

# Vale Consultancy

CONSULTING CIVIL & STRUCTURAL ENGINEERS

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## FLOOD CONSEQUENCE ASSESSMENT (FCA)

Canal Side Yard,  
Canal Road,  
Neath,  
SA11 1 LJ

**Prepared for:** Sami Hussam  
**Project Ref:** 23176 – FCA - 03

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All the Natural Resources Wales (NRW) mapping data used is under special license. Data is current as of **February 2026** and is subject to change.

The information presented and conclusions drawn are based on statistical data and are for guidance purposes only. The study provides no guarantee against flooding of the study site or elsewhere, nor of the absolute accuracy of water levels, flow rates and associated probabilities.



## 1 INTRODUCTION

### 1.1 Background

Vale Consultancy has been instructed by Sami Hussam (*The Client*) to prepare a Flood Consequences Assessment (FCA) report to accompany a planning application for the proposed development located at Canal Side Yard, Canal Road, Neath, SA11 1LJ.

The assessment has been undertaken in accordance with the requirements of Technical Advice Note 15 (TAN 15) dated March 2025 and the Local Development Plan (LDP).

Natural Resources Wales (NRW) and Neath Port Talbot County Borough Council as the acting Lead Local Flood Authority (LLFA) have been consulted to inform the FCA.

Much urban development in Wales has taken place alongside rivers and in the coastal plain. It is therefore inevitable, despite the overall aim to avoid flood risk areas, that some existing development will be vulnerable to flooding and fall within areas prone to flood risk. Some flexibility is necessary to enable the risks of flooding to be addressed whilst recognising the negative economic and social consequences if policy were to preclude investment in existing urban areas, and the benefits of reusing previously developed (*Brownfield*) land. Further development in such areas, whilst possibly benefiting from some protection, will not be free from risk and could in some cases exacerbate the consequences of a flood event for existing development and therefore a balanced judgement is required.

Redevelopment and regeneration of existing urban areas can help them to adapt to climate change and the potential impact on flood risk. For instance, measures can be incorporated to ensure that they are more resistant and resilient to flood risk and any associated potential consequences, thus; providing betterment over the existing arrangement in accordance with the principles of Sustainable Development which can be defined as;

‘Meeting the needs of the present without compromising the ability of future generations to meet their own needs’.

This FCA is in support of a Planning Application for the construction of a portal frame unit.

#### **Justification**

The proposed development which includes the construction of a portal frame unit is typical and in keeping with the surrounding land use occupancy, and will enable the retention, enhancement, maintenance and usage of the site.

There is extremely limited scope for alternative development at the site (if any).

The proposals are in alignment with the LDP and is deemed to be in compliance with TAN15.



## 2 SITE DETAILS & PROPOSED DEVELOPMENT

### 2.1 Site Location

The approximately 2736m<sup>2</sup> is located on Canal Road, National Grid Reference (NGR) SS747973 (274798E, 197317N). See Figure 1 below.

The site is bounded by factory buildings to the north and east, the A465 to the west and a small woodland area and the A474 to the south of the site.



**Figure 1: Site Location Satellite Imagery Plan**

### 2.2 Existing Site

The existing site is comprised of an industrial yard with a warehouse building.

**Refer to Appendix A (Existing Plans).**

### 2.3 Proposed Development

The proposals are for the construction of an adjoining portal framed warehouse unit (connected by a covered walkway located on the first floor). And Retention of cladding and re-sheeting of roof on existing building .

NPPF indicates that buildings used for general industry, storage and distribution are classified in the 'Less Vulnerable' to flood risk category.

The existing site is part of and therefore directly associated to the proposed portal frame unit. Therefore, the proposals do not constitute an increase in vulnerability classification, neither an intensification of use.

**Refer to Appendix B (Proposed Site Plan).**

**Figure 2** below outlines the existing and proposed ground floor footprints at the site.



**Figure 2:** Existing and Proposed (Ground Floor Footprints)  
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## 2.4 Surface Waterbodies in the Vicinity of the Site

The River Neath is located circa. 20m and the Tennant Canal is located circa. 138m to the west of the site.

The Neath Canal is found approximately 15m to the east.

The River Clydach is located circa. 0.9km to the west.

The River Neath and Clydach are both classified as main rivers. If you want to carry out works in, over, under or near a main river, or in a flood plain or flood defence (including a sea defence), you will need to apply for a Flood Risk Activity Permit.

NRW carry out regular maintenance, improvement or construction work on main rivers in Wales to manage flood risk.

The Gnoll Brook is located approximately 800m east / southeast from the site. The ordinary watercourse does not pose a flood risk to the site or proposed development over its 75-year lifetime expectancy.

The predominant and principal source of flood risk to the site and proposed development is the **River Neath**. The risk from the River Neath is tidally influenced.

## 2.5 Topographic Levels

In the absence of a topographic survey for this site, LiDAR data has been used to develop a Digital Terrain Model (DTM) of the site and surrounding area. **Refer to the DTM Extract, illustrated in Figure 3 below / overleaf.**



Site Levels are in the region of 5.49 - 7.88mAOD, generally falling in a south-westerly direction. It must be noted that the lowest ground levels are along the sites northwestern boundary which align with the presence of the southeastern bank of the River Neath.

The ground levels in the area of the proposed warehouse range between 6.53 – 7.63mAOD. This is a difference of 1.10m.

In the absence of a proposed Finish Floor Level (FFL) an Assumed (yet well informed) Ground Floor Level (AGFL) at the proposed warehouse of **6.53mAOD** has been used for the purposes of this report. For reference, this is the lowest LiDAR level adjacent to the first point of ingress closest to the River Neath (the proposed doorway entrance located along the northwestern elevation of the proposed Warehouse – Appendix B).

This will be discussed in Sections 4 and 5 of this report when assessing flood depths and mitigation measures.

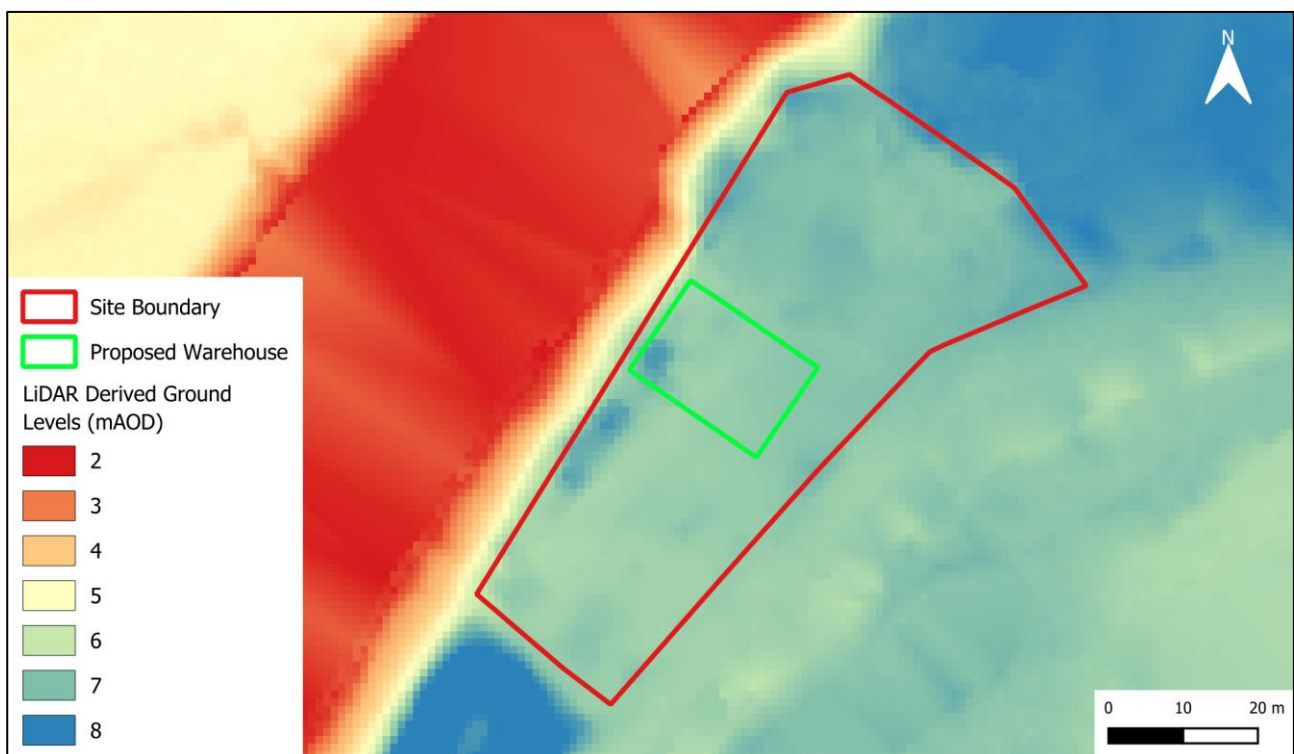


**Figure 3:** 1m Resolution LiDAR DTM (mAOD)  
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### 3 PLANNING POLICY

#### 3.1 National Planning Policy

Future Wales - the National Plan 2040 sets out the national development framework for Wales with a strategy for addressing key national priorities through the planning system, including sustaining and developing a vibrant economy, achieving decarbonisation and climate-resilience, developing strong ecosystems and improving the health and well-being of our communities.

Policy 8 - Flooding states that “flood risk management that enables and supports sustainable strategic growth and regeneration in National and Regional Growth Areas will be supported. The Welsh Government will work with Flood Risk Management Authorities and developers to plan and invest in new and improved infrastructure, promoting nature-based solutions as a priority. Opportunities for multiple social, economic



and environmental benefits must be maximised when investing in flood risk management infrastructure. It must be ensured that projects do not have adverse impacts on international and national statutory designated sites for nature conservation and the features for which they have been designated”.

PPW sets out government's planning policies for Wales and how these are expected to be applied. TAN15 (2025) provides technical guidance which supplements the policy within PPW and seeks to ensure that flood risk is taken into account at all stages in the planning process and is appropriately addressed.

The general approach of TAN15 is to set out a precautionary framework to guide planning decisions in areas at high risk of flooding. The overarching aim of TAN15 is to provide a framework within which the flood risks arising from rivers, the sea and surface water, and the risk of coastal erosion can be assessed. It also provides advice on the consequences of the risks and adapting to and living with flood risk.

National policy requires that planning applications for new development proposals should incorporate SuDS to appropriate operational standards and with maintenance arrangements in place unless there is clear evidence that this would be inappropriate.

Statutory standards for sustainable drainage were published by Welsh Government in October 2018 in relation to the design, construction, operation and maintenance of sustainable drainage systems serving new developments of more than one house or where the construction area is equal to or greater than 100 m<sup>2</sup>. These standards set out how surface water runoff generated during the 100%, 3.3% and 1% AEP rainfall events and for events exceeding the 1% AEP event should be managed, how peak runoff rates should be restricted and how runoff volumes should be controlled. Approval is subsequently required from the SAB before construction can commence.

### 3.2 Local Planning Policy

#### Neath Port Talbot Local Development Plan (2011-2026)

The Neath Port Talbot Local Development Plan (LDP) (2011-2026) was adopted by Neath Port Talbot County Borough Council in January 2016. The LDP frames a long-term vision of balanced growth, sustainability, and enhancement of quality of life across the borough, while respecting environmental constraints. The following policies relate to flood risk:

- The plan explicitly recognizes flood risk and coastal erosion as significant constraints.
- Development proposals in or near flood-risk zones must be accompanied by **flood risk assessments**.
- The plan requires the use of **appropriate defence, mitigation and management measures**, and discourages intervention which might transfer risk to other areas.
- Sustainable drainage, retention, and controlled discharge of water runoff are promoted.
- The plan supports the maintenance, improvement or provision of flood defence works, in consultation with relevant agencies.

### 3.3 Water Framework Directive

The WFD provides a legal framework for the protection, improvement and sustainable use of inland surface waters, groundwater, transitional waters, and coastal waters across England and Wales, and seeks to:

- Prevent deterioration in the status of surface water and groundwater bodies;
- Protect, enhance and restore surface water and groundwater bodies (except artificial or heavily modified water bodies) with the aim of achieving good ecological, chemical and groundwater quantitative status;
- Protect and enhance artificial and heavily modified water bodies with the aim of achieving good ecological potential and good chemical status;
- Progressively reduce or phase out the release of individual pollutants or groups of pollutants that present a significant threat to the aquatic environment and progressively reduce pollution of groundwater.



The WFD applies to any proposed development which has the potential to impact on a waterbody. Where this is the case, NRW may require evidence demonstrating that the proposed development does not compromise the aims of the WFD.

This FCA determines that these proposals will not have any impact upon this legislation.

### **3.4 Environmental Permitting and Land Drainage Consent**

Under the Environmental Permitting (England and Wales) Regulations 2016 an Environmental Permit for Flood Risk Activities is required from the Environment Agency for any permanent or temporary works, including works:

- In, over or under a designated main river;
- Within 8 m of the top of bank of a designated main river or of the landward toe of a flood defence (16 m if it is a tidal main river or a sea defence).

In addition, any permanent or temporary works within the floodplain of a designated main river may also require an Environmental Permit for Flood Risk Activities. A permit is separate to and in addition to any planning permission granted.

Land drainage consent may be required from the lead local flood authority or drainage board for work to an ordinary watercourse.

Undertaking activities controlled by local byelaws also requires the relevant consent.

The site and proposals are exempt from any specific environmental permitting and / consents / applications in regard to flood risk.



## 4 SOURCES OF FLOODING AND PROBABILITY

### 4.1 Historical Records of Flooding

The Flood Map for Planning - Recorded Flood Extents and associated database indicates that there are no records of flooding at or within the immediate vicinity of the site.

### 4.2 Flood Risk Summary

The Flood Map for Planning (FMfP) - indicates the site to be located within **Flood Zone's 2 and 3** (Rivers). The site is located within **Flood Zone 3** (Tidal / The Sea) and **Flood Zone 1** (Surface Water and Small Watercourses, or Pluvial sources).

Areas located within **Flood Zone 2 (Fluvial)** are considered to be at 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.

Areas located within **Flood Zone 3 (Fluvial)** are considered to be at more than 1% (1 in 100) chance of flooding from rivers in a given year, including the effects of climate change.

Areas located within **Flood Zone 3 (Tidal / The Sea)** are considered to be at more than 0.5% (1 in 200) chance of flooding from the sea in a given year, including the effects of climate change.

Areas located within **Flood Zone 1 (Surface Water and Small Watercourses)** are considered to be at less than 0.1% chance (probability) of flooding from surface water and / or small watercourses in a given year, including the effects of climate change.

### 4.3 Sea (Tidal / Coastal)

As shown in **Figure 6**, the site is located within Flood Zone 3. The sections below present an analysis of the available tidal flood model data:

#### NRW Flood Model Data

To help inform this report, Vale Consultancy has obtained Product 5 and 6 data flood model data from NRW. This comprises the 2D Neath\_5\_v1.1\_2023 hydraulic model. The model is a 2D TUFLOW model. This allows for a detailed representation of the floodplain, using efficient techniques to modify the baseline ground elevation and model grid to define floodplain features which control flood mechanisms. The flood extents used within this report are taken from the defended scenario. This model incorporates climate change allowances for tidal levels up to the year 2123, representing a 100 year projection from its 2023 baseline. Furthermore, it must be noted that the data used was the latest held by NRW.

**Figure 4** illustrates the maximum modelled tidal flood extents across the site.

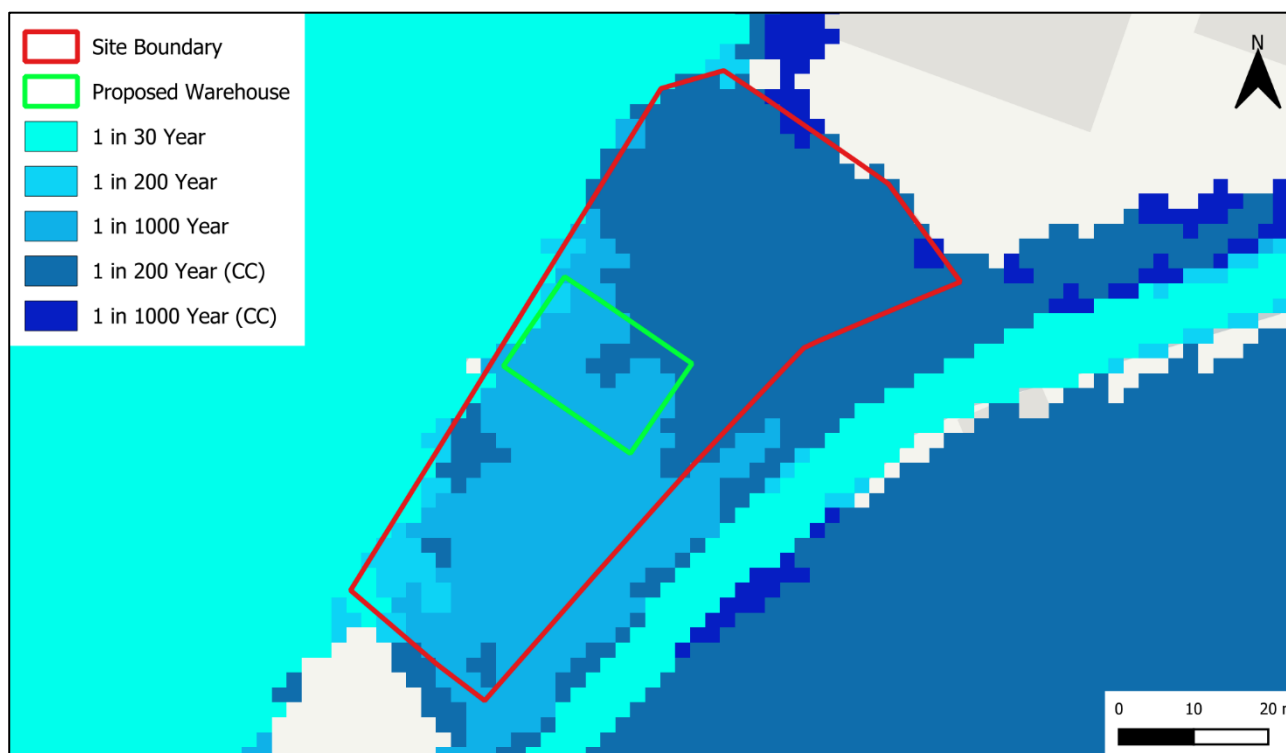


**Figure 4:** Product 6 Neath Modelled Tidal Flood Extents  
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As seen in **Figure 4**, the proposed building footprint is shown to be partially encroached (along the northwestern elevation) by tidal flooding at the 1 in 30 and 200 year return periods; however, the footprint is shown to be at risk of tidal flooding in the extreme 1 in 1000 year event as well as both future climate change events up to the year 2123.

Furthermore, as discussed in Section 2.5 of this report, the AGFL (6.53mAOD) of the proposed warehouse has been compared against the maximum modelled flood levels at the building footprint for the return periods assessed above. Table 1 below presents the calculated flood depths and maximum modelled flood water velocities at the proposed warehouse.

| Return Periods<br>(Tidal Defended) | Maximum Modelled<br>Flood Levels (mAOD) | Calculated Maximum<br>Flood Depths (m) | Maximum Modelled<br>Flood Water Velocity<br>(m/s) |
|------------------------------------|-----------------------------------------|----------------------------------------|---------------------------------------------------|
| 1 in 30 Year (3.33% AEP)           | 6.28                                    | N/A                                    | N/A                                               |
| 1 in 200 Year (0.5% AEP)           | 6.53                                    | N/A                                    | N/A                                               |
| 1 in 1000 Year (0.1%<br>AEP)       | 6.85                                    | 0.32                                   | 0.04                                              |
| 0.5% AEP + CC (2123)               | 7.43                                    | 0.90                                   | 0.11                                              |
| 0.1% AEP + CC (2123)               | 7.71                                    | 1.18                                   | 0.14                                              |

**Table 1:** Maximum modelled flood levels, velocities and calculated maximum depths at the proposed warehouse

As seen within **Table 1**, the proposed building footprint is not shown to be at risk of tidal flooding at the 3.33% and 0.5% AEP events. Flood depths range between 0.32 – 1.18m across the 0.1%, 0.5% + CC (2123) and 0.1% + CC (2123) AEP events. Moreover, maximum modelled flood water velocities range between 0.04 – 0.14m/s across the same return periods.



Given that the proposed development comprises a commercial unit with a design lifetime of 75 years (2101), the NRW's tidal flood model (see above) provides data for the modelled epochs of 2123 but not 2101. Therefore, as part of this assessment, an adjusted sea level rise allowance has been applied to estimate the tidal still water levels relevant to the development's lifetime. This approach is consistent with NRW guidance and allows flood depths to be calculated transparently across the proposed building footprint.

NRW's 2021 Climate Change Allowance guidance provides cumulative sea level rise estimates for 2100 and 2120. Since the development lifetime falls in 2101, these values cannot be used directly. Instead, a linear interpolation between the 2100 and 2120 estimates was applied to calculate the mean sea level rise for 2101.

As seen in Table 2, the range of sea level allowances are based on percentiles. A percentile describes the proportion of possible scenarios that fall below an allowance level. The higher central allowance is based on the 70th percentile with the upper end allowance based on the 95th percentile. Table 2 shows the interpolated allowances for 2101 used in this assessment.

| Local Authority Area | Allowance (percentile)                       | Mean sea level rise by 2100 (m) | Mean sea level rise by 2101* (m) | Mean sea level rise by 2120 (m) |
|----------------------|----------------------------------------------|---------------------------------|----------------------------------|---------------------------------|
| Neath Port Talbot    | Higher Central (70 <sup>th</sup> percentile) | 0.84                            | 0.85                             | 1.00                            |
|                      | Upper End (95 <sup>th</sup> percentile)      | 1.11                            | 1.12                             | 1.32                            |

**Table 2:** *Estimated mean sea level rise (in metres) for Neath Port Talbot*

*\* The 2101 mean sea level rise values are derived via linear interpolation between the 2100 and 2120 values and were used to calculate projected flood depths and maximum flood levels for the development's 75-year lifetime. These allowances are applied to the baseline hydraulic model results.*

The projected flood depths and maximum flood levels for 2101 were calculated by scaling the 2123 CC flood depths proportionally to the ratio of the 2101 mean sea level rise to that of 2123, in line with NRW guidance. The resulting scaled CC flood depths were then added to the baseline modelled flood levels. Maximum flood water velocities were also scaled proportionally to the CC depth, ensuring consistent results.

Table 3 presents the baseline flood levels alongside the 2101 CC scenarios for both the 70<sup>th</sup> and 95<sup>th</sup> percentile allowances.

| Return Periods (Tidal Defended)      | Maximum Modelled Flood Levels (mAOD) | Calculated Maximum Flood Depths (m) | Maximum Modelled Flood Water Velocity (m/s) |
|--------------------------------------|--------------------------------------|-------------------------------------|---------------------------------------------|
| 1 in 30 Year (3.33% AEP)             | 6.28                                 | N/A                                 | N/A                                         |
| 1 in 200 Year (0.5% AEP)             | 6.53                                 | N/A                                 | N/A                                         |
| 1 in 1000 Year (0.1% AEP)            | 6.85                                 | 0.32                                | 0.04                                        |
| 0.5% AEP + CC (2101) 70th Percentile | 7.30                                 | 0.77                                | 0.09                                        |
| 0.5% AEP + CC (2101) 95th Percentile | 7.30                                 | 0.77                                | 0.09                                        |
| 0.1% AEP + CC (2101) 70th Percentile | 7.53                                 | 1.00                                | 0.12                                        |
| 0.1% AEP + CC (2101) 95th Percentile | 7.53                                 | 1.00                                | 0.12                                        |

**Table 3:** *Baseline and projected maximum flood levels, depths and velocities for the proposed warehouse (2101)*



It must be noted that for both the 0.5% and 0.1% + CC (2101) return periods, the projected maximum flood depths and levels are effectively the same for the 70th and 95th percentile allowances due to the small difference in mean sea level rise at this time horizon. This is a rounding effect and does not affect the assessment.

Despite the projected depths shown above, it must be noted that the proposed development is an adjoining commercial warehouse/storage unit designated as less vulnerable under TAN15. The ground floor will primarily be used for storage and is non-occupied, while an upper floor provides potential safe refuge for personnel in the unlikely event that someone is present on the ground floor during a flood. Flood model outputs indicate that while flood depths are significant during extreme tidal events, floodwater velocities remain low and below the tolerable thresholds for less vulnerable development, meaning that the principal consideration is the management of flood consequences rather than hydraulic hazard.

In accordance with TAN15, it is recognised that during extreme flood events it may not be feasible to ensure all development remains flood free, provided that the consequences of flooding can be acceptably managed and do not pose a risk to life. Given the non-occupied nature of the ground floor, the availability of safe refuge at first floor level (well above predicted flood levels), and the operational characteristics of the use, the development is considered capable of achieving acceptable flood consequences, subject to the incorporation of appropriate mitigation, flood resilience, safe access and egress, and emergency management measures.

Overall, the site is high risk in terms of modelled flood depths, with up to 1m predicted during the extreme 0.1% AEP + CC (2101) event. However, given the low floodwater velocities, non-occupied ground floor, safe upper floor refuge, and historical absence of flooding, the risk to people and operations is considered **Low**. Consequently, the development is deemed suitable for its intended use over its design lifetime, provided that the recommendations outlined in Section 5 are implemented where possible.

#### **4.4 Rivers (Fluvial)**

As shown in **Figure 6**, the site is located within Flood Zone 2 and 3. The sections below present an analysis of the available fluvial flood model data:

##### **NRW Flood Model Data**

To help inform this report, Vale Consultancy has obtained Product 5 and 6 data flood model data from NRW. This comprises the 2D Neath\_5\_v1.0\_2015 hydraulic model. The model is also a 2D TUFLOW model. This allows for a detailed representation of the floodplain, using efficient techniques to modify the baseline ground elevation and model grid to define floodplain features which control flood mechanisms. The flood extents used within this report are taken from the defended scenario.

The 2015 model incorporates a 20% climate change allowance on the 1% AEP flow, which is broadly consistent with the central estimate for West Wales in the Welsh Government's 2021 Climate Change Allowances guidance (25–30% peak flow increase by the 2080s). This ensures that the modelled fluvial flood levels reflect likely future hydrological conditions at the planning stage.

It must be noted that this dataset represents the most up to date fluvial model available at the time of assessment. While NRW advise that material changes may have occurred since model completion, this assessment uses the data following NRW guidance and best practice for verification, including overlaying the model outputs onto LiDAR data to confirm the model is representative for the site. Any assumptions or limitations associated with the model are highlighted where relevant in the assessment.

The flow estimation methods used were checked prior to public issue of the model, and Vale Consultancy is satisfied that the methodology is appropriate for use in a site-specific FCA. NRW have not raised any specific



concerns regarding the catchment analysis or modelling approach. Given the relatively small scale and nature of the scheme, commissioning a new hydraulic model would be outside the scope of a planning-stage FCA and would not be proportionate. While higher climate change allowances may marginally increase peak water levels, the overall effect on the site is not considered to be material.

**Figure 5** represents the maximum modelled fluvial flood extents at and within the vicinity of the site.



**Figure 5:** Product 6 Neath Modelled Fluvial Flood Extents  
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*\*It must be noted that the 1 in 1000 Year extent is overlain by the 1 in 100 and 1 in 100 + 20% CC extents and not visible on the above mapping.*

As seen in **Figure 5**, the elevation of the wider site boundary immediately adjacent to the River Neath is encroached upon during each of the assessed return periods; however, the proposed warehouse location is not shown to be at risk of fluvial flooding across all return periods up to and including the extreme 1 in 1000 year event.

Overall, the site is assessed to be at a **Low** risk of fluvial flooding. The available fluvial flood model data indicates that, for all evaluated return periods, any potential out of bank flows would primarily affect the area on the opposite side of the River Neath. This area of floodplain is shown to be located at a lower elevation than that of the site and therefore aligns with the projected extents.

Residual uncertainty is addressed through finished floor level freeboard and flood-resilient design, consistent with planning-stage FCA best practice.

#### 4.5 Surface Water & Small Watercourses (Pluvial)

The site is located within **Flood Zone 1** (Surface Water and Small Watercourses) and is therefore considered to be at **Low** Risk of flooding from Pluvial Sources. **Refer to Figure 6.**

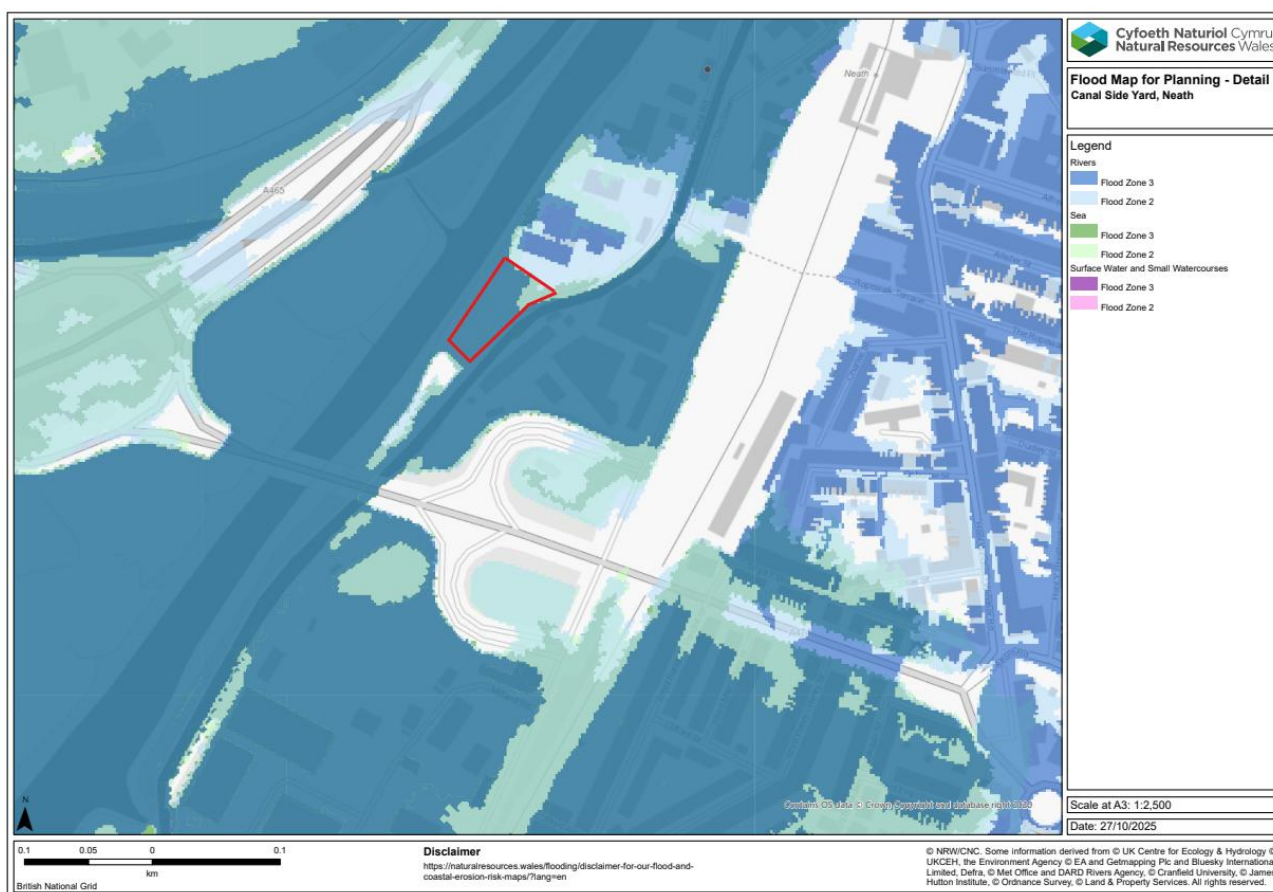


**Figure 6: NRW Flood Map for Planning**  
Source: Natural Resources Wales; Accessed: October 2025

#### 4.6 Groundwater Flooding

Groundwater flooding occurs when water levels underneath the ground rise above normal levels. Prolonged heavy rainfall soaks into the ground and can cause the ground to become saturated. This results in rising groundwater levels which leads to flooding above ground. There are no known records of groundwater flooding incidents at or near to the site. The local authority Flood Risk Management Strategy (FRMS) states that there are no specific areas of historical groundwater flooding recorded in the area and therefore the risk of flooding from this source is considered to be small. Furthermore, the existing and proposed development is / will be overlain by hardstanding, thus preventing any groundwater ingress to the surface.

Therefore, the risk of groundwater flooding is concluded to be **Low**.

#### 4.7 Artificial Sources of Flooding

There are two canals within the immediate vicinity of the site or surrounding area which could pose a flood risk to the site. They are the Neath Canal and the Tennant Canal. However, canals are man-made engineered structures whereby hydraulic flows are carefully managed and conveyed and very rarely flood. There are no records of the canal flooding here. It can be concluded that the canals pose a **Low** flood risk to the site and proposed unit. The NRW 'Risk of Flooding from Reservoirs' map shows that the site is not at risk of flooding from reservoirs. The risk of flooding from reservoirs is extremely unlikely to happen. For instance, all large reservoirs must be inspected and supervised by a reservoir panel engineer, as the enforcement agency the NRW ensure that reservoirs are inspected regularly, and essential safety / maintenance work is carried out.

Therefore, it can be concluded that the probability of flooding from artificial sources is **Low / Residual**.



## 5 FLOOD MITIGATION

### 5.1 Flood Risk Mitigation

The risk of flooding to the proposed development from Fluvial and Surface Water flooding is assessed to be *Low*, with Tidal sources posing a high risk in terms of modelled flood depths, but given the low velocities, non-occupied ground floor, upper floor refuge, and operational characteristics of the development, the risk to people and operations is considered Low.

Moreover, adverse tidal conditions are typically much easier to forecast and hence a greater period of notice is usually provided to those registered with NRW's Flood Alert and Warning System (s); alerting them to any potential and upcoming adverse storm / weather events.

This FCA concludes that the potential consequences of flooding are considered acceptable and manageable over the lifetime of the development, including appropriate allowances and consideration for climate change. The developer acknowledges and accepts the perceived risks and any associated consequences. The development is therefore deemed suitable for its intended use, subject to the implementation of recommended measures, flood resilience strategies, and emergency management procedures to ensure risks are appropriately managed.

#### **Flood Alerts and Warnings**

The site is located within two Flood Alert Areas (Swansea Bay and the Gower coast – ref: 102WABT04 and River Neath – ref: 102WAFF18). Moreover, the site is located approximately 5m to the northwest of the nearest Flood Warning Area (River Neath at Neath – ref: 102FWF112B). The site owner and occupants should therefore register to receive both.

Flood Warnings Direct is a free service that provides prior warnings of a tidal / fluvial flood event. Areas at risk of flooding from the sea (tidal) and rivers (fluvial) are pre-warned, which relies on direct measurements of rainfall, river levels, tide levels, in-house predictive models, rainfall data and information from the Met Office. This service operates 24 hours / day 365 days a year. If flooding is forecast, warnings are issued using a set of easily recognisable codes.

Appropriate documentation should be displayed to inform any users of the site of the potential flood risk. Documentation will be displayed at an appropriate position. The documentation will indicate the risk of flooding and contain information on how prior warnings will be sent. Further information on the documentation will comprise of the Floodline Warnings Direct telephone number, emergency services numbers and exit plans and egress directions, as identified in the evacuation procedure for the site.

The site owner should undertake a Flood Evacuation Management Plan (FEMP) for implementation during an extreme event. This should be done in conjunction with the appropriate professional bodies including and in particular Neath Port Talbot County Borough Council Emergency Planning Department. The FEMP should be a written document which should outline the course of action to all occupants during a flood. The evacuation procedure should address (but not be limited to) the following topics:

- A list of important contact, building services, suppliers and evacuation contacts for officers and users;
- A description or plan showing location of key property protective materials and service shut-off points;
- Basic strategies for protecting property and assisting recovery;
- Checklist of procedures that can be quickly accessed by users during a flood;
- Safe exit-plan (building and site);
- Safe and unobstructed exit route to higher ground outside the flood risk area (building and site), kept and displayed on site.



Flood proofing measures should be incorporated as far as is practically possible.

The development should consider safe refuge. A 'safe refuge' space will be provided on the first floor first floor of the proposed unit which will have a finished floor level in the region of **9.55mAOD**, and thus; hypothetically, if the site were to flood without warning, any site occupants have a safe haven and place to safely congregate until emergency services have arrived / flood water has receded.

This level of **9.55mAOD** is well above any projected or potential design flood levels (DFLs) in the event of a flood event over the lifetime expectancy of the proposed development (75-years) including appropriate allowance and consideration for climate change.

Moreover, considering the tidal flood depths projected in the climate change scenarios (2101), and the proposed construction design of the warehouse, flood resilience is recommended over resistance. The following recommendations are made to enhance the proposed developments' flood resilience and accelerate recoverability following any localised flooding:

- **Floor Finish:** The floor finish on the ground floor should be kept as flood resilient as possible (resin/ceramic/concrete tiles as opposed to lino/vinyl/carpet) so the floor can be easily cleaned down following any residual flooding.
- **Critical Infrastructure/Electrical Sockets:** Raise all electronic control units and sockets 1m above external ground levels to mitigate against any residual flooding.
- **Drainage Systems:** Routinely maintained, inspected and cleared (ensuring it is performing to optimal capacity).
- **Duct Sealing:** Cables and pipes that enter the building below 1m should be sealed with duct sealing.
- **Non-Return Valves (NRV):** NRVs could be installed to all drainage outlets to mitigate against residual risk of the local drainage network surcharging.
- **Airbricks:** All airbricks used within the proposed development should utilise self-closing equivalents.

### Access / Egress

Provision of safe access / egress is from Canal Road onto Milland Road then on the A474 and A465 heading north-east. Access / egress is good and unobstructed and is also suitable for emergency vehicles.

## **5.2 Finished Floor Levels (FFL)**

In order to achieve compliance with Figure 5 of TAN15 and as per NRW's most recent comments – it is proposed to set the FFL of the proposed building at a minimum of **7.30mAOD**. This would lift the development out of the design flood event and reduce the 0.1% AEP plus climate change flood depth to approximately 0.33m, bringing it within the tolerable thresholds set out in TAN15 and reduce the projected maximum depth to approximately 0.33m (compared to 1m) which corresponds to the 0.1% AEP plus climate change event.

## **5.3 Flood Risk Elsewhere**

In accordance with Figure 2 and paragraph 11.4 of TAN15 developers must ensure that there is / will be no potential for increase in flooding (flood risk) elsewhere for floods up to the severity of the 0.1% AEP event including an allowance for climate change and should consider breach and blockage where necessary.

There could be propensity for an increase in flood risk elsewhere / potential for displacement of inundation waters / loss of flood storage as a result of the proposed raised FFL; however, and seeing as the existing structure is to be demolished (similar size); there will be no net gain of impermeable surfaces and / or structures across the site as delineated by the redline boundary compared to the status quo. As the buildings (s) are shown outside of the extreme fluvial modelled extents it is not possible to calculate potentially



displaced volumes of water, here; albeit the buildings are shown within Flood Zones 2 and 3 on the NRW FMFP.

It must be noted that the total site area is 2763m<sup>2</sup> (denoted by the redline boundary), with the proposed new warehouse occupying a footprint of 300m<sup>2</sup>. Moreover, for the purposes of this assessment the volume of floodwaters that may be potentially displaced is calculated as:

$$\text{Volume} = \text{Tidal Flooding Extent Area} \times \text{Maximum Depth}$$

Potentially displaced volumes of water during the assessed tidal events are summarised in **Table 4**, below and will be compared to the total site area to establish the potential increase in flood depths at the proposed warehouse footprint.

| Return Periods<br>(Tidal Defended)         | Maximum<br>Modelled<br>Flood Levels<br>(mAOD) | Calculated<br>Maximum<br>Flood Depths<br>as existing<br>(m) | Extent of<br>flooding at the<br>proposed<br>warehouse<br>footprint (m <sup>2</sup> ) | Potentially<br>displaced<br>Volume of<br>inundation<br>water (m <sup>3</sup> ) | Subsequent<br>potential<br>increase in<br>flood depth<br>(m) |
|--------------------------------------------|-----------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------|
| 1 in 30 Year<br>(3.33% AEP)                | 6.28                                          | N/A                                                         | N/A                                                                                  | N/A                                                                            | N/A                                                          |
| 1 in 200 Year<br>(0.5% AEP)                | 6.53                                          | N/A                                                         | N/A                                                                                  | N/A                                                                            | N/A                                                          |
| 1 in 1000 Year<br>(0.1% AEP)               | 6.85                                          | 0.32                                                        | 249                                                                                  | 79.68                                                                          | 0.03                                                         |
| 0.5% AEP + CC<br>(2101) 70th<br>Percentile | 7.30                                          | 0.77                                                        | 300                                                                                  | 231                                                                            | 0.08                                                         |
| 0.5% AEP + CC<br>(2101)<br>95th Percentile | 7.30                                          | 0.77                                                        | 300                                                                                  | 231                                                                            | 0.08                                                         |
| 0.1% AEP + CC<br>(2101)<br>70th Percentile | 7.53                                          | 1.00                                                        | 300                                                                                  | 300                                                                            | 0.11                                                         |
| 0.1% AEP + CC<br>(2101) 95th<br>Percentile | 7.53                                          | 1.00                                                        | 300                                                                                  | 300                                                                            | 0.11                                                         |

**Table 4:** Calculated displacement volumes at the proposed warehouse footprint

In the absence of modelled tidal flood extents for each of the 2101 year events, the available extents for 2123 have been used instead. It must be noted that the spatial extent of potential flooding is likely to be worse in the 2123 events than it is in the 2101 year events and therefore the volumes provided in **Table 4** can be considered overly conservative when assessing the potential displacement the proposed development may cause.

Moreover, **Table 4** illustrates that there would be potential for a residual level increase at the 0.1% AEP event and both 0.5% AEP + CC (2101) events. The potential increase in flood depth at the extreme 0.1% AEP + CC (2101) events is considered within the tolerable limits of TAN15 when combined with the maximum projected flood depth of 0.33m (when accounting for the proposed FFL of 7.30mAOD).

Overall, based on the analysis provided, it is anticipated that any potentially displaced volumes would be constrained within the redline boundary and would not impact upon third party land / infrastructure (as per the existing arrangement). The post development scenario would be no worse than the existing, especially across the expected lifetime development (75-years).



Furthermore; the development proposals offer an opportunity to ensure that the site and building are more resistant and resilient to climate change and the potential impacts of flooding.

When considering tidally influenced design flood levels (and subsequent depths); in the more extreme events (i.e. that surpass the lifetime expectancy of the proposed development) then the projections demonstrate that the whole site and wider area would be completely inundated affecting all land and any infrastructure along this side of the Neath, at least. Therefore, the demolition and replacement (essentially like-for-like) of the building in question would have no impact on flood dynamics and consequences beyond the extents of the application site boundary compared to the existing scenario. As mentioned, if anything the proposals will provide a betterment over the existing scenario as it will be made more resilient and resistant to inundation.

Furthermore, as the ground floor area of the proposed warehouse will be allowed to flood (and therefore act and provide unofficial 'storage' for want of a better phrase). Any further or extensive re-profiling of the site and / or raising of the building FFLs is not deemed appropriate or suitable in this case as this would be contrary to 3.6 of TAN15. These volumes could be estimated by multiplying the building size by the potential estimated flood depths. However, and as explained above this is somewhat arbitrary as the building itself would begin to flood and fill with water. It would not be 'displaced' to third party land / infrastructure; notwithstanding the fact that there will be not net gain in impermeable surface and infrastructure. Furthermore, there is no scope for the provision of compensatory flood storage within the extents of the site boundary.

No third-party land / infrastructure will be affected as a result. The existing and proposed development are typical and in keeping with the surrounding land use occupancy, and will enable the retention, enhancement, maintenance and usage of the existing and longstanding site.



## 6 CONCLUSIONS

The assessment has been undertaken in accordance with the requirements of Technical Advice Note 15 (TAN 15) dated March 2025 and also the Local Development Plan (LDP).

The FCA concludes that the site is at Low risk of flooding from Tidal and Pluvial sources, whereas the risk of Fluvial flooding poses a High risk; however, this risk is low when Section 5 of this report is considered; the risks and inherent consequences are considered to be acceptable, tolerable and manageable across the lifetime expectancy of the development including appropriate allowances for climate change.

The proposals offer an opportunity to enhance the sites resilience and increase its recoverability to flood risk, climate change and global warming.

This report outlines and demonstrates sufficient justification for the proposed works, in relation to flood risk and any potential inherent consequences.

The Site qualifies for and meets the requirements for / of Previously Developed or '*Brownfield Land*'.

In relation to **8.3** and **8.4** of TAN15; the proposals are for **Redevelopment** and not **New Development**. Redevelopment is defined as; 'Any Development in previously developed land as defined in Planning Policy Wales (PPW)'. PPW generally gives preference to the reuse of previously developed land before greenfield land. Furthermore, and moreover, the proposals are compliant with TAN15 (2025) and the aims and objectives of the LDP.

The proposals are typical and in keeping with those in the local vicinity, including other separate successful planning applications.

The FCA has been undertaken by suitably qualified personnel and is commensurate to the scale and nature of the proposed works.



## **APPENDIX A:** Existing Site Plans

# Location Plan



Scale: 1: 1250





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1 : 100



1 : 100



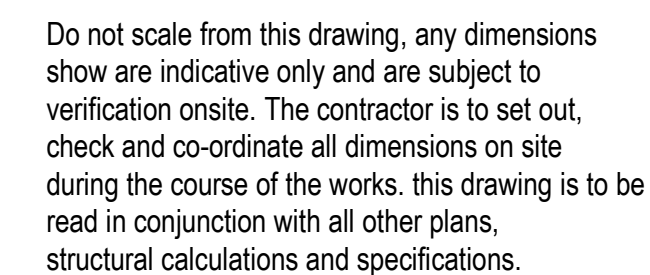
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All works to be carried out in accordance with the latest appropriate codes of practice and to comply with current building regulation  
Prior to commencement of the building works the contractor should:

1. Ensure that all drawings are approved for use by the planning department and (if applicable) by building control.

2. Inform the building control department that works have commenced onsite.

3. Verify the boundary lines and ground conditions, including checking of all the services (gas, water, electric, telecom and sewers) prior to any excavation work.

4. Request a copy of the party wall award where works affect a party wall or involve excavations within 3m of adjoining buildings.

5. Where the works include demolition to ensure that all elements of the building and adjoin structures are accounted for and that all necessary propping and temporary works are in place.

6. Works carried out under a building notice or prior to the approval of the drawings all works are at the contractors own risk.

7. Any discrepancies either between the written dimension and the site dimensions or between the drawing and other consultants/ suppliers drawings should be brought to the attention of the client.

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| CODE   | SUITABILITY DESCRIPTION |
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PROJECT

Project Name

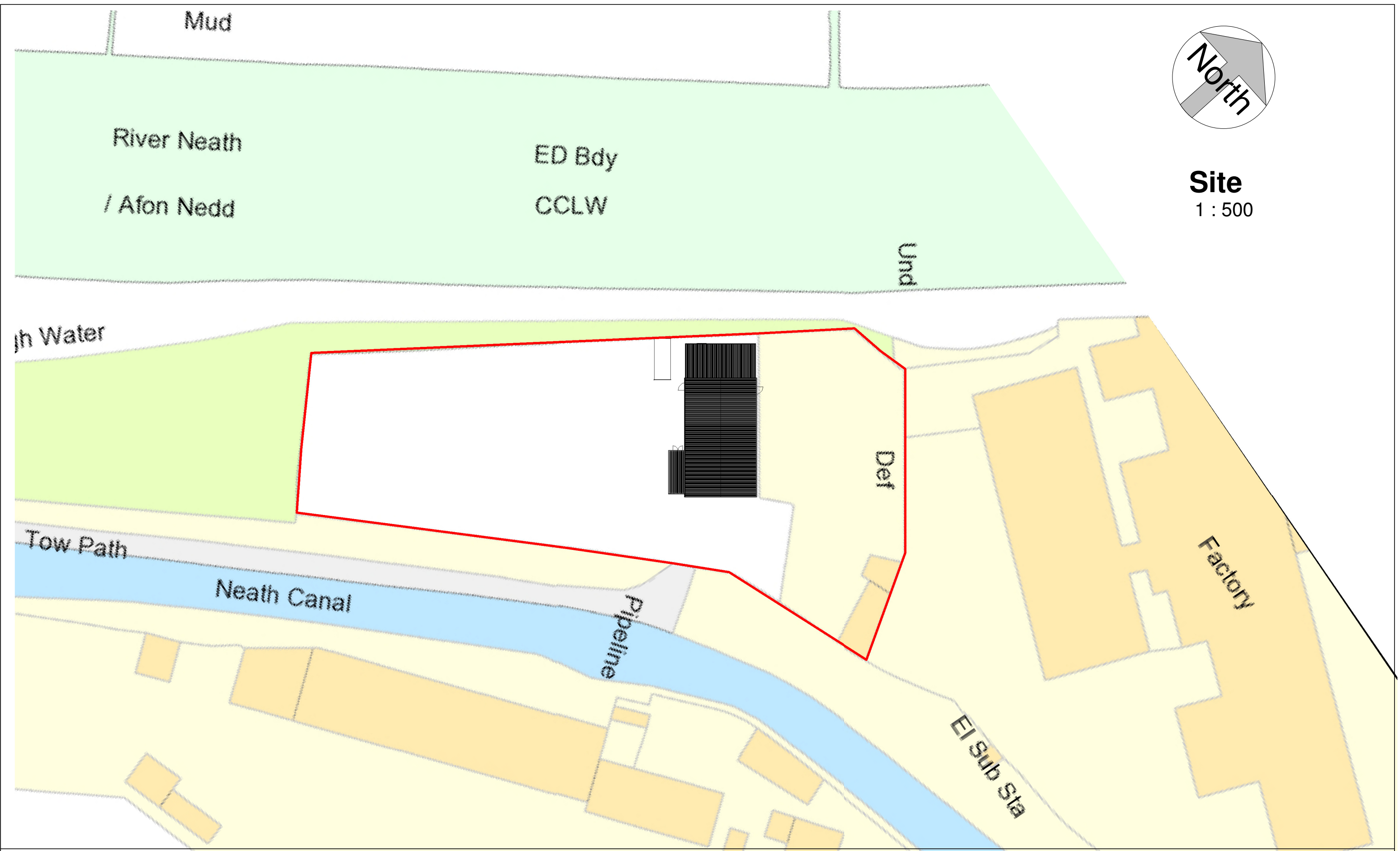
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## Existing Plans

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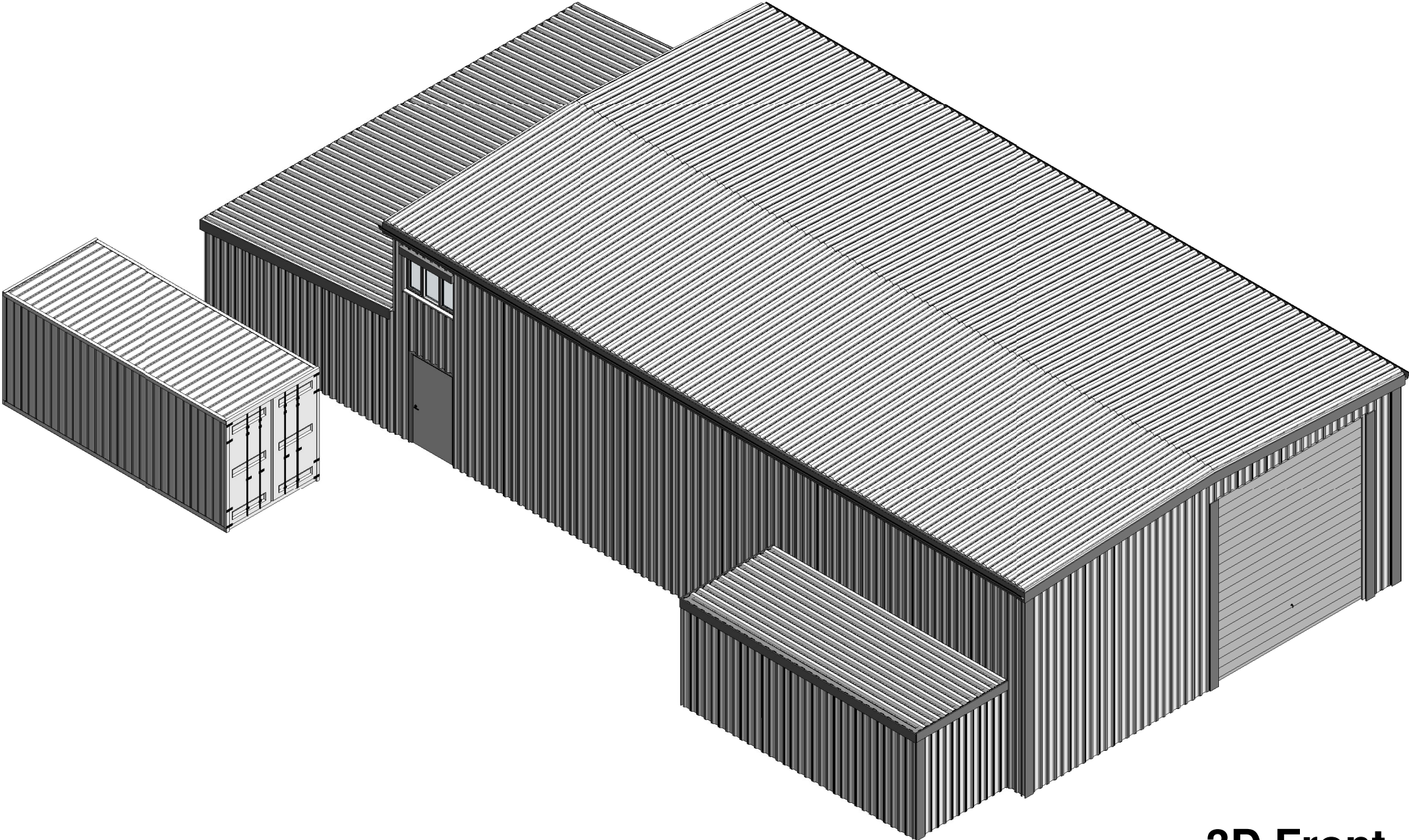
Mr Liam Phillips

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| DRAWING NUMBER<br>A101  |                            | REV              |



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| <div><br/>www.ccs-solutions.co.uk</div> |  |  |  | PROJECT                | CLIENT           |                |              |
|                                                                                                                              |  |  |  | Phillips & Son Roofing | Mr Liam Phillips |                |              |
|                                                                                                                              |  |  |  | SHEET                  | Date             | Project number | Scale (@ A3) |
|                                                                                                                              |  |  |  |                        | 28/09/2025       | 28092025       | 1 : 500      |
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3D Front

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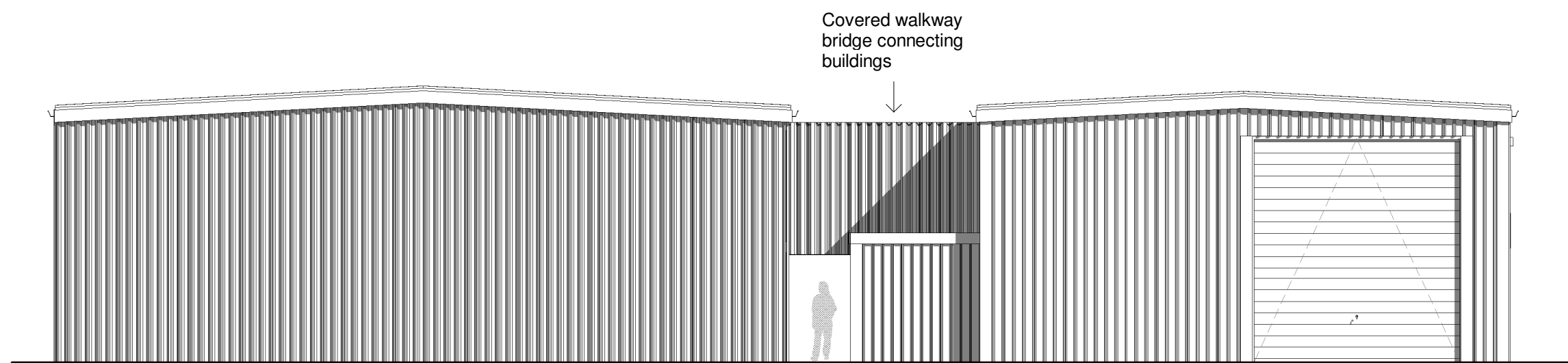
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| PROJECT | Phillips & Son Roofing |
| SHEET   | Existing 3D            |

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| CLIENT     |            |                | Mr Liam Phillips |              |
| Date       | 28/09/2025 | Project number | 28092025         | Scale (@ A3) |
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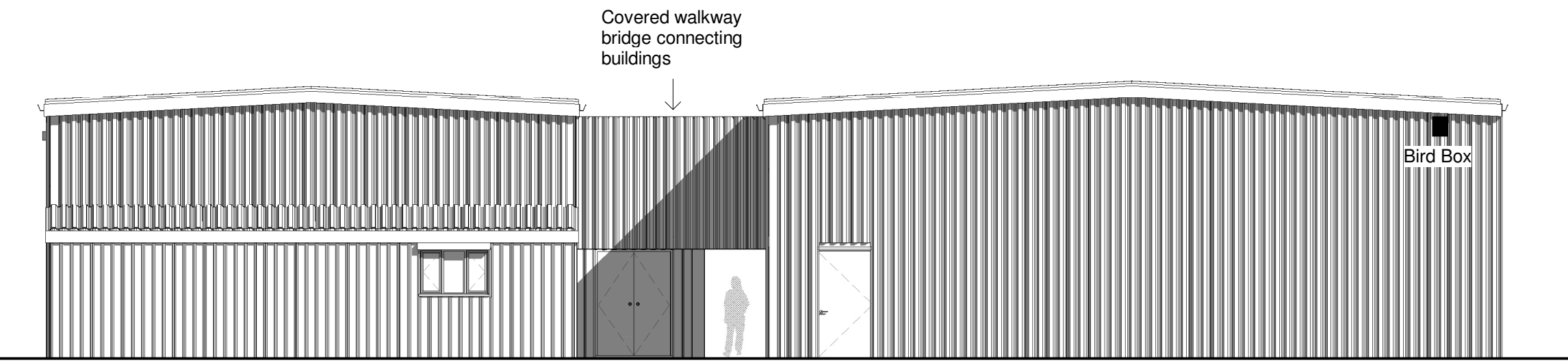


**APPENDIX B:**  
Proposed Site Plans



## Front Elevation

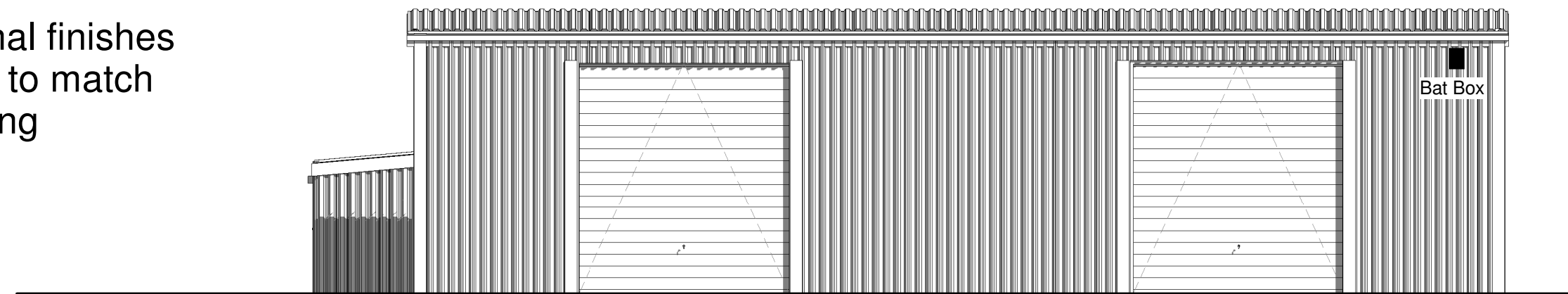
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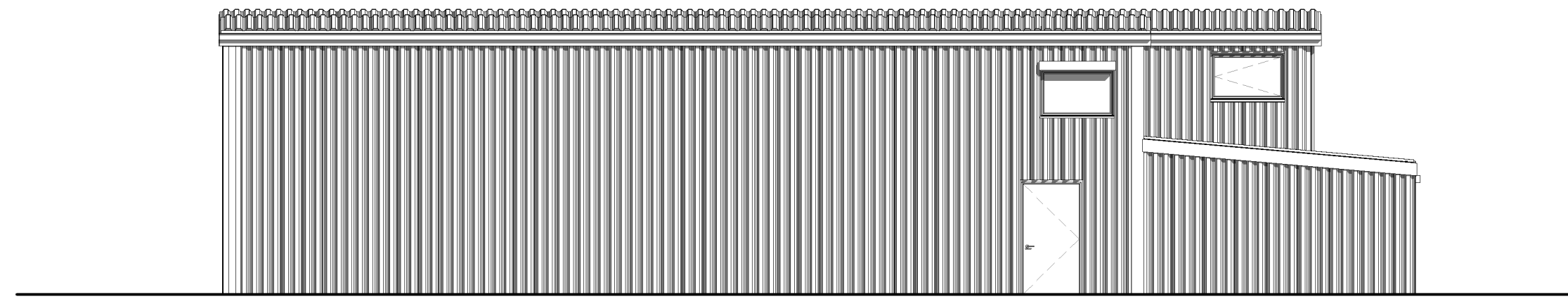
## Rear Elevation

**Note:**

All new external finishes  
and materials to match  
existing building



## Left Elevation



### Right Elevation

Do not scale from this drawing, any dimensions show are indicative only and are subject to verification onsite. The contractor is to set out, check and co-ordinate all dimensions on site during the course of the works, this drawing is to be read in conjunction with all other plans, structural calculations and specifications.

All works to be carried out in accordance with the latest appropriate codes of practice and to comply with current building regulation  
Prior to commencement of the building works the contractor should:

1. Ensure that all drawings are approved for use by the planning department and (if applicable) by building control.
2. Inform the building control department that works have commenced onsite.
3. Verify the boundary lines and ground conditions, including checking of all the services (gas, water, electric, telecom and sewers) prior to any excavation work.
4. Request a copy of the party wall award where works affect a party wall or involve excavations within 3m of adjoining buildings.
5. Where the works include demolition to ensure that all elements of the building and adjoining structures are accounted for and that all necessary propping and temporary works are in place.
6. Works carried out under a building notice or prior to the approval of the drawings all works are at the contractors own risk.
7. Any discrepancies either between the written dimension and the site dimensions or between the drawing and other consultants/ suppliers drawings should be brought to the attention of the client.

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| STATUS | PURPOSE OF ISSUE        |



PROJECT

## Phillips & Son Roofing

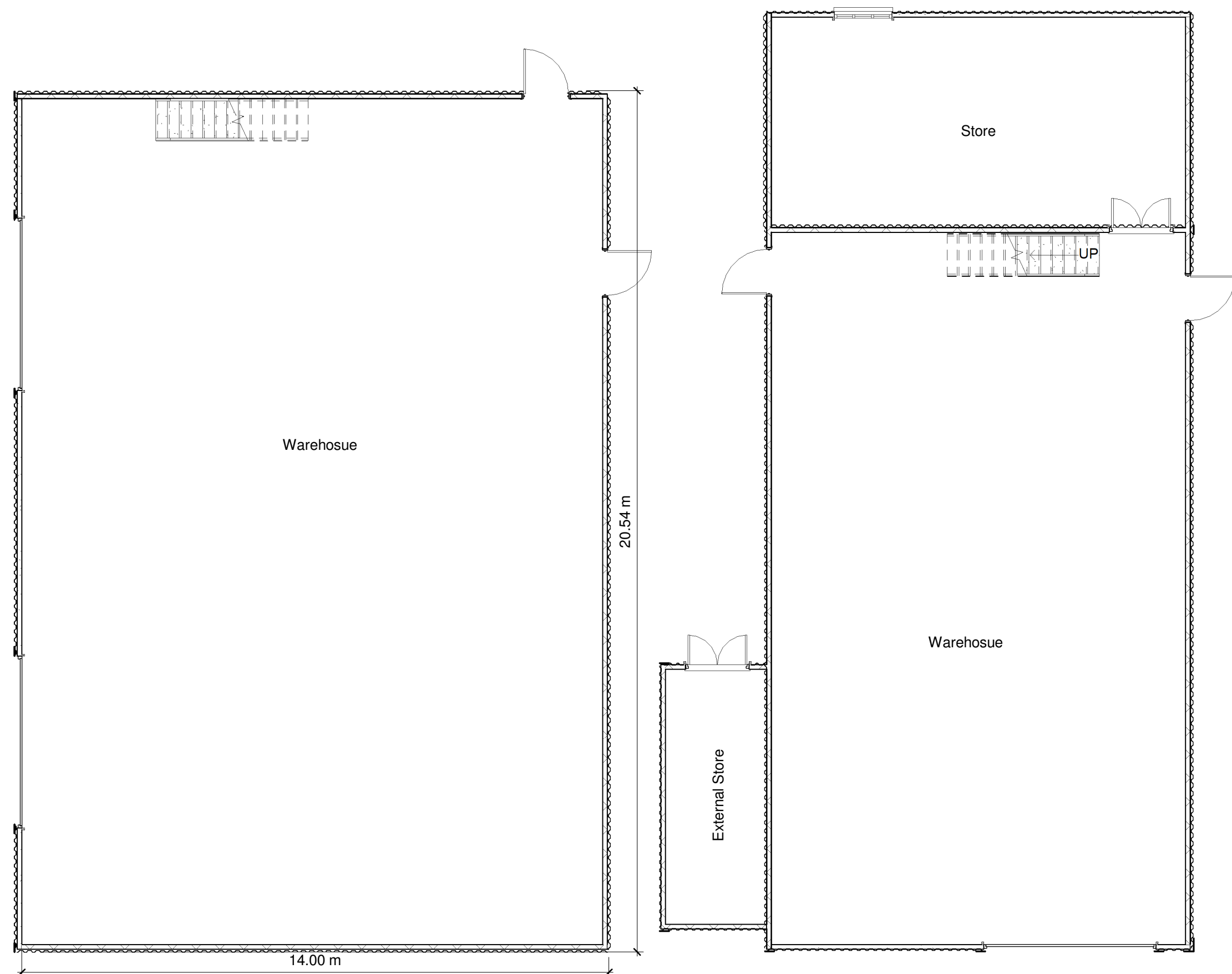
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## Proposed Plans

CLIENT

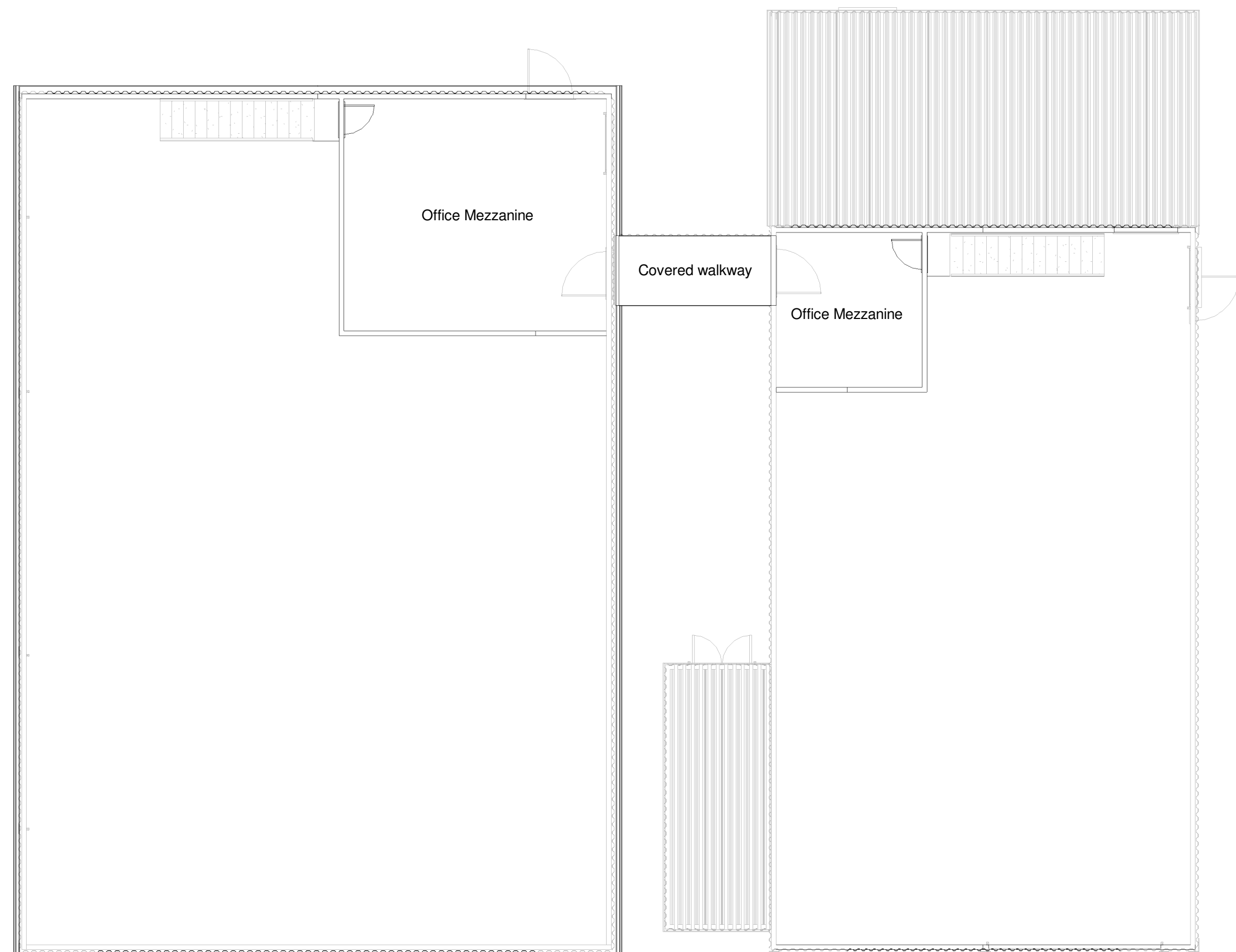
Mr Liam Phillips

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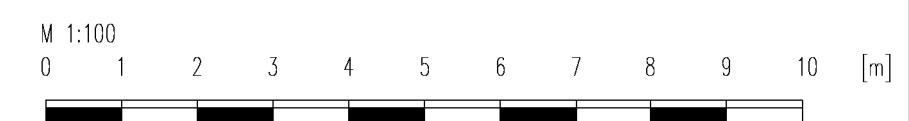


## Ground Floor

1 : 100



**First Floor**  
1 : 100





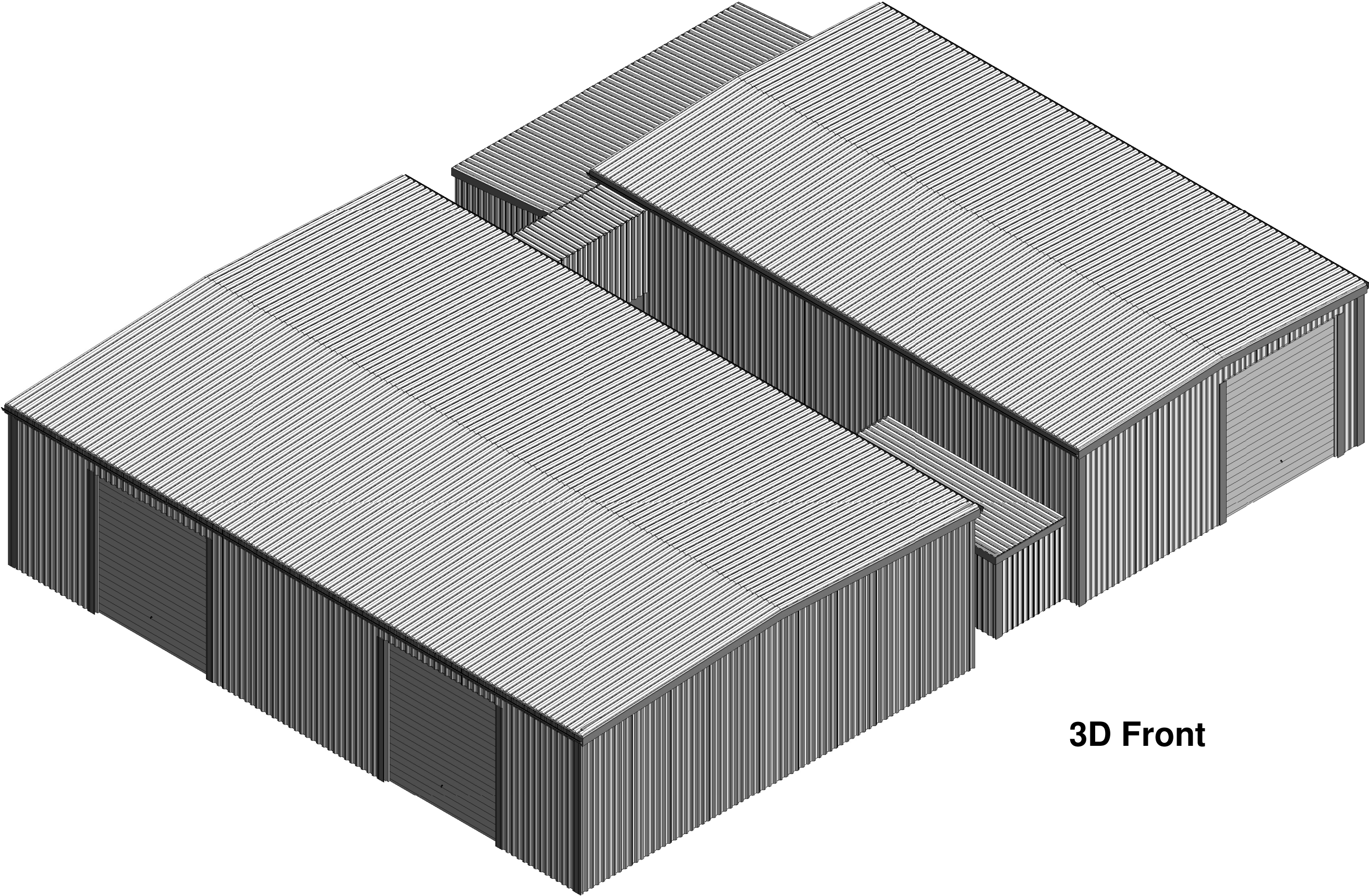
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| CLIENT               | Mr Liam Phillips           |                         |     |
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3D Front

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|  | No. | Description | Date | <div><br/>www.ccs-solutions.co.uk</div> |        |                         |                  | PROJECT<br>Phillips & Son Roofing |                | CLIENT<br>Mr Liam Phillips |                            |              |
|  |     |             |      |                                                                                                                              |        |                         |                  | SHEET<br>Proposed 3D              |                | Date<br>28/09/2025         | Project number<br>28092025 | Scale (@ A3) |
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## **APPENDIX C:** NRW Flood Maps

Flood Map for Planning - Detail  
23176 - Canal Side Yard, Canal Road

Legend

--- Flood Defence Locations

TAN15 Defended Zones

▨ Rivers

▨ Sea

▨ Rivers and Sea

Surface Water and Small Watercourses

■ Flood Zone 3

■ Flood Zone 2

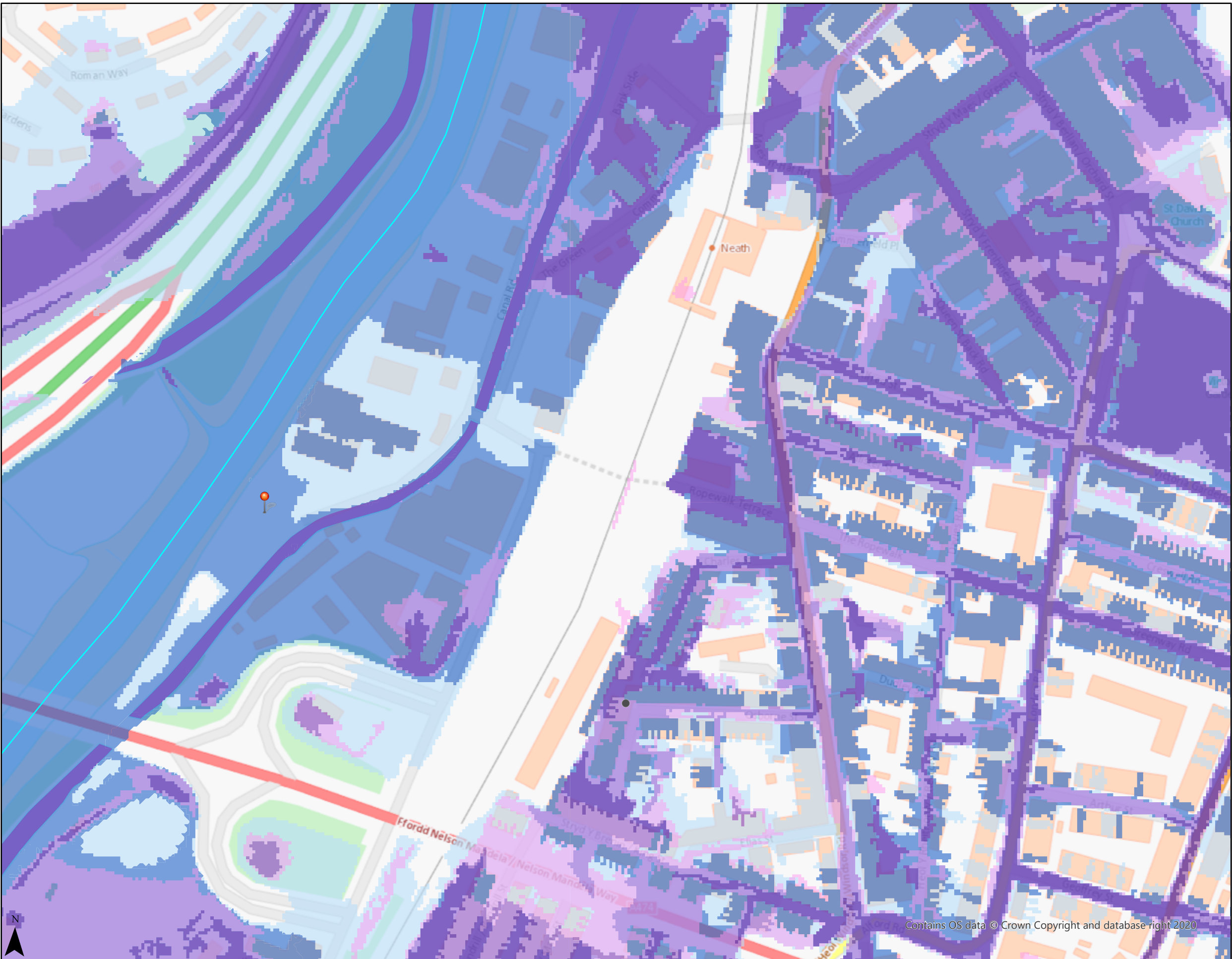
— Main Rivers

Rivers

■ Flood Zone 3

■ Flood Zone 2

● Recorded Flood Extents



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Scale at A3: 1:2,500

Date: 02/10/2025

Disclaimer

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

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0.1 0.05 0 0.1  
km

British National Grid

Flood Map for Planning - Detail  
23176 - Canal Side Yard, Canal Road

Legend

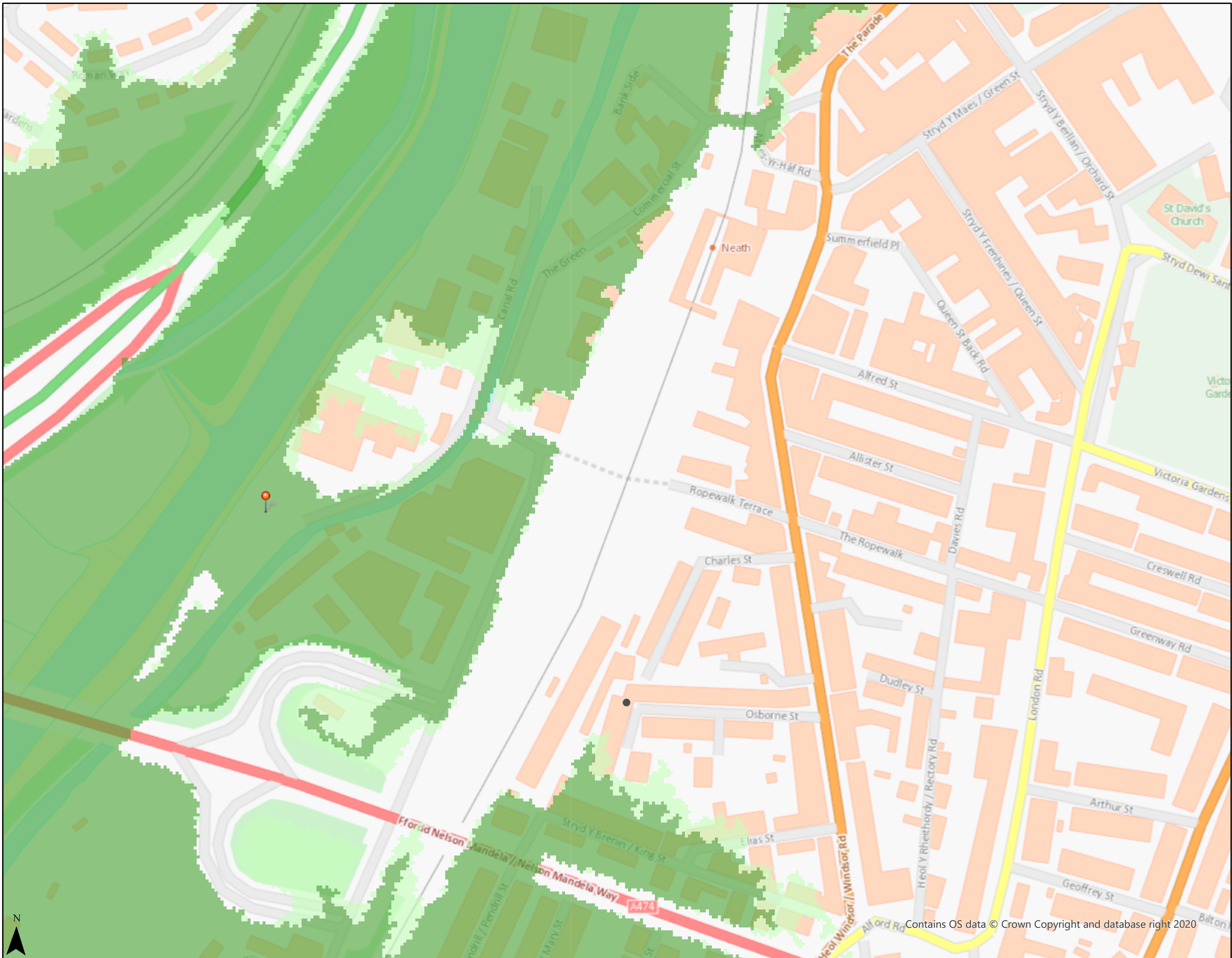
Sea

Flood Zone 3

Flood Zone 2

Scale at A3: 1:2,500

Date: 02/10/2025



0.1 0.05 0 0.1  
km

British National Grid

Disclaimer

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