is estimated to have occupied a volume of approximately 1,822.98m³, whereas the proposed development is estimated at approximately 2,375.98m³, representing an increase of approximately 553m³.

In the absence of mitigation, this increase in built volume would correspond to a reduction in available flood storage within the site.

The proposed under-slab void has therefore been adopted not only as a passive structural solution, but also to provide compensatory flood storage and operational flood storage within the site. This ensures that floodwater can be accommodated within the site during flood events, thereby reducing the potential for displacement of floodwater and increased flood risk elsewhere.

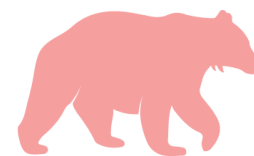
The effective flood storage volume provided beneath the building will be confirmed at detailed design stage, taking into account structural elements, services and maintenance requirements.

When compared with the extant planning permission for a larger care home development at the site, the amended proposals represent a clear betterment in flood risk terms. The revised scheme reduces the building footprint, impermeable area, and overall scale of development, whilst incorporating a flood-compatible void beneath the structure to allow the passage and temporary storage of floodwater. This approach minimises the potential for floodwater displacement relative to the approved scheme and ensures that the development does not increase flood risk elsewhere.

6.5 Betterment Relative to Approved Scheme

The amended scheme results in a reduction in building footprint and impermeable area compared to the previously approved development.

This results in a reduction in displaced volume and runoff generation and therefore represents a betterment over the approved development in terms of flood risk and floodwater displacement.



7.0 ACCESS AND EGRESS

7.1 Access Routes During Flood Events

Access to the site is provided via Hunter Street. During extreme flood events, access routes may be affected by flooding within the surrounding area. The amended scheme reduces the number of bedrooms from 40 in the approved scheme to 24, thereby reducing the number of occupants potentially exposed during a flood event compared to the approved fallback position.

7.2 Safe Refuge

In the event that safe access and egress cannot be achieved, occupants will be able to remain safely within the building.

The development provides safe refuge at upper floor levels, above predicted flood levels.

7.3 Flood Warning and Management

Occupants and site management will be registered with NRW flood warning services.

A site-specific Flood Plan will be prepared to ensure that:

- Occupants are aware of flood risk
- Appropriate actions are taken in advance of flooding
- Safe evacuation procedures are implemented where required

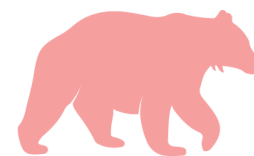
On this basis, the development is considered to provide safe conditions for occupants during flood events.

7.4 Evacuation Plans, Safe Refuge Areas and Warnings

The site is located within a flood risk area. Therefore, the landowner or acting agents will register with NRW's flood warning telephone service. Guidance on preparing for a flood is available on the NRW website (<https://naturalresources.wales/flooding/preparing-for-a-flood/>). Contact details for the site will be registered with the NRW flood warning service to ensure timely receipt of flood alerts and warnings.

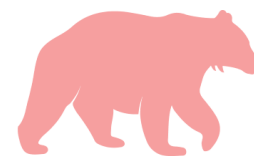
All site occupants will be made aware of the NRW Floodline telephone number, together with the flood warning codes and their meanings. The landowner will act as the designated flood warden for the site, ensuring that they understand the local flood mechanisms and that the safety of occupants and visitors is not compromised during a flood event.

The building operator will be expected to prepare a flood plan, setting out the precautions and actions to be taken when a flood event is anticipated, in order to minimise potential impacts and damage. Sensible measures include raising electrical equipment, irreplaceable, or sentimental items off the ground, or relocating them to an upper floor where possible. Other recommended actions include rolling up carpets and rugs, switching off utilities, and preparing for possible evacuation. Evacuation planning should consider safe access and egress routes and the advance preparation of a flood kit containing essential items such as warm clothing, medication, a torch, food, and wellington boots.



The flood plan will be treated as a 'living' document and should be periodically reviewed and updated to ensure it provides clear and practical advice to occupants in the event of an extreme flood. By implementing and maintaining the plan, occupiers will reduce their vulnerability to flooding and improve awareness of flood mechanisms specific to the site. The designated flood warden will be responsible for monitoring flood levels, keeping occupants and visitors informed, and determining when to initiate the flood plan.

During flooding conditions, the development strategy relies principally on raised finished floor levels and internal safe refuge. Access and egress arrangements, flood warning, and the site-specific Flood Plan will be used to support safe occupation and evacuation where necessary.



8.0 OUTLINE DRAINAGE STRATEGY

8.1 Overview

The proposed drainage strategy has been developed in accordance with the Welsh Government Statutory Standards for Sustainable Drainage Systems (SuDS) and will be subject to approval by the SuDS Approving Body (SAB) at detailed design stage.

The strategy is illustrated on the Proposed Drainage Layout (Appendix I) and has been developed to:

- Manage surface water runoff in a sustainable manner
- Restrict discharge rates to greenfield runoff rates
- Provide on-site attenuation and treatment
- Ensure no increase in flood risk on or off site

The drainage proposals form part of an integrated flood risk strategy, working in conjunction with the building design, including the provision of a void beneath the structure.

The amended scheme results in a reduction in building footprint and impermeable area compared to the previously approved development. In addition, the proposed SuDS-based drainage strategy incorporates attenuation and controlled discharge restricted to greenfield runoff rates. This represents a clear betterment over both the historic and approved drainage arrangements, which would typically have involved more direct discharge to the combined sewer network without equivalent attenuation or flow control.

The proposed drainage systems within the site will be privately owned and maintained.

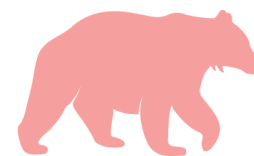
Surface water drainage will be subject to approval by the SuDS Approving Body (SAB), while foul drainage will connect to the public sewer network subject to agreement with Welsh Water.

8.2 Drainage Hierarchy

In accordance with the SuDS hierarchy, the following discharge options have been considered:

- Infiltration to ground
- Discharge to a surface water body (watercourse)
- Discharge to a highway drainage system
- Discharge to a surface water sewer
- Discharge to a combined sewer

Each option has been assessed in sequence, with higher preference options discounted where demonstrated to be unfeasible due to site constraints and available infrastructure.



Infiltration to ground has been discounted as a primary drainage solution due to the presence of Made Ground and identified contamination risks, which could pose a potential pathway to controlled waters.

Based on currently available site and drainage information, there are no suitable watercourses or separate surface water sewer connections available in proximity to the site.

The drainage strategy has therefore been developed on the basis of controlled discharge, subject to confirmation of capacity by Welsh Water.

8.3 Surface Water Drainage Strategy

The proposed surface water drainage system comprises a SuDS-based management train, incorporating:

- Rainwater harvesting systems
- Permeable paving
- Rain gardens with perforated underdrains
- Geocellular attenuation storage (approximately 96.9m³)
- Flow control device restricting discharge to greenfield runoff rate (QBAR)
- Non-return valves to prevent backflow
- Perforated drainage network within the building substructure
- Gravel-filled collector trench / drainage blanket

The sub-surface drainage arrangement beneath the building is intended to operate in conjunction with the under-slab void, allowing water entering the void to be collected, distributed and managed in a controlled manner. This forms part of the overall flood mitigation strategy and will be refined at detailed design stage.

Infiltration techniques such as soakaways are not proposed as part of the formal surface water drainage strategy due to the presence of contamination within the Made Ground and the potential risk to controlled waters.

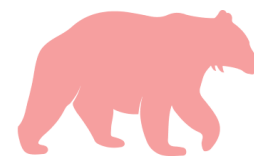
Surface water runoff will be attenuated on site and discharged at a restricted rate to ensure that post-development runoff does not exceed greenfield conditions.

Runoff quality will be managed through the use of SuDS features in accordance with CIRIA C753 guidance.

Surface water discharge to the DCWW combined sewer network is subject to confirmation of available capacity.

The surface water drainage system will remain private and will be designed, constructed and maintained in accordance with SAB requirements. Approval of the surface water drainage strategy will be obtained through the SAB application process prior to construction.

Welsh Water will be consulted separately at detailed design stage to confirm that the network can accommodate the proposed restricted discharge. Where required, a formal application under Section 106 of the Water Industry Act will be made.



8.4 Drainage Interaction with Flood Risk

The drainage system manages pluvial runoff only and does not rely on the public sewer network for flood mitigation.

Flooding at the site is influenced by both tidal and surface water mechanisms. These are addressed through the wider development design, including:

- Raised finished floor levels
- The provision of a void beneath the building allowing floodwater to pass through the site without displacement
- A free-draining sub-base and sub-surface drainage system

The drainage system therefore complements, but does not replace, the primary flood mitigation strategy.

8.5 Design Criteria

The drainage system will be designed in accordance with:

- Welsh Government SuDS Standards
- CIRIA C753 SuDS Manual
- SAB approval requirements

The system will accommodate:

- 1 in 100 year rainfall event
- +40% climate change allowance
- +10% urban creep allowance

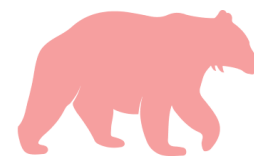
Detailed hydraulic modelling will be undertaken at SAB submission stage to demonstrate system performance and confirm compliance.

8.6 Exceedance and Overland Flow

In the event of rainfall exceeding the design capacity, or blockage of the drainage system, exceedance flows will follow site topography.

Surface water will be directed away from the building and towards external areas and the adjacent highway, ensuring:

- No internal flooding of buildings
- No uncontrolled ponding against structures
- No increase in flood risk to adjacent land



8.7 Foul Water Drainage Strategy

Foul water from the development will discharge to the existing DCWW public sewer network.

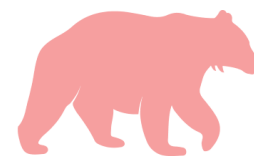
The foul drainage system within the site will be private up to the point of connection to the public sewer.

The system will be designed in accordance with Building Regulations Approved Document Part H, Sewers for Adoption and Welsh Water requirements.

The proposed connection point and discharge arrangement will be confirmed at detailed design stage and agreed with Welsh Water.

Confirmation of available capacity within the public sewer network will be required. Where necessary, a formal application under Section 106 of the Water Industry Act will be made to secure approval for the connection.

Given the reduction in scale of the proposed care home relative to the previously approved scheme (40 bedrooms reduced to 24), it is anticipated that foul flows will also be reduced, representing a reduction in loading on the receiving network.



9.0 SUMMARY AND CONCLUSION

This Flood Consequence Assessment (FCA) and Outline Drainage Strategy has been prepared in support of a Section 73 application relating to amendments to the approved residential care development at the Former Briton Ferry Health Centre, Hunter Street, Briton Ferry.

The assessment confirms that the site is located within Sea Flood Zone 3 and within Surface Water and Small Watercourses Flood Zones 2 and 3. Flood risk at the site is influenced by multiple interacting mechanisms, including tidal inundation from the wider estuarine system and surface water accumulation associated with the site's position as a localised topographic low point. Potential interaction with sewer surcharge during heavy rainfall events has also been identified through consultation with the Local Planning Authority and Lead Local Flood Authority.

The proposed development has been designed having regard to these flood mechanisms. The finished floor level has been set at 6.280mAOD, having regard to the later-epoch uplifted indicative flood levels identified within the JBA Flood Risk Statement (Appendix F).

A key element of the mitigation strategy is the provision of a void beneath the building, formed through a piled foundation system, suspended ground floor slab and free draining sub-base. This allows floodwater to enter, pass beneath the structure and dissipate without displacement, ensuring that the development does not reduce floodplain storage or obstruct flood flow routes. This approach provides a passive and robust form of flood resilience that is appropriate to the characteristics of the site.

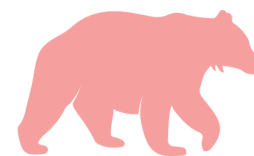
Residual risks associated with extreme events remain, as is typical for development within Flood Zone 3. However, these risks are mitigated through the combination of raised finished floor levels, passive flood-compatible design, and the provision of safe refuge within the building.

The Outline Drainage Strategy demonstrates that surface water runoff can be managed through a SuDS-based approach incorporating attenuation, treatment and restricted discharge. Surface water drainage will be subject to approval by the SuDS Approving Body (SAB), and foul drainage will connect to the public sewer network subject to agreement with Welsh Water and confirmation of available capacity.

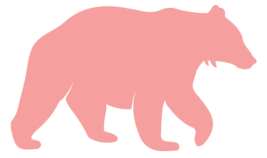
The amended scheme proposed under this Section 73 application results in a reduction in building footprint and impermeable area compared to the previously approved development and does not introduce any new flood risk mechanisms.

Whilst the development is located within Flood Zone 3 and is classified as Highly Vulnerable, the proposed mitigation measures significantly reduce the potential consequences of flooding. In this context and having regard to the nature of the proposed amendments, it is considered that the proposed mitigation measures are intended to make the development as safe as reasonably practicable for its lifetime and to avoid increasing flood risk elsewhere.

It is also important to note that the extant planning permission establishes the principle of a larger care home development at the site. The amended proposals therefore represent a reduction in scale and an improvement in flood risk performance relative to what could otherwise be lawfully implemented.



The proposed care home development is considered acceptable in flood risk terms. When assessed against the extant planning permission, the amended scheme represents a clear betterment through a reduction in scale, reduced impermeable area, incorporation of flood-compatible design measures and an improved drainage strategy.



Appendix A

CAVEAT

SHOULD THERE BE ANY CONFLICT BETWEEN THE DETAILS INDICATED ON THIS DRAWING AND THOSE INDICATED ON OTHER DRAWINGS, THEN VINCI SURVEYS SHOULD BE INFORMED PRIOR TO CONSTRUCTION ON SITE.

NOTE THAT THE SAME ACCURACIES IMPLIED BY THE PLOTTING SCALE ARE EQUALLY APPLICABLE TO DIGITAL DATA SUPPLIED FOR CAD.

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS/DOCUMENTATION.

TAKE 2D DIGITAL DIMENSIONS FROM THIS DRAWING AS OPPOSED TO SCALING DIMENSIONS.

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Station	Easting	Northing	Level
ST1	274146.327	194212.910	4.741
ST2	274124.572	194154.308	4.449
ST3	274091.032	194221.988	4.471
ST2A	274123.491	194154.742	4.531

LEVELS ARE RELATED TO AN OS SURVEY DATUM DERIVED FROM VRS.
CO-ORDINATES ARE RELATED TO AN OS SURVEY GRID DERIVED FROM VRS.
SCALE FACTOR 1 - GROUND DISTANCES APPLIED.

Job: FORMER BRITON FERRY HEALTH CENTRE

TOPOGRAPHICAL SURVEY

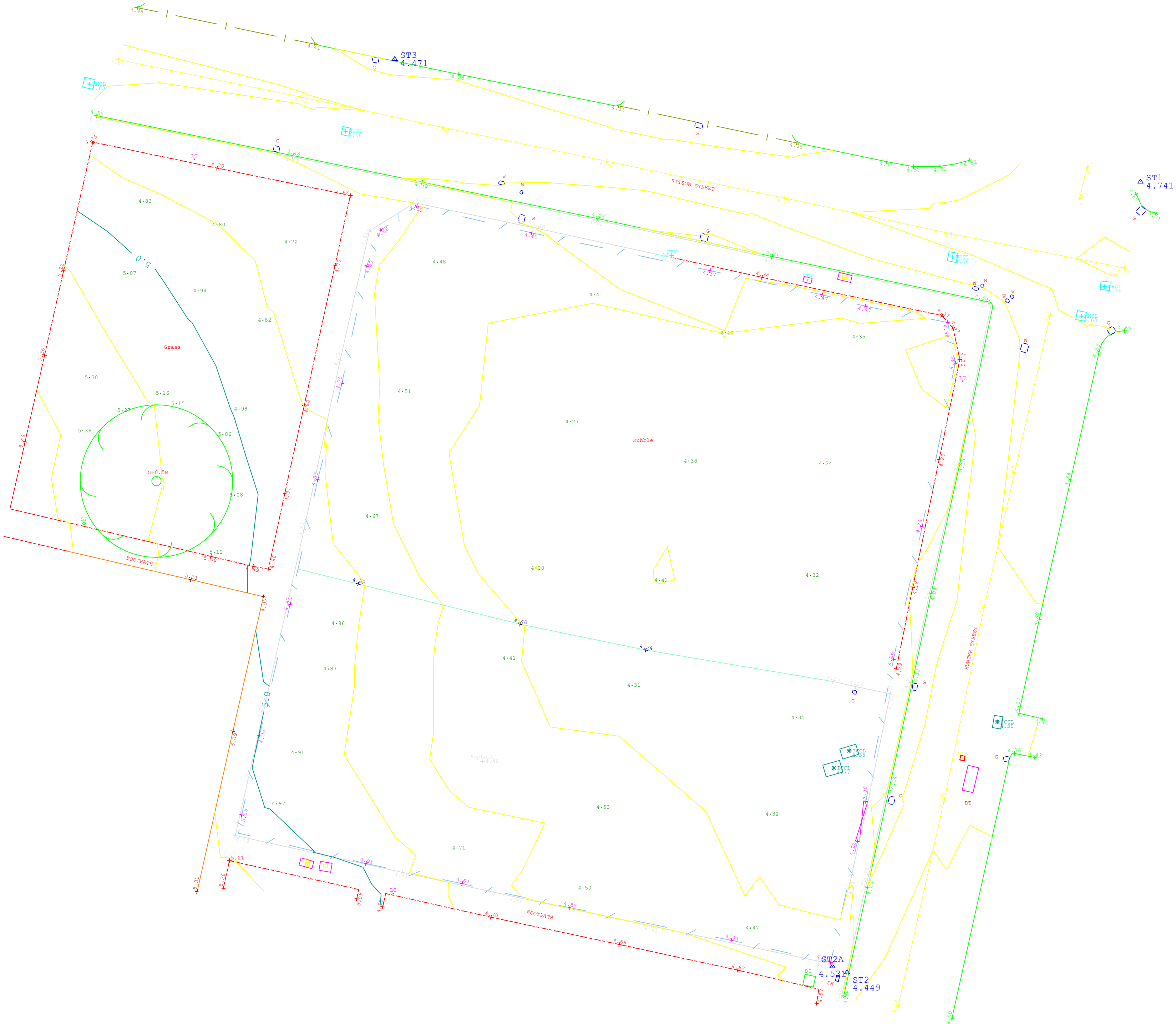


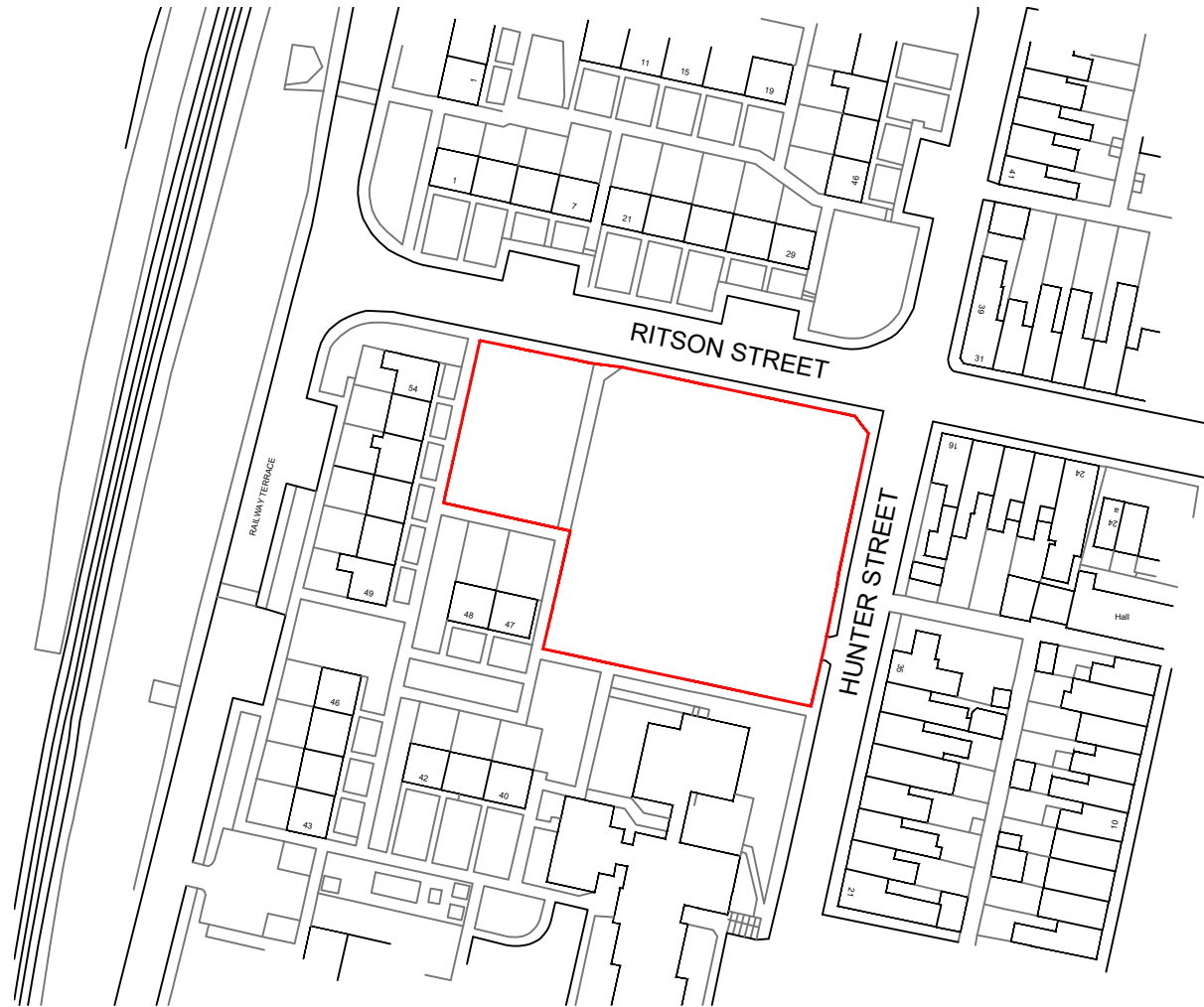
KEY		ABBREVIATIONS
36.38	SPOT LEVEL	av air vent
18.45	INVERT LEVEL	bal ballast
		bt telescope
		cl cover level
		conc concrete
		fb flower bed
		fl floor level
		g gully
		ic inspection
		il invert level
		mb manhole
		ret retaining wall
		re roading eye
		rg road gully
		rs road sign
		dp downpipe
		ap alignpost
		st rt of stone ret. wall

Client: Rhodos Properties (No21) Limited

Scale:	Date:	Drawn By:	Checked By:	Job Ref:
1:200 @A1	07/08/2025	SR	SR	001

REVISIONS





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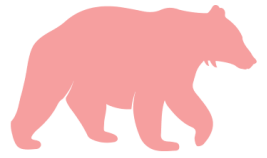


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Grosvenor House, 8 Park Grove, Cardiff CF10 3BN
Tel : +44 (0)2920 223123 E-Mail : enquiries@cw-arch.co.uk Web : www.cw-arch.co.uk

Project Name :	Briton Ferry		
Project Ref :	SP815		

Drawing Title :	Site Location Plan	Scale :
Drawing Number :	SP815 - P100	1:1250 @ A4

Revision:	PLANNING	Drawn by: ce	Date: Aug 2025
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Appendix B



31

RITSON STREET

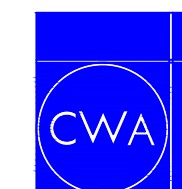
91

35

HUNTER STREET

0 1 5 10 20

Rev. C - 25.03.26 - Terrace and ramps reconfigured
Rev. B - 16.12.25 - Building raised, ramps and stepped access included
Rev. A - 10.10.25 - Bifold doors replaced by 3x patio doors

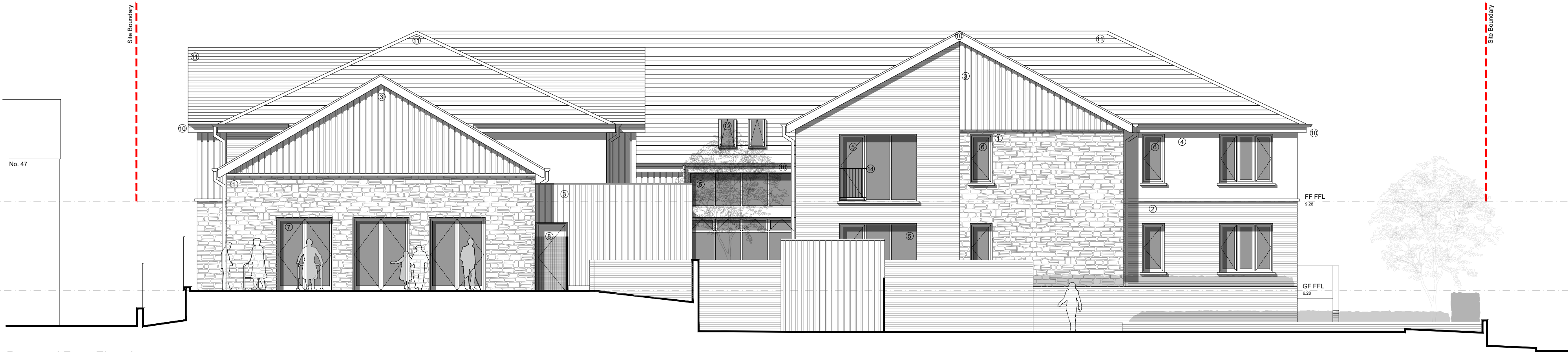


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Project Name :	Briton Ferry
Project Ref :	SP815

Drawing Title :	Proposed Site Plan	Scale :
Drawing Number :	SP815 - P02	1:200 @ A2

Revision:	C	Drawn by: ce	Date: Aug 2025
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Proposed Front Elevation
South



Proposed Side Elevation
East

MATERIAL KEY

1. Bradstone type cladding
2. Red brickwork
3. Vertical Yorkshire board timber cladding
4. Render in light grey
5. Windows with clear double glazing in dark grey
6. Windows with frosted double glazing in dark grey
7. Doors with clear double glazing in dark grey
8. Solid doors in dark grey
9. Door with louvres in dark grey
10. uPCV fascias and rainwater goods in dark grey
11. Cement fibre roof tiles
12. Velux roof lights
13. P.V Panels
14. Juliette balcony railings



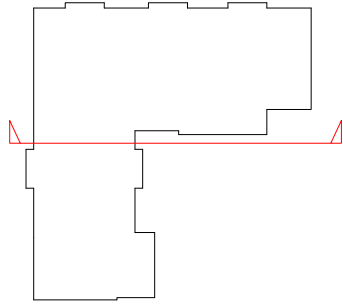
Rev. C - 25.03.26 - Kitchen and ramps reconfigured
Rev. B - 05.01.26 - Building level raised due to flooding
Rev. A - 10.10.25 - Bifold doors replaced by 3x patio doors
Rooflights added to main dining room

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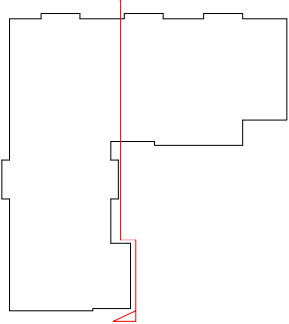
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Project Ref :	SP815		
Drawing Title :	Proposed Elevations - 1	Scale :	1:100 @ A2
Drawing Number :	SP815 - P07		
Revision:	C	Drawn by: ce	Date: Aug 2025



Proposed Front Sectional Elevation
South



Proposed Side Sectional Elevation
East



- MATERIAL KEY**
1. Bradstone type cladding
 2. Red brickwork
 3. Vertical Yorkshire board timber cladding
 4. Render in light grey
 5. Windows with clear double glazing in dark grey
 6. Windows with frosted double glazing in dark grey
 7. Doors with clear double glazing in dark grey
 8. Solid doors in dark grey
 9. Door with louvres in dark grey
 10. uPCV fascias and rainwater goods in dark grey
 11. Cement fibre roof tiles
 12. Velux roof lights
 13. P.V Panels
 14. Juliette balcony railings

Rev. C - 25.03.26 - Kitchen and ramps reconfigured
Rev. B - 05.01.26 - Building level raised due to flooding
Rev. A - 10.10.25 - Rooflights added to main dining room

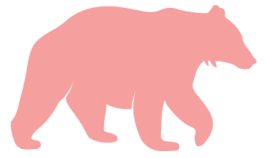


Project Name :	Briton Ferry
Project Ref :	SP815

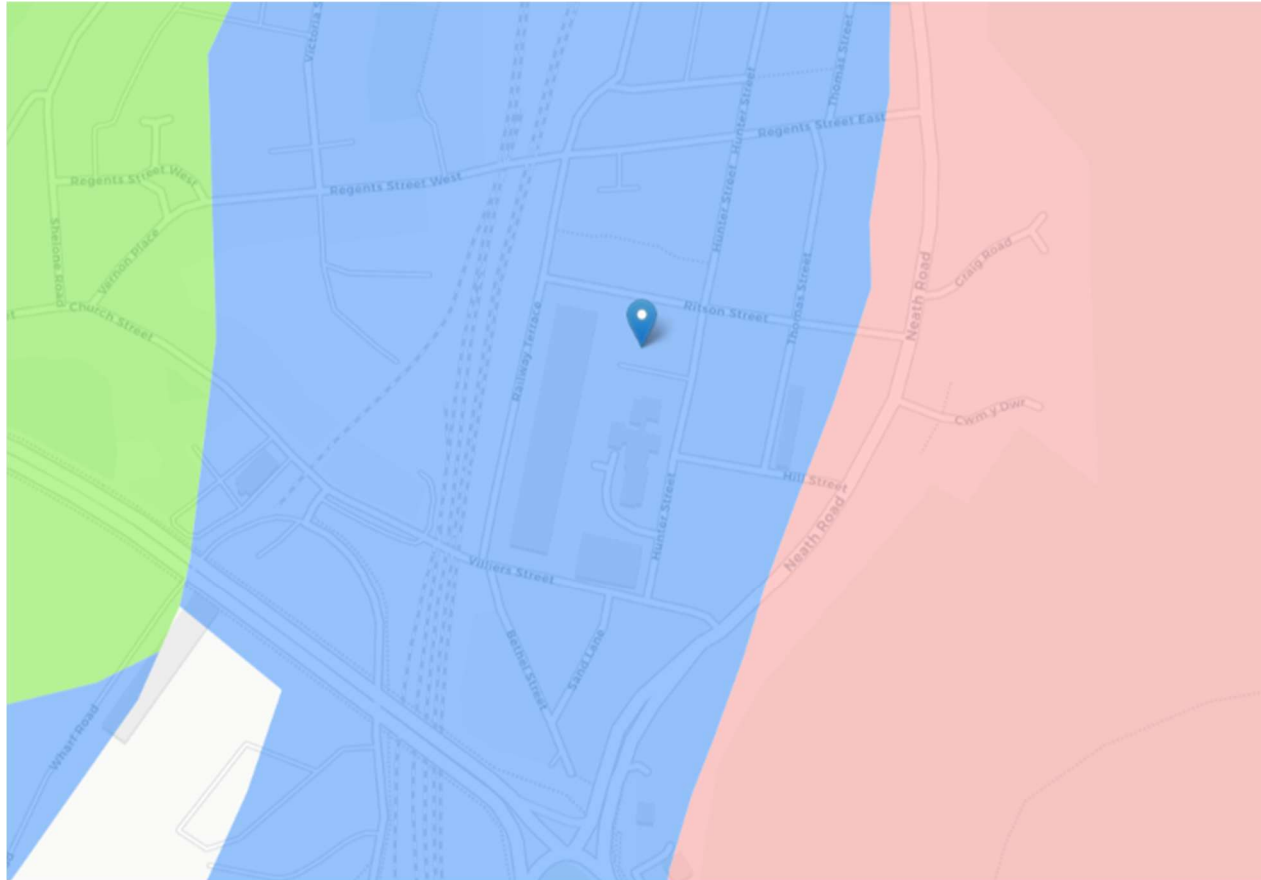
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Drawing Number :	SP815 - P09	1:100 @ A2

Revision:	C	Drawn by: ce	Date: Aug 2025
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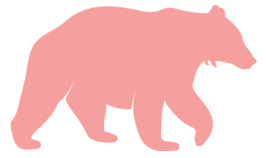


Appendix C

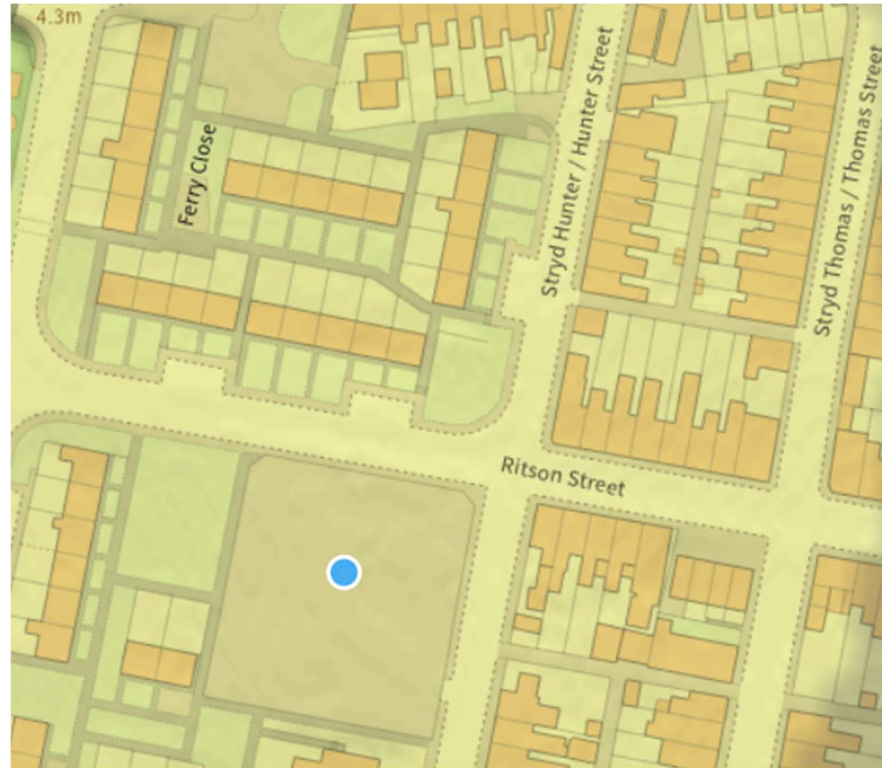


Soilscape 21:	Loamy and clayey soils of coastal flats with naturally high groundwater
Texture:	Loamy and clayey
Coverage:	England: 3.7%, Wales: 1.3%, England & Wales: 3.4%
Drainage:	Naturally wet
	
Fertility:	Lime-rich to moderate
	
Landcover:	Arable some grassland
Habitats:	Wet brackish coastal flood meadows
Carbon:	Medium
Drains to:	Local groundwater
Water protection:	Soils are mostly drained. Shallow groundwater and marginal ditches to most fields mean that the water resource is vulnerable to pollution from nutrients, pesticides and wastes applied to the land
General cropping:	Lighter soils support a wide range of crops and are highly productive as they contain much available water and are stoneless and flat. Heavier soils are less easily worked and favour grass

Cranfield Soil and AgriFood Institute Soilscapes Mapping



Appendix D



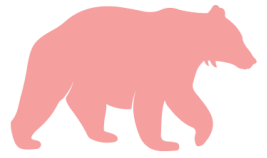
British Geology Survey - Bedrock and Superficial Deposit Map

Bedrock Geology:

Rhondda Member - Sandstone. Sedimentary bedrock formed between 315.2 and 308 million years ago during the Carboniferous period.

Superficial deposits:

Tidal Flat Deposits - Clay, silt and sand. Sedimentary superficial deposit formed between 11.8 thousand years ago and the present during the Quaternary period.



Appendix E

Flood Map for Planning - Detail
P0648

Legend

 Flood Defence Locations

TAN15 Defended Zones

 Rivers

 Sea

 Rivers and Sea

Rivers

 Flood Zone 3

 Flood Zone 2

Sea

 Flood Zone 3

 Flood Zone 2

Surface Water and Small Watercourses

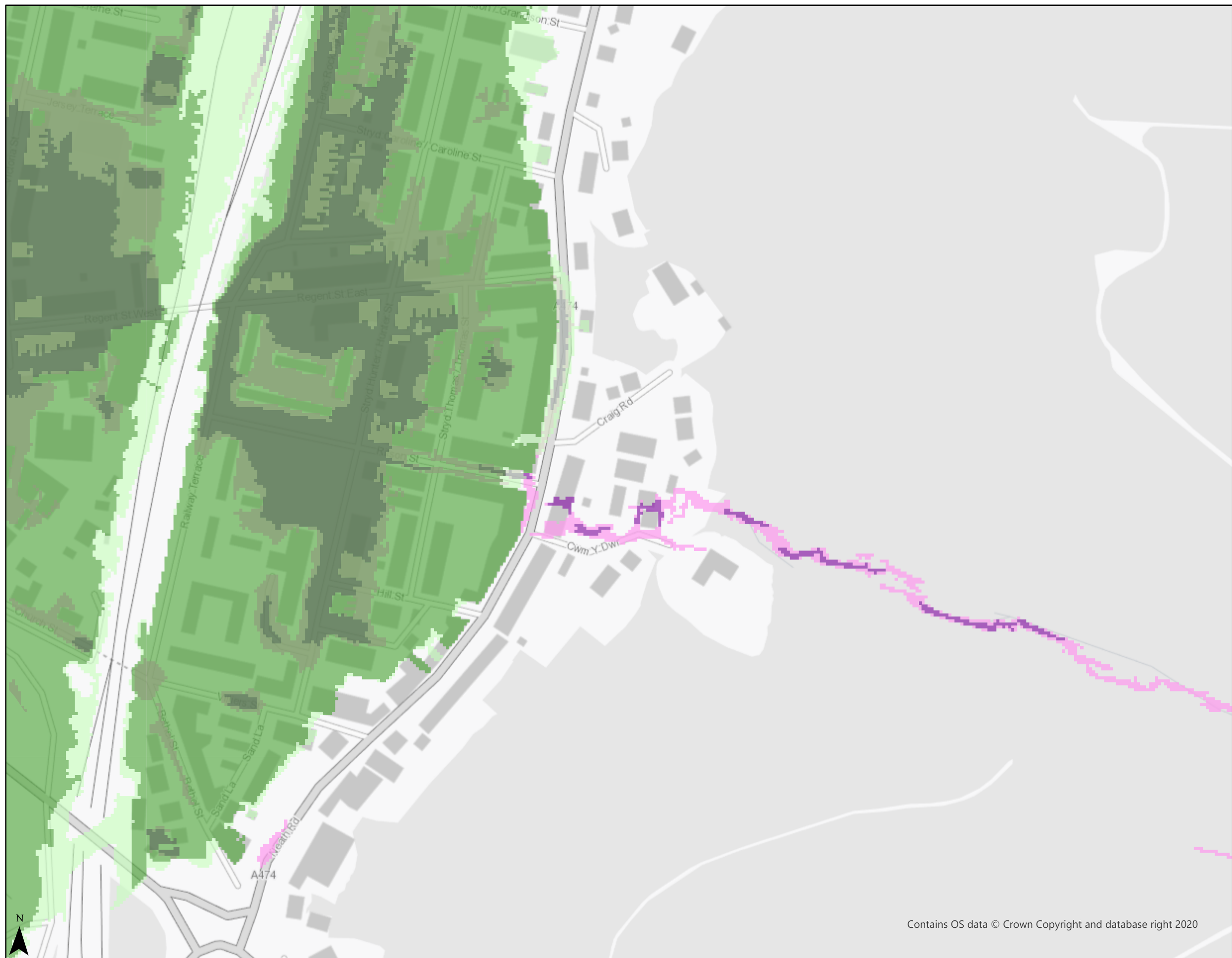
 Flood Zone 3

 Flood Zone 2

 Recorded Flood Extents

 Flood Risk from Reservoirs

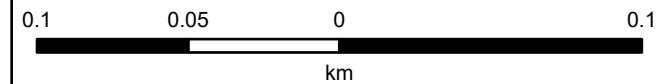
 Main Rivers



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Scale at A3: 1:2,500

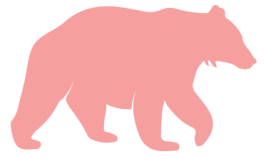
Date: 08/09/2025



Disclaimer

<https://naturalresources.wales/flooding/disclaimer-for-our-flood-and-coastal-erosion-risk-maps/?lang=en>

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Appendix F



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JBA
consulting

Hunter Street, Briton Ferry - Flood Risk Statement

Version 1

Prepared for
Squirrel Wood Properties
Ltd
14 Summerland Park
Upper Killay
Swansea
SA2 7HU

Date
December 2025



SQUIRREL WOOD

Document Status

Issue date	December 2025
Issued to	Neal Hunter, Squirrel Wood Properties Ltd
BIM reference	RFN-JBA-XX-XX-RP-Z-0001- -Hunter_Street_FRS
Revision	Version 1
Prepared by	Ella Courtney BSc Assistant Analyst
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Authorised by	Charlotte Lickman BSc (Hons) PG Cert Senior Analyst

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Contract

JBA Project Manager	Charlotte Lickman BSc (Hons) PGCert
Address	7-8 High Street, Kings Chambers, Newport, South Wales, NP20 1FQ
JBA Project Code	2025s1695

This report describes work commissioned by Squirrel Wood Properties, by an instruction dated 30th October 2025. The Client's representative for the contract was Neal Hunter of Squirrel Wood Properties Ltd. Ella Courtney of JBA Consulting carried out this work.

Purpose and Disclaimer

Jeremy Benn Associates Limited ("JBA") has prepared this Report for the sole use of Squirrel Wood Properties Ltd and its appointed agents in accordance with the Agreement under which our services were performed.

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The methodology adopted and the sources of information used by JBA in providing its services are outlined in this Report. The work described in this Report was undertaken between the 6th November 2025 and the 11th of December 2025 and is based on the conditions encountered and the information available during the said period. The scope of this Report and the services are accordingly factually limited by these circumstances.

The conclusions and recommendations contained in this Report are based upon information provided by others and upon the assumption that all relevant information has been provided by those parties from whom it has been requested and that such information is accurate. Information obtained by JBA has not been independently verified by JBA, unless otherwise stated in the Report.

Certain statements made in the Report that are not historical facts may constitute estimates, projections or other forward-looking statements and even though they are based on reasonable assumptions as of the date of the Report, such forward-looking statements by their nature involve risks and uncertainties that could cause actual results to differ materially from the results predicted. JBA specifically does not guarantee or warrant any estimates or projections contained in this Report.

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1 Introduction

1.1 Terms of Reference

JBA Consulting were commissioned by Squirrel Wood Properties Ltd to undertake a Flood Risk Statement (FRS) for the proposed development of a 24 Bedroom care home, located on the site of the former Briton Ferry Health Centre, on Hunter Street, Briton Ferry. This Flood Risk Statement will outline the risk of flooding to the proposed development site, along with potential mitigation measures, where required.

2 Site Information

2.1 Site Location

The proposed development site is located along Hunter Street, Briton Ferry, Neath Port Talbot, as shown in Figure 2-1. The site is formerly the Briton Ferry Health Centre and is designated as a brownfield site of 0.27ha in area. The site is located within a residential area and is bound to the west and south by residential properties. To the north, the site is bound by Ritson Street, and to the east by Hunter Street.

A site summary has been provided in Table 2-1 below.

Table 2-1 Site Summary

Parameter	Description
Site Name	Hunter Street
Site Area	0.27ha
Existing Land Use	Disused Brownfield Site
Purpose of Development	Development of a care home
OS NGR	SS 74108 94189

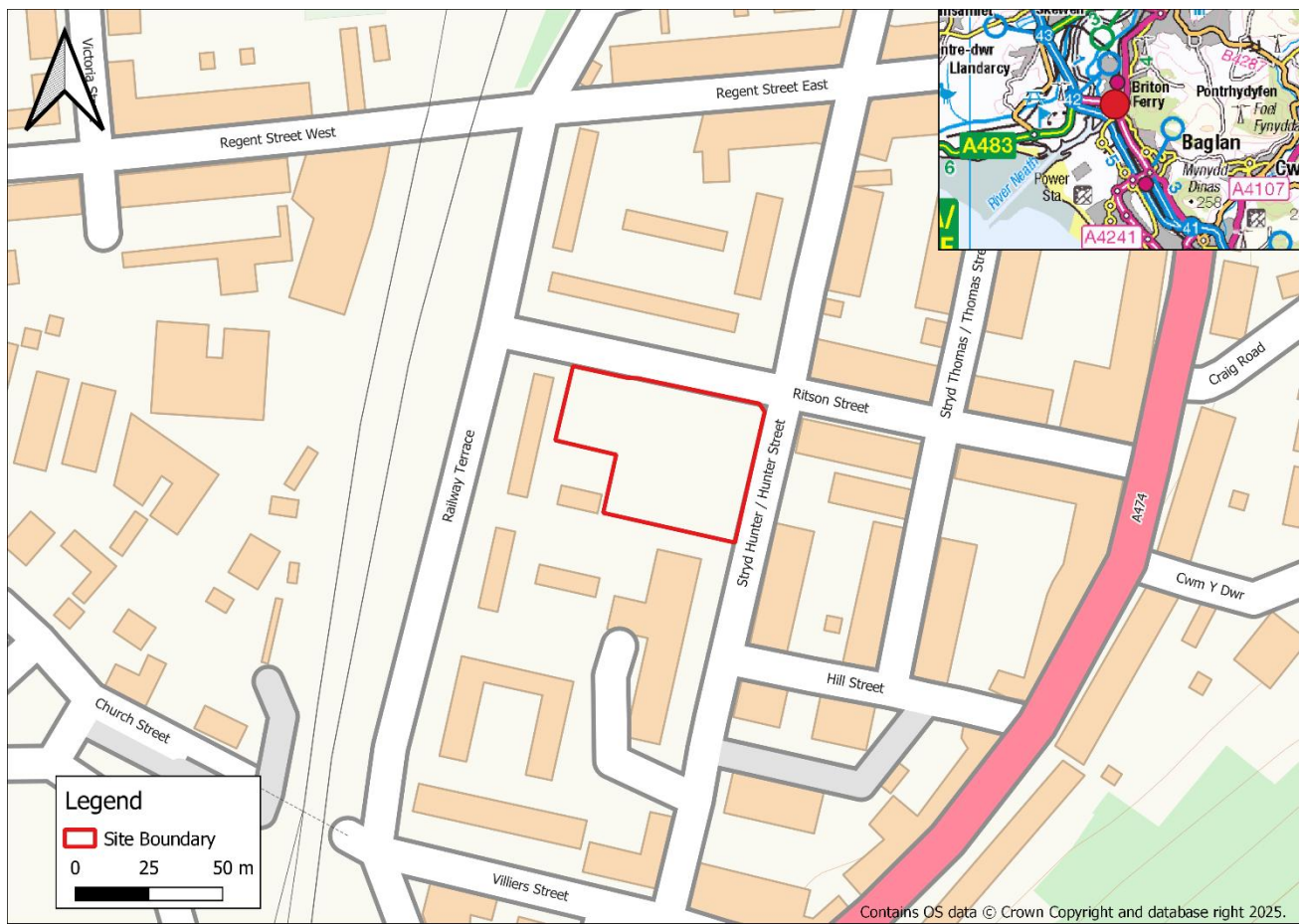


Figure 2-1 Site Location

2.2 Topography

Natural Resources Wales (NRW) 1m LiDAR has been used to assess the general topography of the site, as shown in Figure 2-2. A topographic survey was not available at the time of writing.

Ground levels across the site are generally flat, ranging between approximately 4.3mAOD and 4.6mAOD. A gentle slope is present, falling from around 5.29mAOD from the western boundary to about 4.29mAOD at the eastern boundary.

As shown in Figure 2-3, the site is situated in a local low point relative to the surrounding terrain. Elevation increases progressively toward the north, with the end of Rockingham Terrace reaching approximately 8.39mAOD. To the south of the site, near the end of Bethel Street, the elevation rises to 9.62mAOD. To the east of the site lies a steep woodland area, where the ground level increases to approximately 20 mAOD.

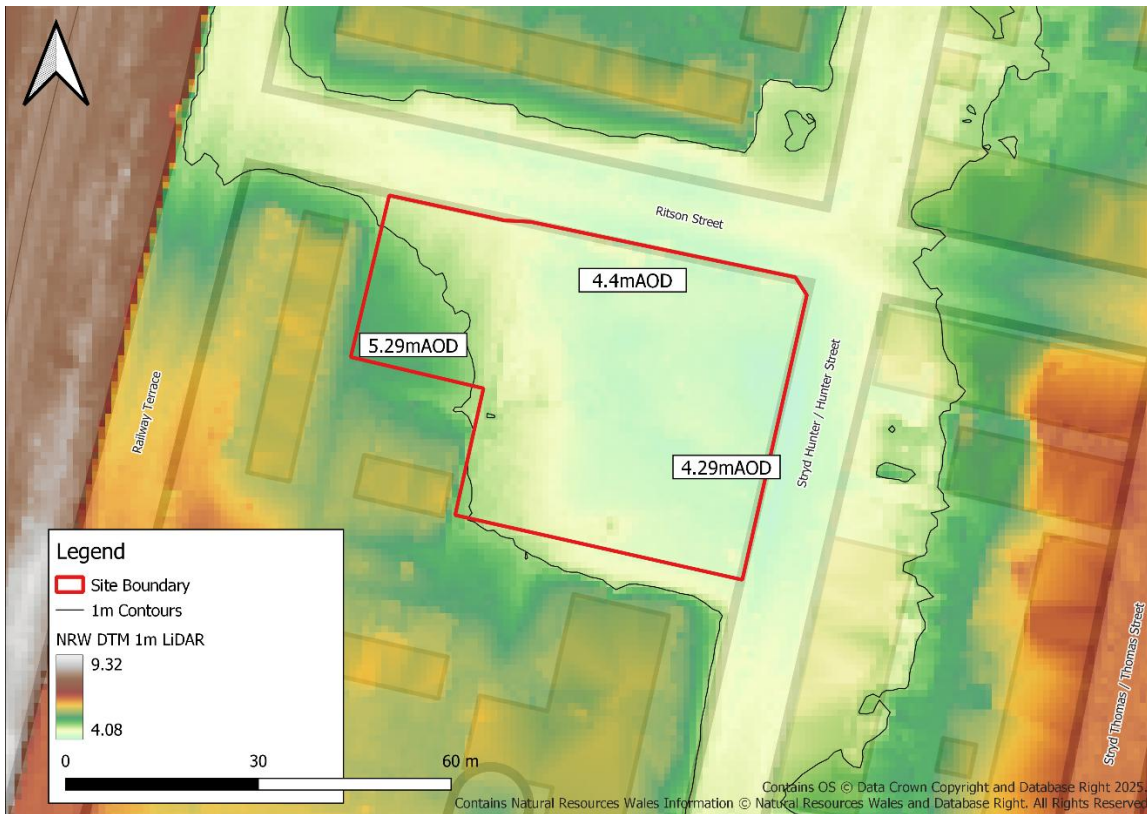


Figure 2-2 NRW 1m LiDAR DTM

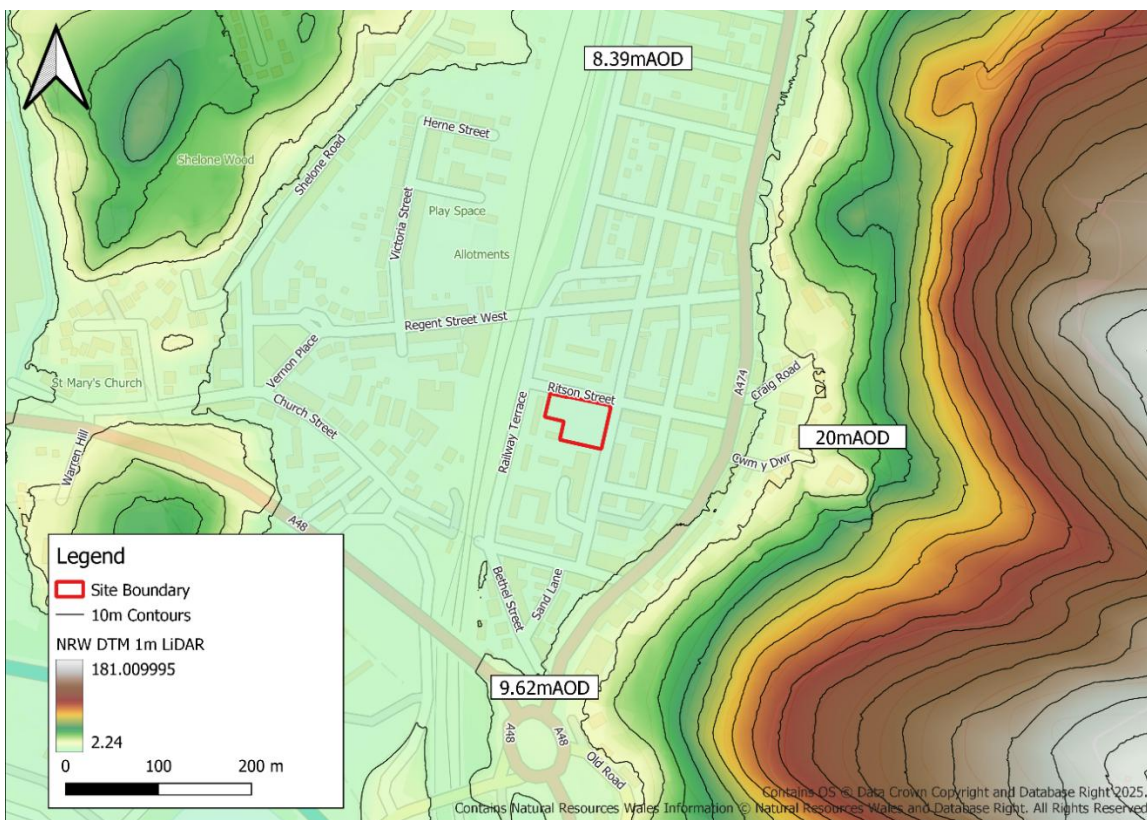


Figure 2-3 NRW 1m LiDAR DTM (Wide View)

2.3 Soils and Geology

The geology of the site has been assessed with the British Geological Survey (BGS) GeoIndex¹. The bedrock geology has been identified as the Rhondda Group, comprised of sandstone. The superficial geology is shown to be tidal flat deposits, comprising of clay, silt and sand.

The soils on the site have been assessed with the Cranfield University Soils Vues Viewer². They have been identified as loamy and clayey soils of coastal flats with naturally high groundwater.

2.4 Watercourses

As Figure 2-4 shows, the proposed development site is located approximately 0.68km east of the River Neath, an NRW Main River flowing in a southerly direction, toward the Bristol Channel. Consequently, the River Neath is tidal at this location. Additionally, there is a small watercourse near the site, the Jersey Canal, located approximately 0.56km west of the site.

There are two unnamed watercourses located to the east of the site. Located approximately 0.7km northeast of the site is an ordinary watercourse, associated with an old mineral railway called 'The Incline', which travels through Jersey Park toward Briton Ferry.

Southeast of the site is an unnamed watercourse associated with a small valley flowing in a westerly direction from the topographic high, toward the southern area of Briton Ferry.

The 1m DTM LiDAR, and mapping do not indicate the presence of these watercourses from the point they reach the residential area of Briton Ferry. Therefore, it is assumed that they are culverted. The material, condition, dimensions and route of the culverts are unknown.

The site is not located in an area that benefits from flood defences.

¹ GeoIndex - British Geological Survey

² LandIS - Land Information System - Soils Vues soil types viewer

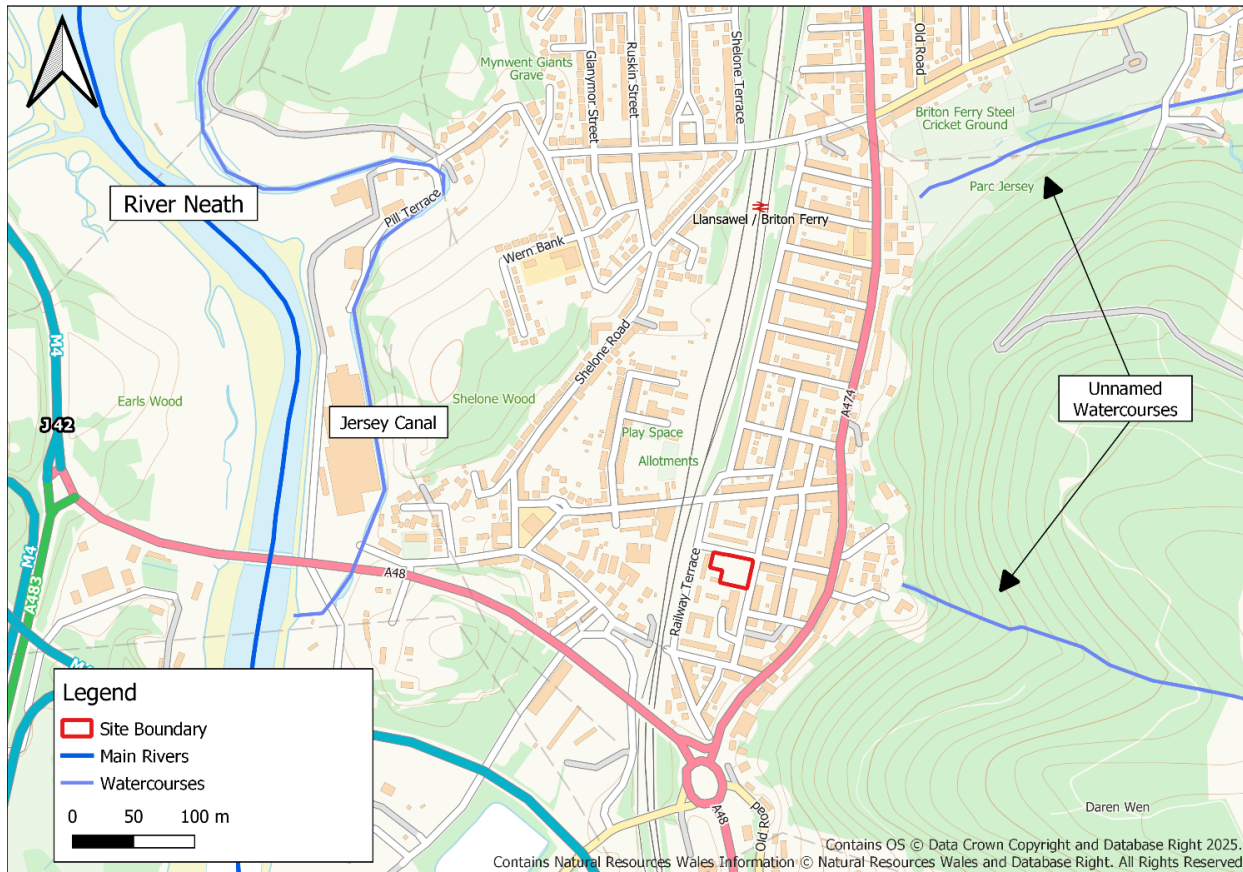


Figure 2-4 Watercourses

2.5 Development Proposal

The development proposals are for the construction of a care home, with 24 bedrooms, as shown in Figure 2-5. The proposals also include associated parking in the southeast corner, and open space in the western extent of the site.



Figure 2-5 Development Proposal

3 Flood Risk Assessment

This section assesses the risk of flooding to the site from all sources of flooding.

3.1 Review of Existing Flood Risk Data

Table 3-1 provides a summary of the most recent flood risk information for the site, as published by Natural Resources Wales (NRW). This assessment is based on NRW's Flood Map for Planning, which represents the most up to date dataset currently available. These maps incorporate climate change considerations through broadscale modelling, allowing for a 100-year lifetime of development, and the central estimate for climate change.

Table 3-1 Summary of Flood Risk

Source of Flooding	Onsite Presence	Description
Flood Risk from Rivers	✗	The site is in Flood Zone 1 (less than 1 in 1000 chance of flooding in a given year plus climate change) in the Flood Map for Planning - Flood Risk from Rivers. It has been assessed that the risk of flooding from rivers is very low .
Flood Risk from the Sea	✓	The site is located entirely in Flood Zone 3 of the FMfP for the Sea. This represents a greater than 1 in 200 chance of flooding in a given year, including climate change. The area is not covered by the TAN-15 Defended Zone. Detailed assessment in Section 4.
Flood Risk from Surface Water and Small Watercourses	✓	The site is located in both Flood Zone 2 and Flood Zone 3 of the FMfP for Surface water and Small Watercourses. A small area of the site is in Flood Zone 2, representing a less than 1 in 100 but greater than 1 in 1000 chance of flooding in a given year, including climate change. The majority of the site is located in Flood Zone 3, representing a greater than 1 in 100 chance of flooding in a given year, including climate change Detailed assessment in Section 4.

Source of Flooding	Onsite Presence	Description
Flood Risk from Groundwater	x	The Neath Port Talbot Local Flood Risk Management Strategy ³ states that ground water flooding has not been an issue due to ground conditions, but it could change due to climate change. Therefore, the risk of flooding from groundwater has been assessed to be low .
Flood Risk from Sewers	x	The Neath Port Talbot Preliminary Flood Risk Assessment ⁴ identified 430 sewer flooding events across the county borough, but no site-specific information is available. There have been no reports of sewer flooding on site. The risk of flooding from sewers has been assessed to be low .
Flood Risk from Sewers	x	The Flood Map for Planning - Flood Risk from Reservoirs shows that the site is not in an area at risk of flooding from reservoir failure. Therefore, the site has been assessed to be at a very low risk of reservoir flooding.

3 App B2.1 - Local Flood Risk Management Strategy and Plan.pdf

4 PFRA Report Final 120511

4 Detailed Flood Risk Assessment

The following section sets out a detailed assessment of the tidal and surface water and small watercourses flood risk, as these have been identified as the principal sources of flood risk.

4.1 Tidal Flood Risk

4.1.1 Data Availability

The 2D TUFLOW hydraulic model of the River Neath was developed in 2016 by JBA Consulting through work commissioned by Neath Port Talbot County Borough Council. The model was built using the latest lidar, extreme sea level estimates and climate change data available at the time. The model was revisited in 2022 for the purposes of flood risk advice to a developer looking to propose residential development at the site. Whilst the model itself was not updated, new extreme sea level estimates were calculated based on the most recent guidance available at that time⁵. Consequently, the model outputs present the 2016 (present day) and 2116 (climate change) results. However, Table 5-2 below provides indicative flood level and depths for both 2116 and 2122.

The model has not been further updated to inform this study. Given the age of the model, the release of new LiDAR data, and the need to further update climate change allowances, it is considered disproportionate to update the model for the purposes of this study. The flood levels presented within the report should therefore be used as an indicative guide only to provide a representation of flood risk to the site.

4.1.2 Flood Risk Results

Figures have not been presented for the 2016 0.5% and 0.1% AEP events as the proposed development site is predicted to be flood free during these events.

Figure 4-1 shows the 2116 0.5% AEP event. During this event, floodwaters overtop the banks of the River Neath, located southwest of the site, and flow in a northeasterly direction toward Briton Ferry, flowing under both the M4 and A48. The water continues eastward along Regent Street West and Regent Street East, before turning south down Railway Terrace and Hunter Street, where it accumulates along Ritson Street and the southern end of Hunter Street. As shown in Figure 4-2, floodwaters enter the site from the north and east. The maximum flood depth recorded on site is 1.3m, with the highest flood level reaching 5.65mAOD, both in the northeastern area of the site.

During the 2116 0.1% AEP event, the flood waters flow in a similar pathway to the 0.5% AEP event, as shown in Figure 4-2 below. Flood depths in this event reach a maximum of

⁵ Flood Consequences Assessments: Climate change

2.09m in the northeastern area of the site, with the highest flood level reaching 6.73m AOD in the same area.

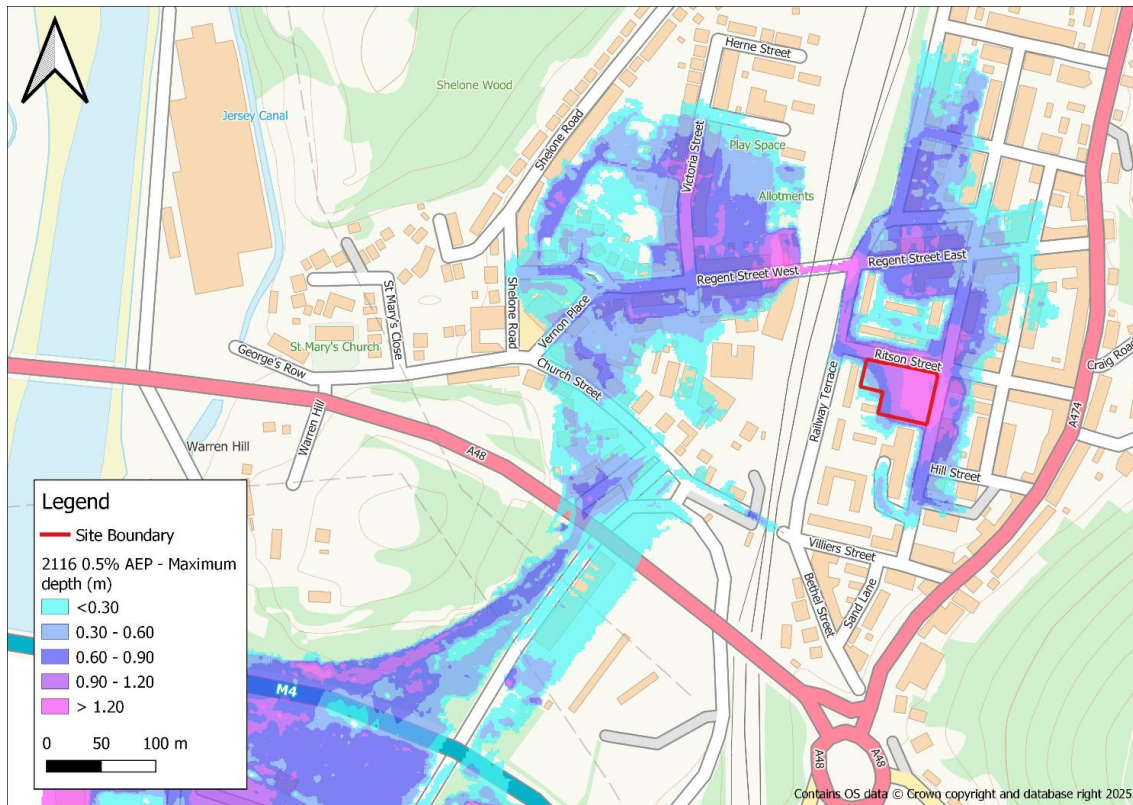


Figure 4-1 2116 0.5% AEP Event (Wide View)

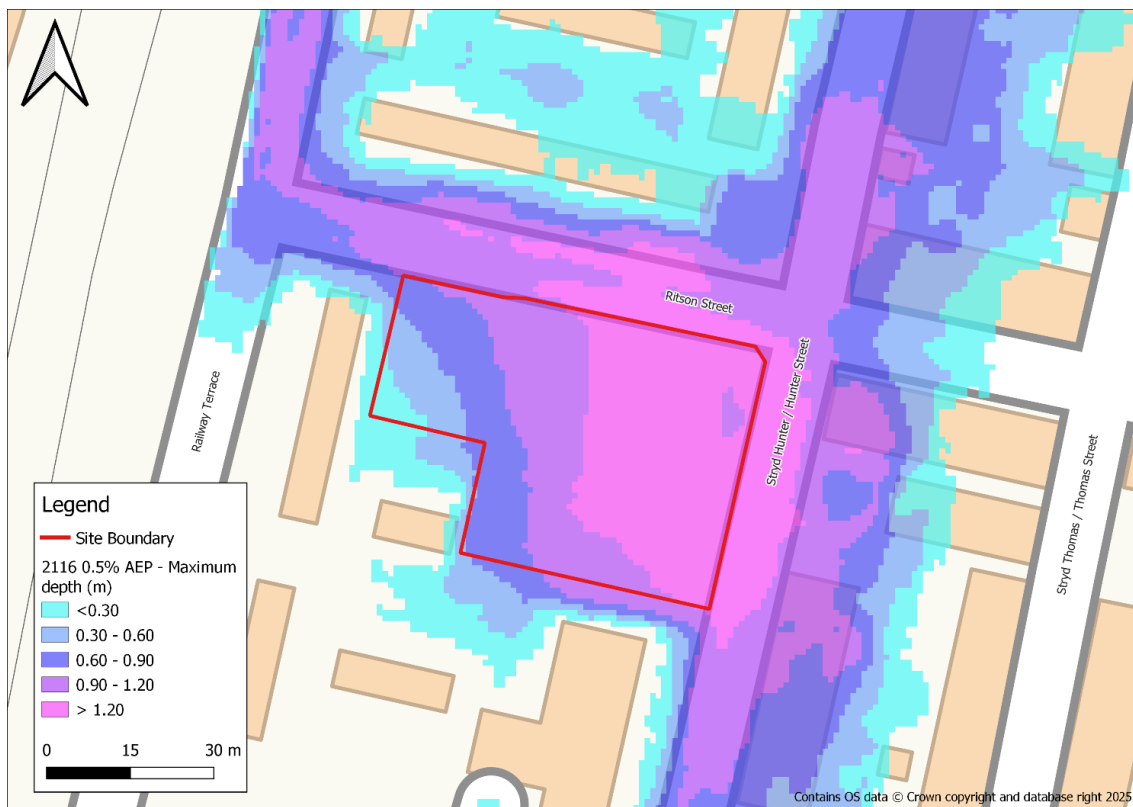


Figure 4-2 2116 0.5% AEP Event

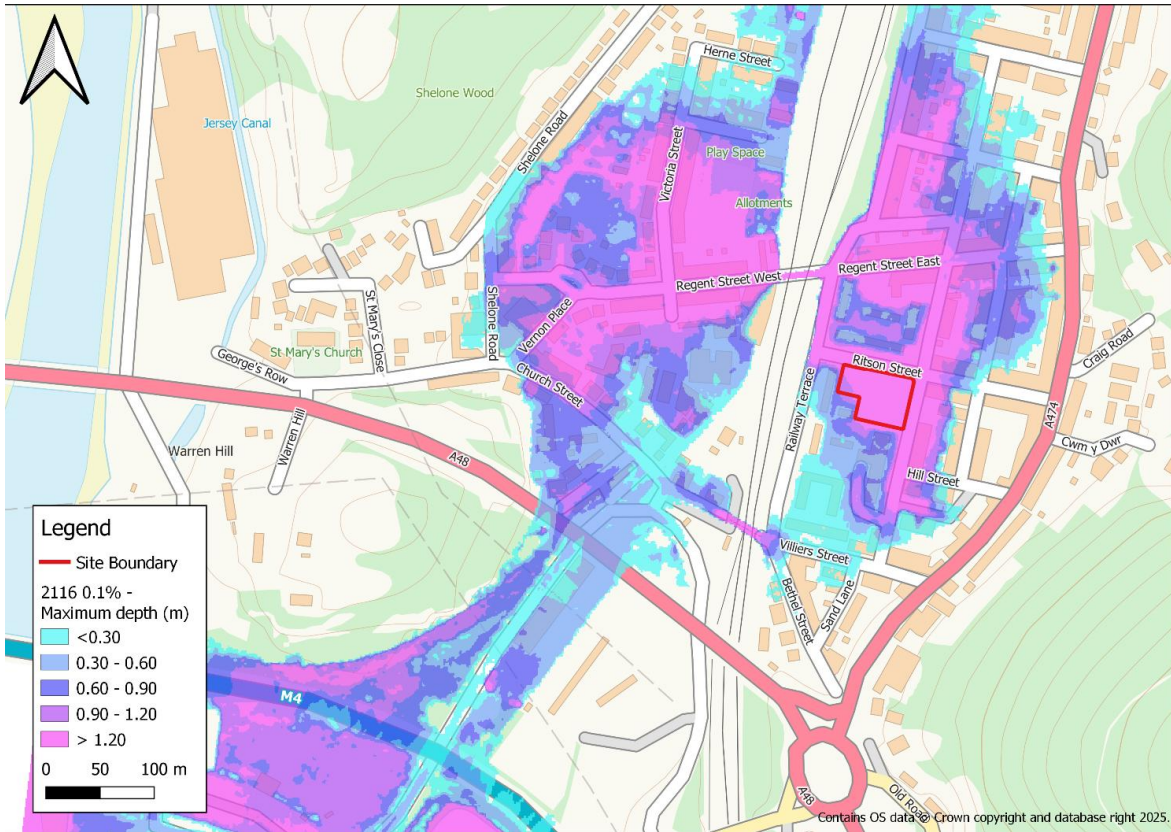


Figure 4-3 2116 0.1% AEP Event (Wide View)

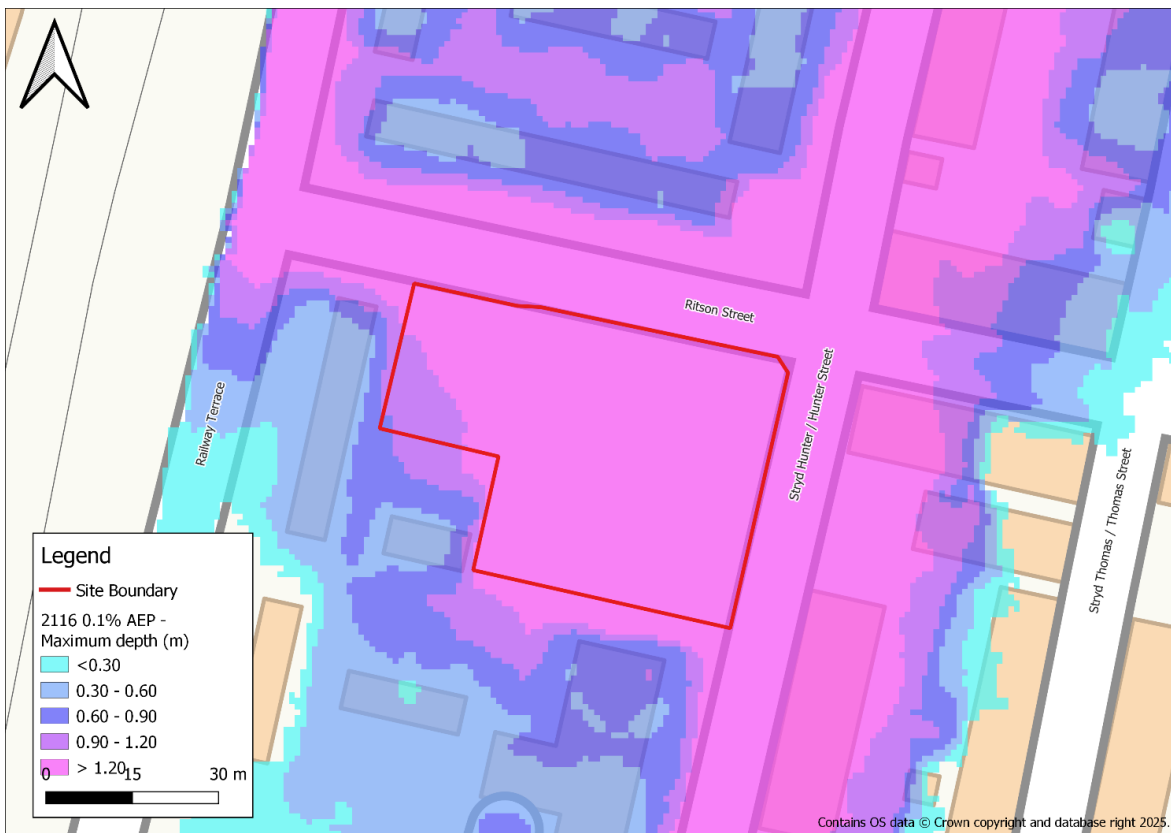


Figure 4-4 2116 0.1% AEP Event

To determine an indicative flood level for 2122, the extreme sea level predictions for 2116 were uplifted for 2122. This is to reflect the additional 6 years, and more significantly, changes to the extreme sea level estimates and climate change guidance.

The uplifted 2122 estimates show a significant increase in sea levels in the area. The 0.5% AEP extreme sea level values have increased from 6.96mAOD (2116 estimates) to 7.47mAOD (2122 estimates). Additionally, the 0.1% AEP extreme sea level values have increased from 7.22mAOD (2116 estimates) to 7.73mAOD (2122 estimates). These estimates show a 0.51m increase in sea level rise in only 6 years.

Given the uplifted projected sea levels, it is reasonable to assume that the flood levels onsite will increase by 0.51m. This means that the 0.5% AEP event projected flood level is predicted to be 6.16mAOD in 2122, while the extreme 0.1% AEP event projected flooding level will be 6.88mAOD.

Using the increased flood levels, the flood depths onsite will be significantly increased. The predicted 0.5% AEP event flood depth for 2122 is predicted to be 1.88m, and the predicted depth for the 0.1% AEP event is 2.6m.

The uplifted extreme sea level projections for 2122 indicate a substantial increase in flood risk onsite in just 6 years.

A summary of the flood depths and levels onsite for multiple epochs is shown in Table 4-1. below. Available data from 2016 has been uplifted to represent the 2022 and 2122 levels.

Table 4-1 Summary of flood depth and levels

Epoch	Lifetime of development (years)	Extreme Sea level (mAOD)		Maximum flood level on site (mAOD)		Maximum flood depth on site (m)	
		0.5%	0.1%	0.5%	0.1%	0.5%	0.1%
2016	0 (present day)	6.96	7.22	0	0	0	0
2116*	100			5.65	6.37	1.37	2.09
2022**	0 (present day)	7.47	7.73	0	0	0	0
2122**	100			6.16	6.88	1.88	2.6

* based on 2016 sea level estimates and climate change allowances.

** based on current best available data on sea level estimate and climate change guidance to 2022. These have not been updated to 2025.

4.2 Surface Water and Small Watercourses Flood Risk

4.2.1 Data Availability

To assess the Surface Water and Small Watercourse flooding of the site, the National Flood Hazard Maps (NFHM) provided by NRW have been used. The NFHM dataset includes allowance for the central estimate of climate change, showing adjusted flood risk zones based on increased likelihood of flooding. Risk categories are defined as high (up to 1-in-30 years), medium (1-in-30 to 1-in-100 years), and low (1-in-100 to 1-in-1000 years). All events include an allowance for climate change. Climate change allowances follow Welsh Government's guidance available at the time the modelling was undertaken. Consequently, climate change on the surface water and small watercourses product reflects a 20% increase in peak rainfall intensity.

4.2.2 Flood Risk Results

Surface Water and Small Watercourse flooding is predicted across the site under high, medium, and low risk scenarios. The site is located within a natural topographic depression relative to the surrounding area, as illustrated in Figure 2-3. The low-lying position makes the site particularly susceptible to surface water flooding. In addition to direct rainfall, surface water flooding on the site is influenced by overland flow from surrounding higher ground, which contributes to the volume and extent of flooding during heavy rainfall events.

These flood mechanisms are illustrated by the northeastern and southeastern flow paths shown in Figure 4-5. The southeastern watercourse, described in Section 2.4, is formed by a small valley located to the east of the site, which flows in a westerly direction toward the low-lying areas. In addition, floodwater enters the site from the north via the northern flow path, which follows the path of the former mineral railway. This path is enclosed, resulting in flows being channelled toward Briton Ferry, as indicated in Figure 4-5.

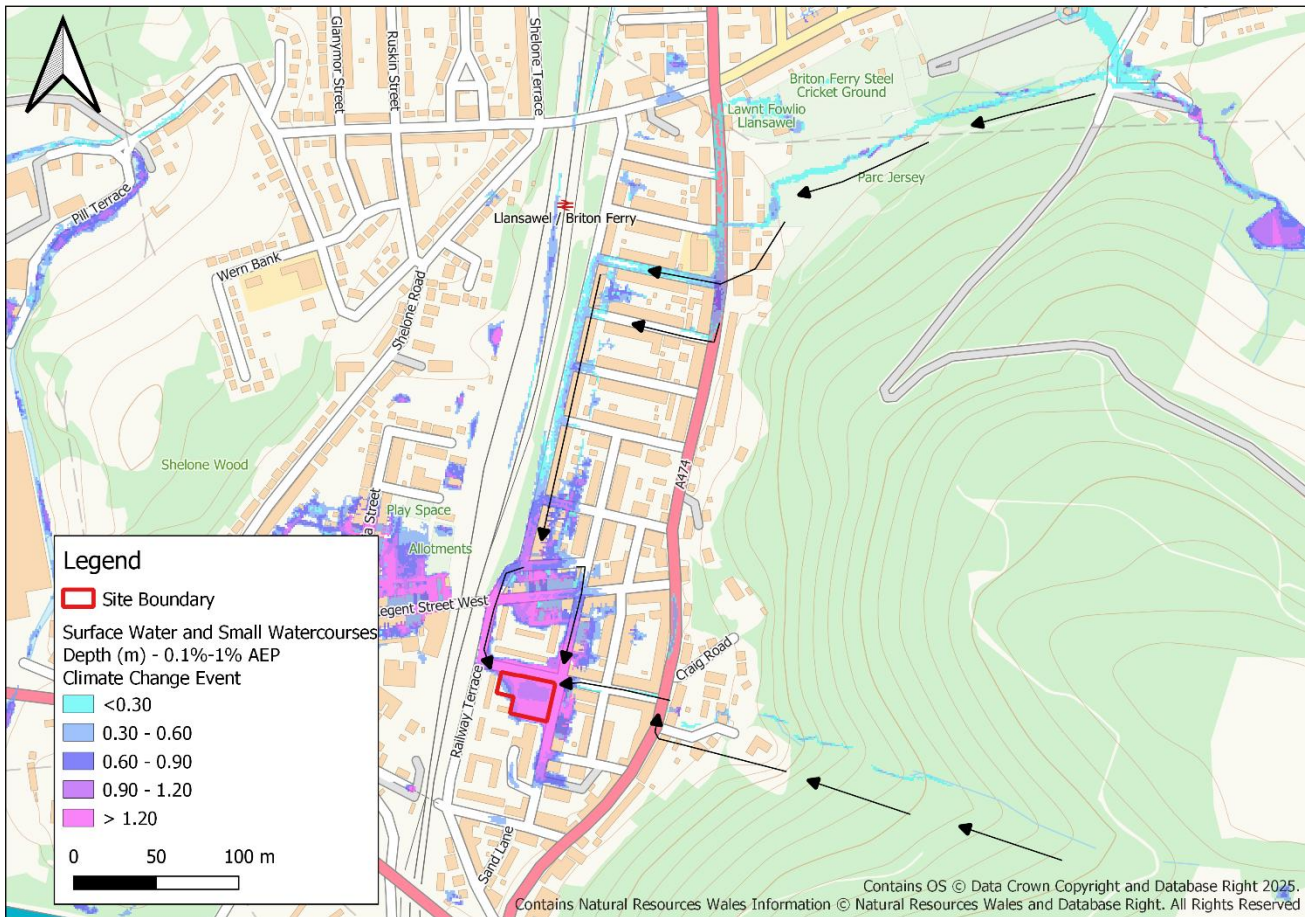


Figure 4-5 NFHM Flow Paths

During the medium risk event, as shown in Figure 4-6, the proposed development site is predicted to flood. The greatest flood depths are located on the north and eastern border, and the southern extent of the site, where flood depths range from 0.9m to 1.1m. The central area of the site experiences flood depths of 0.45m. Flood depths decrease in the western area of the site, with the lowest depths on the site predicted to be between 0.17m and 0.22m. The southwest corner of the western extent is flood free.

In the low-risk event flood depths across the site significantly increase, as shown in Figure 4-7. The north and east boundaries and the southern extent is predicted to flood to depths of 1.5m. The centre of the site is predicted to flood to depths of 0.87m. The lowest flood depths are retained in the western extent of the site, with a predicted flood depth of 0.41m in this area.

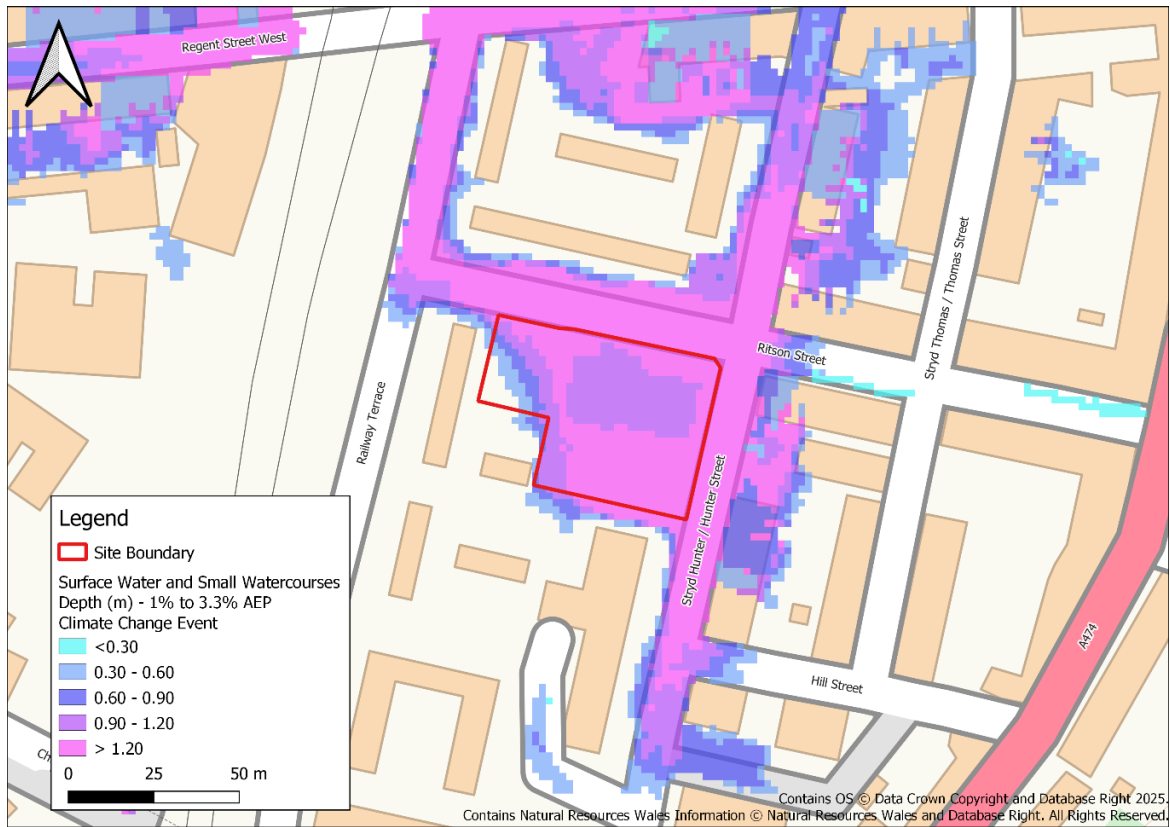


Figure 4-6 NFHM Medium Risk

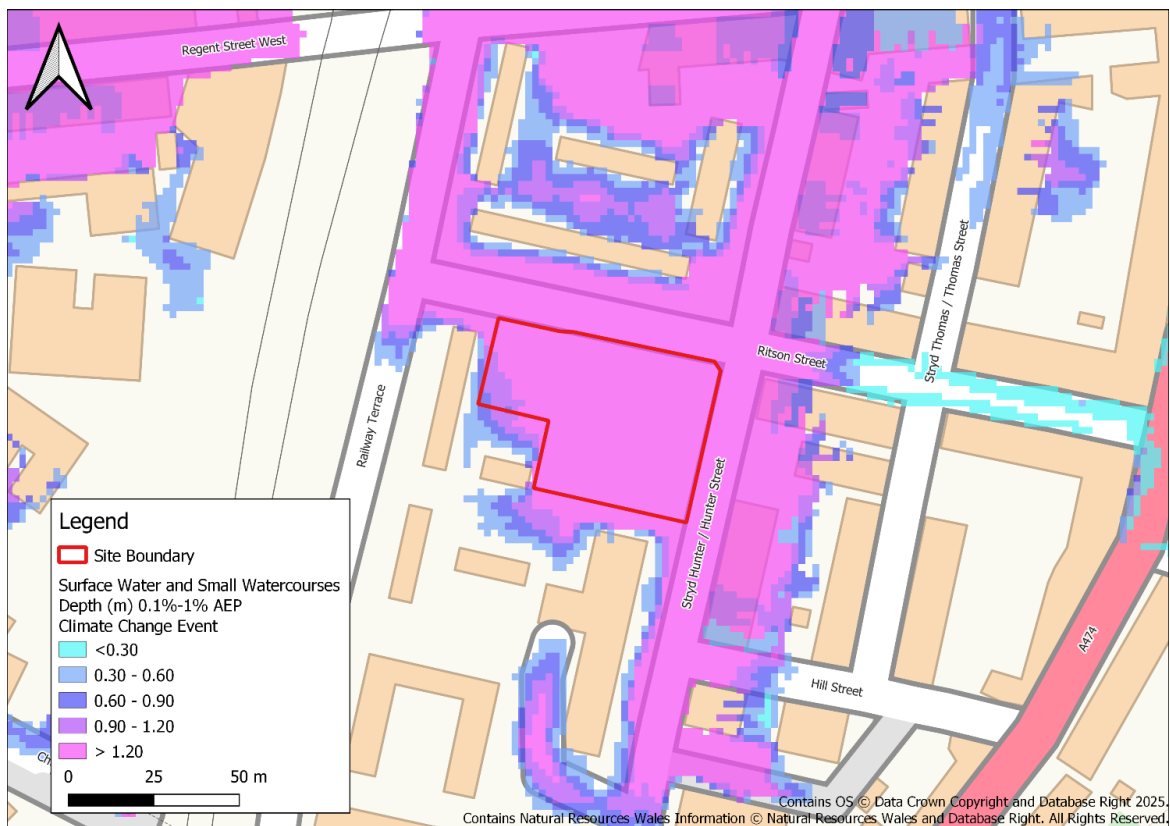


Figure 4-7 NFHM Low Risk

The NRW Surface Water and Small Watercourse NFHM was created a part of the Flood Risk Assessment Wales (FRAW) project in 2019. The model is derived from generalised national scale modelling which does not always accurately define surface water and small watercourse risk, particularly where sub-surface drainage features are present, such as culverts. The model includes basic representations of culverts which are mostly identified and assumed from OS and aerial mapping, often leading to many culverts being absent from the model.

The misrepresentation of culverts can lead an overestimation of flood risk in many areas. Overestimation of flood risk can occur when culverts aren't modelled as modelling will assume culverted areas are barriers to water flow, causing the model to predict higher depths and larger flood extents. Additionally, when only basic representations of culverts are modelled, it is missing key information such as size, material, slope, etc. This can lead to both overestimation and underestimation of flood risk at the site.

In the instance of the proposed redevelopment at this location, an assessment of the NFHM and underlying LiDAR and surrounding watercourses suggests that the surface water flood risk to the site, as shown above, may be overestimated. As detailed in Section 2.4, the two ordinary watercourses to the east of the site are not present in the 1m DTM LiDAR, or their routes indicated on OS mapping or Google imagery. It is therefore highly likely that these watercourses are culverted as they flow through Britton Ferry, and it is unlikely that these culverts are included accurately within the NFHM dataset, if at all. Consequently, surface water flows from these watercourses would be shown to flow overground, as seen in the NFHM. The NFHM therefore provides a precautionary assessment of risk, indicating flood risk to the site in the event of a blockage to the culvert entrance of both watercourses simultaneously. In reality, surface water flood risk to the site is likely to be much lower than that currently predicted within the NFHM dataset.

5 Summary and Recommendations

A review of flood risk from all sources indicates that the site is at low risk of flooding from fluvial, groundwater, reservoir and sewer sources. The site is predominantly at risk of surface water and tidal flooding.

Flooding to the site from both sources is shown to be significant, with flood depths of over 2m in the extreme tidal event, and 1.5m in the extreme surface water flooding event.

However, there are known uncertainties in both datasets used to inform the assessment.

In order to increase flood resilience to the site, the following recommendations are made:

- To better understand the risk of surface water and small watercourse flooding at the site it is recommended that detailed hydraulic modelling is undertaken for this source of flooding. The hydraulic model should include detailed representations of culverts and flow paths to more accurately represent surface water and small watercourse flood risk at the site. Modelling would result in a more accurate definition of baseline surface water flood risk to the site, though it is noted that predicted flood depths are shallower than predicted depths in a tidal flood risk scenario, and further modelling may therefore not be warranted.
- In line with the predicted tidal and surface water flood depths, mitigation measures could be put in place. Measures recommended include raising the ground levels of the site or raising the finished floor levels of the building above maximum flood levels, or to within tolerable flood depths for the extreme flood event. This would reduce the risk of significant flood depths entering the building and would also provide safe refuge during a flood event.
 - Increasing ground levels or FFLs has the potential to displace floodwater and may consequently increase flood risk to third parties, therefore, this potential detriment must be considered. It is understood that planning has been granted on the site without defined elevations or ground levels, meaning NRW are unlikely to be consulted on any S73 application. Should NRW be consulted, such measures as those described above are likely to be subject to additional information requests.
- Property Flood Resilience (PFR) measures could be incorporated at the ground-floor level to help minimise potential damage and speed up recovery in the event of flooding. PFR measures include using flood-resilient materials, such as hard, solid flooring that can be easily cleaned after a flood event, raising sensitive equipment, including wiring and plug sockets, above the maximum predicted flood level and the use of waterproof plaster. Additionally, the development would benefit from resistance measures such as flood doors or barriers.
 - It is noted that tidal flood risk to the site is predicted in the future, under the climate change scenarios. Such PFR measures may therefore not be strictly

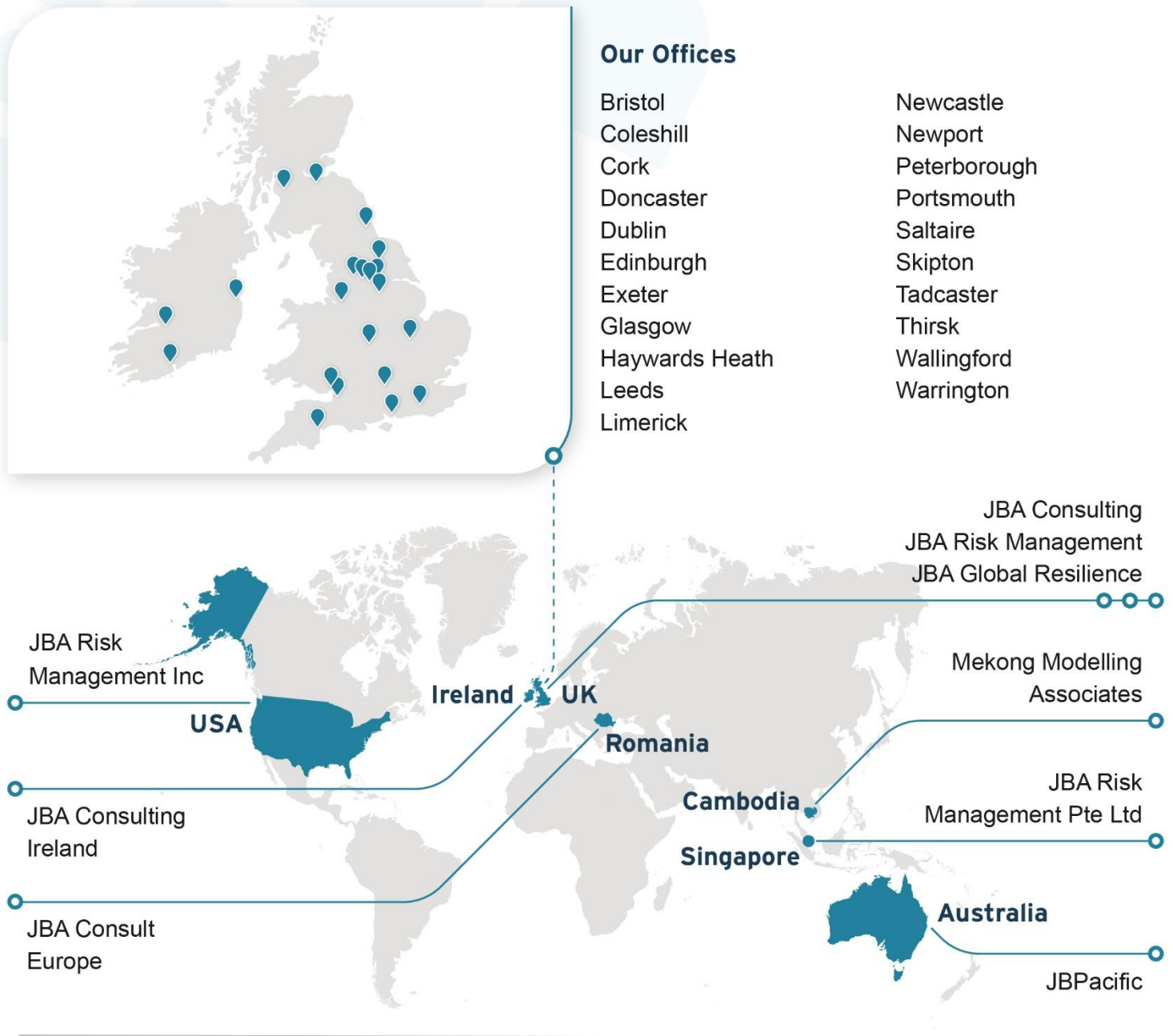
necessary at the outset of development but may be beneficial for future occupiers.

- Generally, PFR resistance measures are only suitable for flood depths of up to 600mm. To install PFR to manage depths greater than this, advice from structural engineers should be sought due to the potential structural loadings and pressures on buildings during a flood event. A combination of raising FFLs and PFR may therefore be beneficial to the site.

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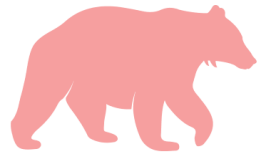
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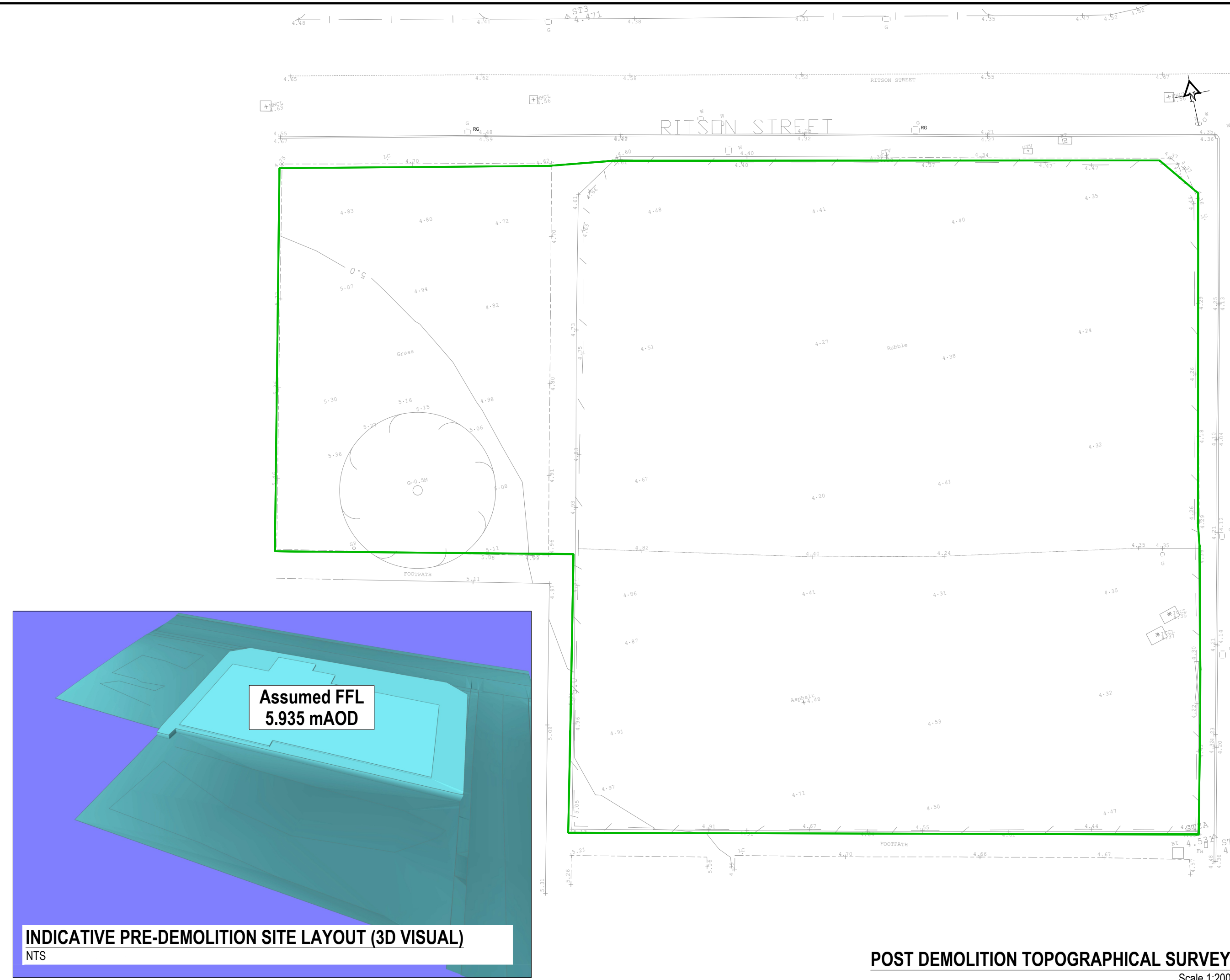
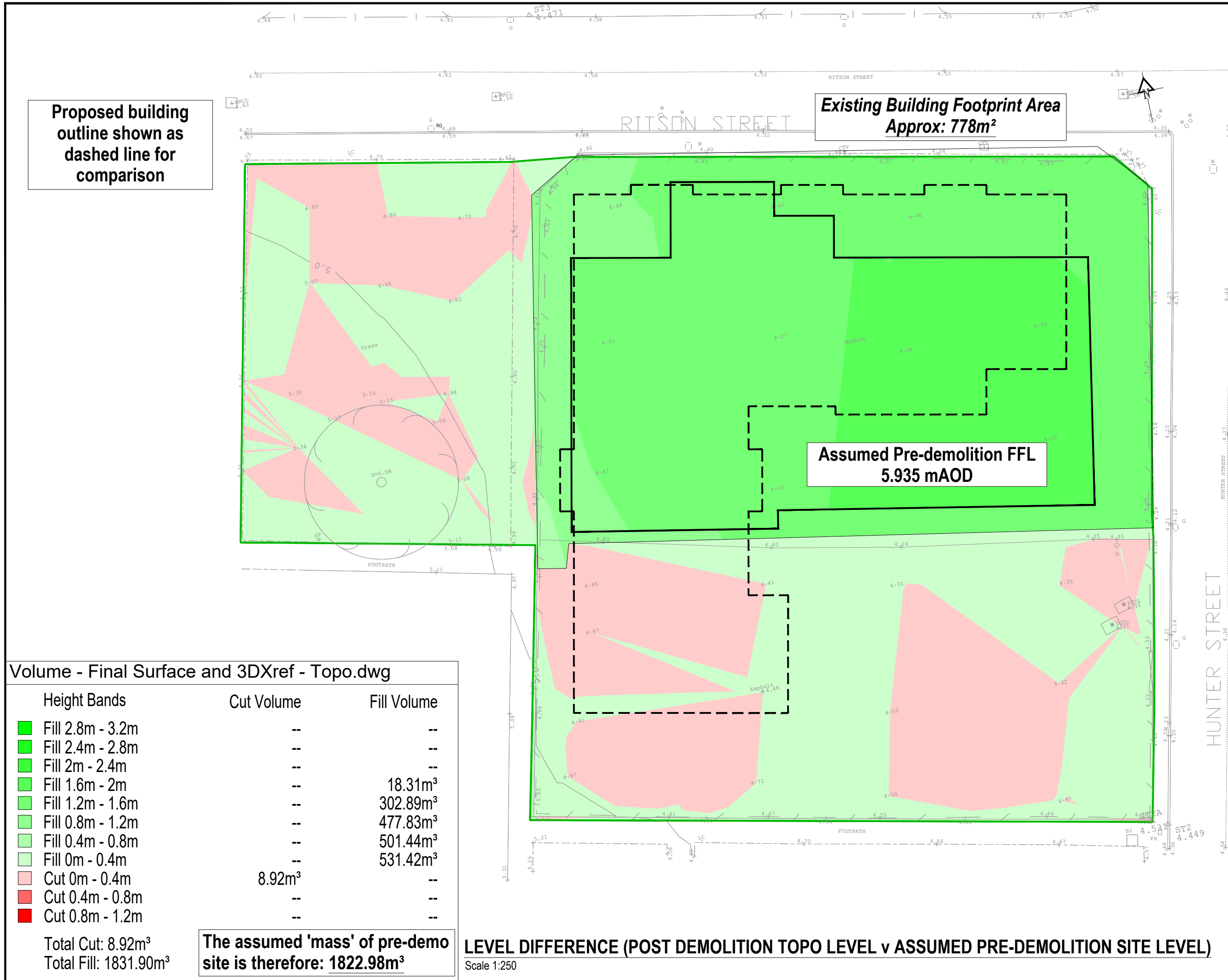
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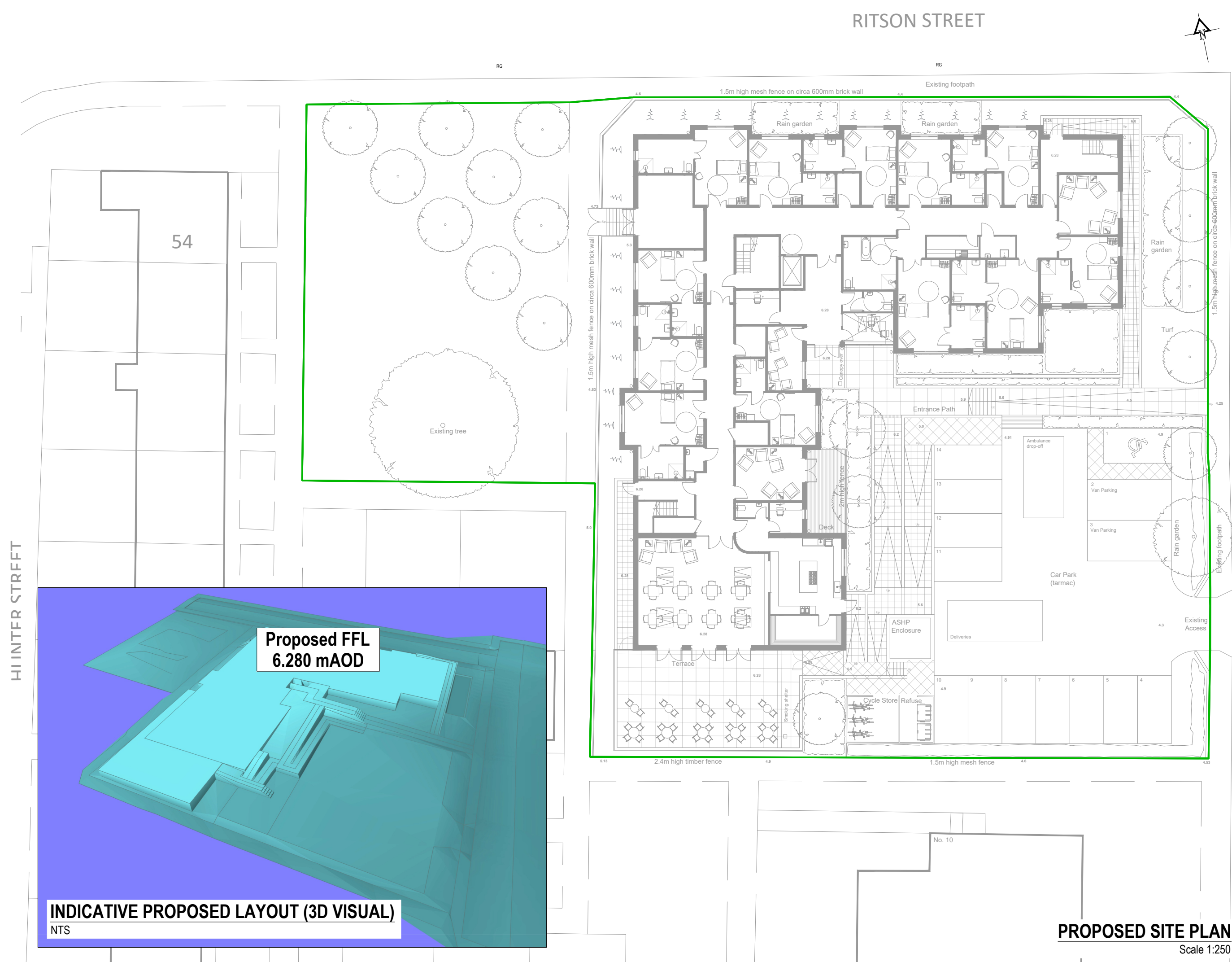
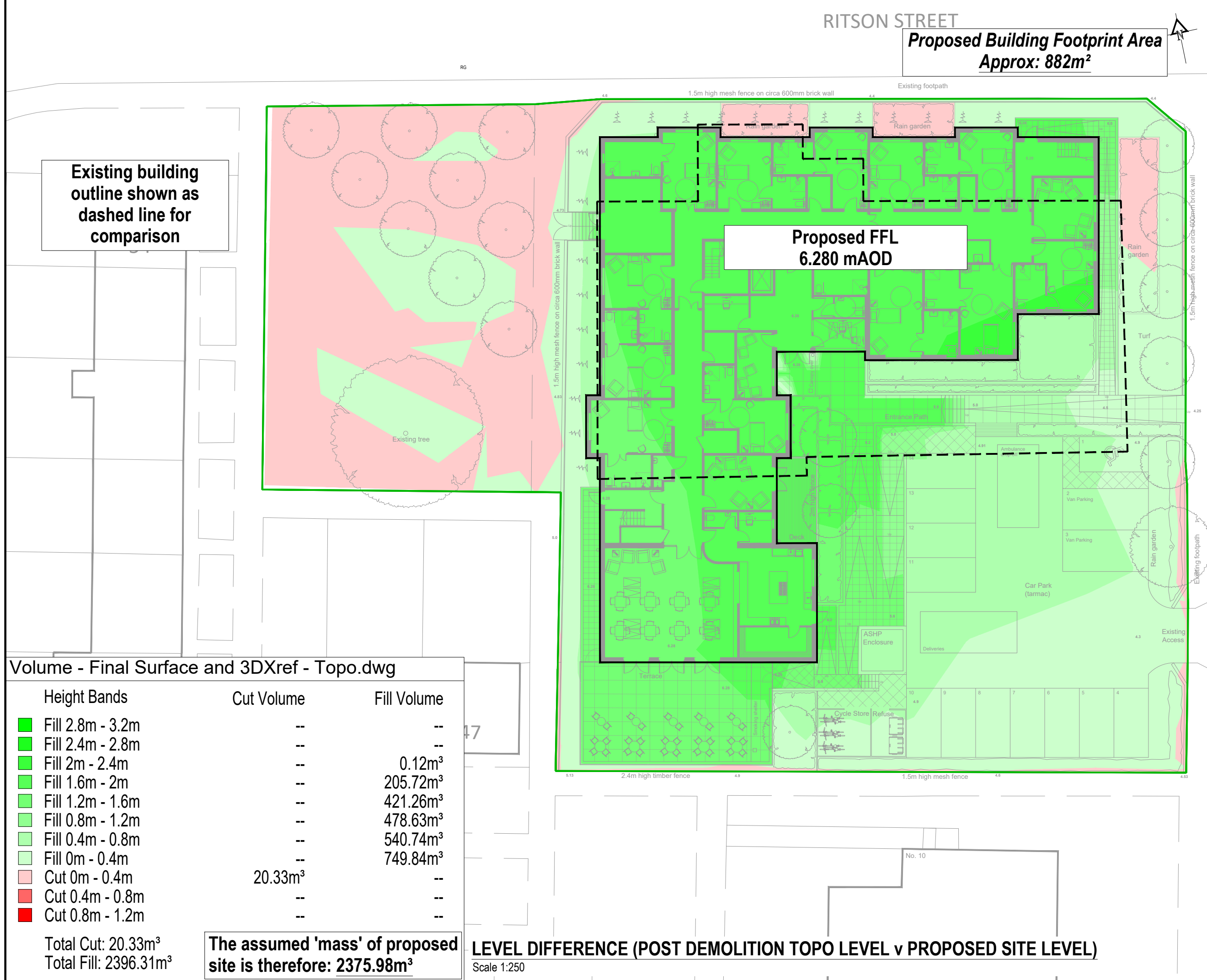


Appendix G



Notes:

1. This drawing is to be read in conjunction with all other geotechnical engineer, surveys, Architect, and Bear Consulting project drawings/ specifications.
2. Topographical Survey has been provided by Vinci Surveys (date received 8th Aug 2025).
3. Exact location of all apparatus to be determined on site.
4. This drawing has been provided for conceptual/preliminary information only



Rev.	Date.	Details.	By.	Chk.
Amendments				

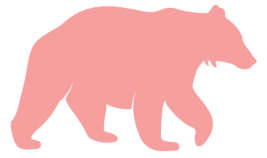
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Project:
**CARE HOME
BRITON FERRY**

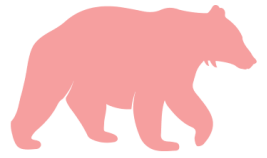
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Drawing Status:
PRELIMINARY

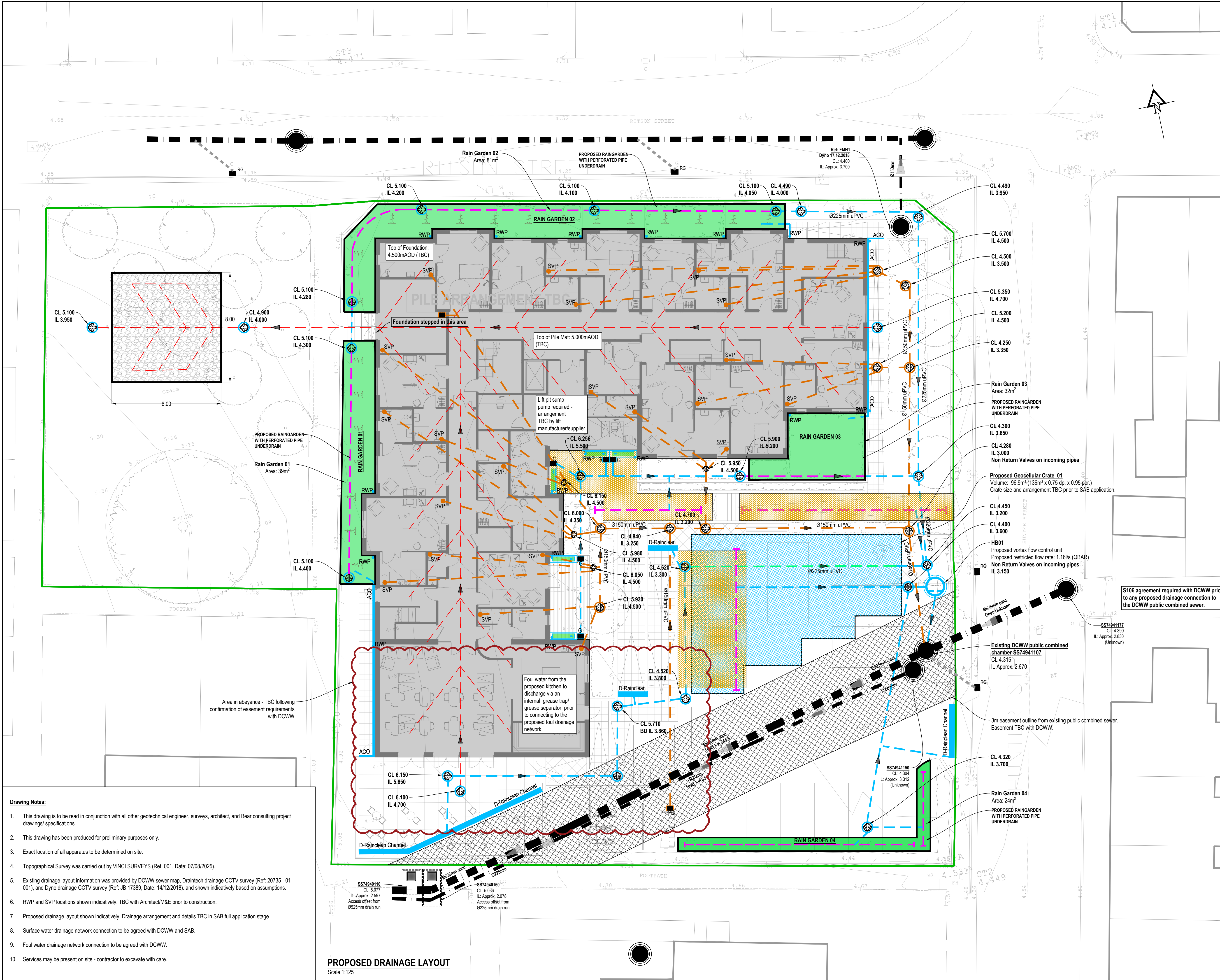
Drawn:	Checked:	Scale(s) at A1:
-	PC	AS SHOWN
Date:	Job No.	Drawing No.
20/01/2026	P0648	SKc13
	Revision	
	-	



Appendix H



Appendix I



- KEY**
- SAB Boundary
 - Existing DCWW Public Combined Chamber
 - Existing DCWW Public Combined Sewer
 - 3m DCWW Public Sewer easement
 - Proposed Ø450mm Type 3 PPIC Private Surface Water Chamber
 - Proposed Ø450mm Type 3 PPIC Private Foul Water Chamber (5 inlets)
 - Proposed Ø450mm Type 3 PPIC Private Foul Water Chamber (3 inlets)
 - Proposed Type 2 Manhole & Hydrobrake Chamber
 - Proposed Surface Water Gully
 - Proposed Private Foul Drain (Ø100mm uPVC unless stated otherwise)
 - Proposed Private Surface Water Drain (Ø150mm uPVC unless stated otherwise)
 - Proposed Private Void Drainage (Land Drain) (Ø150mm perf. uPVC)
 - Proposed Private Perforated Pipe (Ø150mm uPVC unless stated otherwise)
 - Proposed Private Rodding Eye
 - Proposed Gully for Refuse Washdown
 - Proposed D-Rainclean Channel
 - Proposed RWP
 - Proposed Rainwater Harvesting Unit
 - Proposed SVP
 - Proposed Lined Permeable Paving (Tobermore Hydropave or similar)
 - Proposed Building Footprint (TBC)
 - Proposed Lined Rain Garden
 - Proposed SuDS Planter (East of Eden or similar approved, Planter Area 0.65m x 1.8m)
 - Proposed Gravel Filled Drainage Field
 - Proposed Lined Geocellular Crate Attenuation with Ø225mm Perforated Pipe

- Drawing Notes:**
- This drawing is to be read in conjunction with all other geotechnical engineer, surveys, architect, and Bear consulting project drawings/ specifications.
 - This drawing has been produced for preliminary purposes only.
 - Exact location of all apparatus to be determined on site.
 - Topographical Survey was carried out by VINCI SURVEYS (Ref: 001, Date: 07/08/2025).
 - Existing drainage layout information was provided by DCWW sewer map, Draintech drainage CCTV survey (Ref: 20735 - 01 - 001), and Dyno drainage CCTV survey (Ref: JB 17389, Date: 14/12/2018), and shown indicatively based on assumptions.
 - RWP and SVP locations shown indicatively. TBC with Architect/M&E prior to construction.
 - Proposed drainage layout shown indicatively. Drainage arrangement and details TBC in SAB full application stage.
 - Surface water drainage network connection to be agreed with DCWW and SAB.
 - Foul water drainage network connection to be agreed with DCWW.
 - Services may be present on site - contractor to excavate with care.

PROPOSED DRAINAGE LAYOUT
Scale 1:125

A	19.02.26	Updated to suit amended site layout	-	PC
Rev.	Date	Details	By	Chk.
Amendments				

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Project:
CARE HOME, BRITON FERRY

Title:
PROPOSED DRAINAGE LAYOUT

Drawing Status:
INFORMATION

Drawn:	Checked:	Scale(s) at A1:
WH	PC	1:125
Date:	Job No:	Revision
17/09/2025	P0648	SKC06 A