

Flood Evacuation Management Plan For SWITCH, Port Talbot

Final

Version S3-P01

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Prepared for: Morgan Sindall Construction and Infrastructure Ltd

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Contract

This report describes work commissioned by Morgan Sindall Construction and Infrastructure Ltd by an instruction dated 31/07/2025. The Client's representative for the contract was Jason Vaughan. Suzanne Tulloch and George Wiggin of JBA Consulting carried out this work.

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The methodology adopted and the sources of information used by JBA in providing its services are outlined in this Plan. The work described in this Report was undertaken between 01/08/2025 and 11/09/2025 and is based on the conditions encountered and the information available during the said period. The scope of this Plan and the services are accordingly factually limited by these circumstances.

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Abbreviations

ADEPT	Association of Directors of Environment, Economy, Planning & Transport
AEP	Annual Exceedance Probability
CC	Climate change
FCA	Flood Consequence Assessment
FFL	Finished Floor Level
NRW	Natural Resources Wales
PEEP	Personal Emergency Evacuation Plan
TAN15	(Welsh Assembly Government) Technical Advice Note 15
FEMP	Flooding Emergency Management Plan
JBA	Jeremy Benn Associates

Definitions

Flood Risk Assessment: A site-specific assessment of all forms of flood risk to the site and the impact of development of the site to flood risk in the area.

Fluvial flooding: Overland flooding occurring from a river, lake or stream overflowing.

Surface water flooding: Overland flooding occurring from rainwater being unable to drain away through existing drainage systems.

Reservoir flooding: Water escaping from a reservoir, for example as a result of dam failure.

Risk: In flood risk management, risk is defined as a product of the probability or likelihood of a flood occurring, and the consequence of the flood.

TAN15: Provides technical guidance which supplements the policies set out in Planning Policy Wales and Future Wales in relation to flooding and coastal erosion.

The next two pages of the Flood Response Summary are to be printed and made available in communal areas. This summary should also be printed and made available in all induction for new and those who will be on site.

Following the creation of this plan and subsequent updates, this summary is also expected to be shared with all staff / individuals on the site to inform them of the response and evacuation procedures should flooding occur.

Flood Response Summary

Person(s) responsible for the plan	Site Manager
Person(s) responsible for activating the evacuation procedure	Site Manager
Site name	SWITCH, Port Talbot
Site address	Oakwood Road
Proposed site use	Research and Industrial Hub
Nearest hospital	Neath Port Talbot Hospital

Triggers and Response

Phase 1: Be aware and prepare. Close the staff and visitor's car park, those wishing to leave the site in vehicles must do so now. Make ready for the possibility of a flood event following the activation of any of these triggers:

- **Flood Alert** from Natural Resources Wales.
- **Amber Weather Warning** for rainfall / storm conditions by the Met Office for the local area.

Phase 2: Act, adapt and Evacuate: Lab work is to cease. Site users to evacuate site and meet at the assembly point. Phase 2 is activated following any of these triggers:

- **Local observations** from those on site or from CCTV indicate an immediate risk of flooding.
- **Flood Warning** from Natural Resources Wales
- **Reports** of local road closures flooding.

Phase 3: Onsite – containment, all persons still on the site are to seek refuge in the designated area on the buildings first floor until flood waters recede from within and surrounding the site.

- **Flooding observed** on site or on the evacuation route.
- **Reports** of a reservoir breach.
- **Advised** to contain by the emergency services.

Emergency Contact Numbers

Organisation	Contact Number
Natural Resources Wales	0300 065 3000
South Wales Police – Heddlu Cymru	Emergency: 999 Non-emergency: 101
South Wales Fire and Rescue Service – Gwasanaeth Tan ac Achub	Emergency: 999
Neath Port Talbot Council	Urgent but not life-threatening: 01639 686868
Welsh Water – Dwr Cymru	0800 052 0130
Electrical emergency number	105
Gas emergency number (24hr)	0800 111 999
National Grid	0800 6783 105

Evacuation Route

The evacuation routes are shown in Figure 0-1 and the assembly point for Site Manager(s) and Staff is on the grass verge alongside the A4241 roundabout at the junction with Harbourside. Evacuation should be undertaken before flooding occurs on-site within phase 2 of this plan.

All evacuation following assembly should follow the route highlighted, A48 to M4.

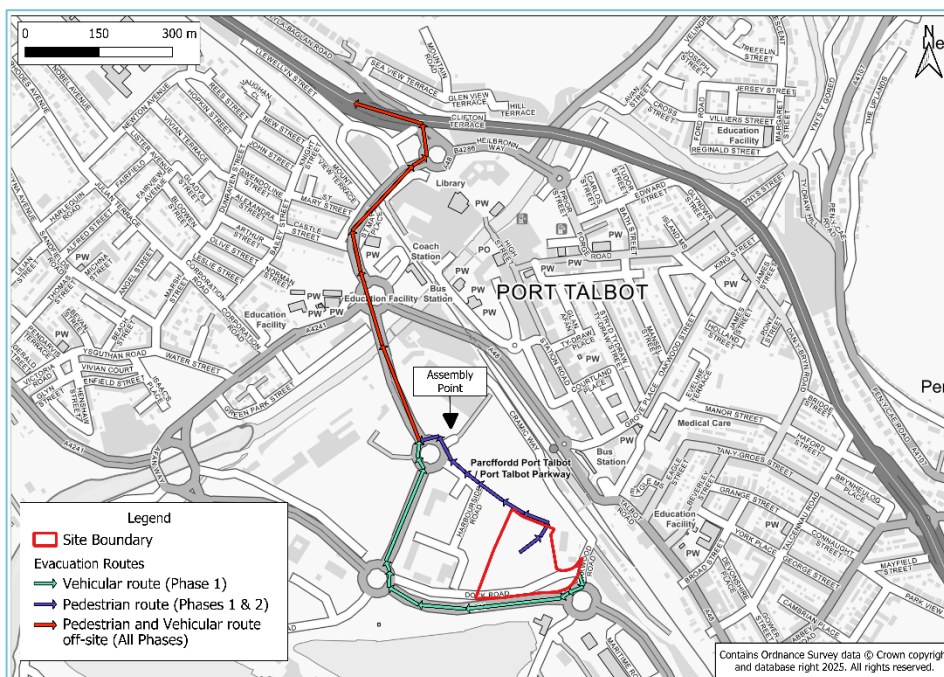


Figure 0-1: Evacuation Route with Assembly Point

Flood Risk Summary

Flood Risk From Rivers

The Natural Resources Wales (NRW) Flood Map for Planning indicates that a large portion of the northern areas of the proposed research and industrial hub development at Oakwood Road is in an area at **medium** risk of flooding from the River Ffrwdwyllt and the River Afan, with the rest of the site located in low-risk areas.

Detailed post-development hydraulic modelling for the site was run for the 1% AEP (+25% climate change) flood event. The model results show that the proposed development site experiences flooding across the site, with depths upwards of 1.0m within the on-site SuDS features and across the site access road onto Oakwood Road for approximately 4 hours, with depths above 0.3m remaining within and surrounding the site for upwards of 28 hours. The SWITCH building remains flood free with shallow depths below 0.3m around the building's footprint.

During this scenario, safe access and egress cannot be guaranteed throughout the flooding event as the access route along the cycle path northeast of the site will likely become flooded within half hour of flooding first occurring on-site.

Within the site boundary, the post-development Hazard to People classification varies, 'Danger for all' areas are located southwest along Dock Road, which acts as a flood conveyance route around the site, across the site access to Oakwood Road and the SuDS feature to the south of the site access road. much of the site is within the 'Danger for some' category with hazard decreasing to 'Danger for some' and caution surrounding the SWITCH building and no hazard across within the footprint of the building. The modelled duration of flooding to the area is approximately 20 hours before flood water begins to recede.

Flood Risk from Seas

NRW's Flood Risk Assessment Wales (FRAW) flood mapping indicates that the entirety of the proposed site is located in an area at **very low** risk of tidal/coastal flooding.

Flood Risk from Surface Water

NRW's Flood Risk Assessment Wales (FRAW) flood mapping indicates that the area stretching from the northwest boundary across the northeast of the site is at **medium risk** most of the site is located in an area at **low** risk of flooding from surface water.

Flood Risk from Groundwater

There are no documented cases of groundwater flooding at the site. The JBA Flood Consequence Assessment (FCA) 2024 considers risk of flooding from groundwater to be **low**.

Flood Risk from Reservoirs

NRW flood maps indicate that the proposed development site is in an area that is at risk of flooding from a reservoir failure. However, reservoirs in Wales are strictly regulated for safety by NRW under the Reservoirs Act 1975. Therefore, the probability of failure, and consequently the risk, is judged to be **extremely low**.

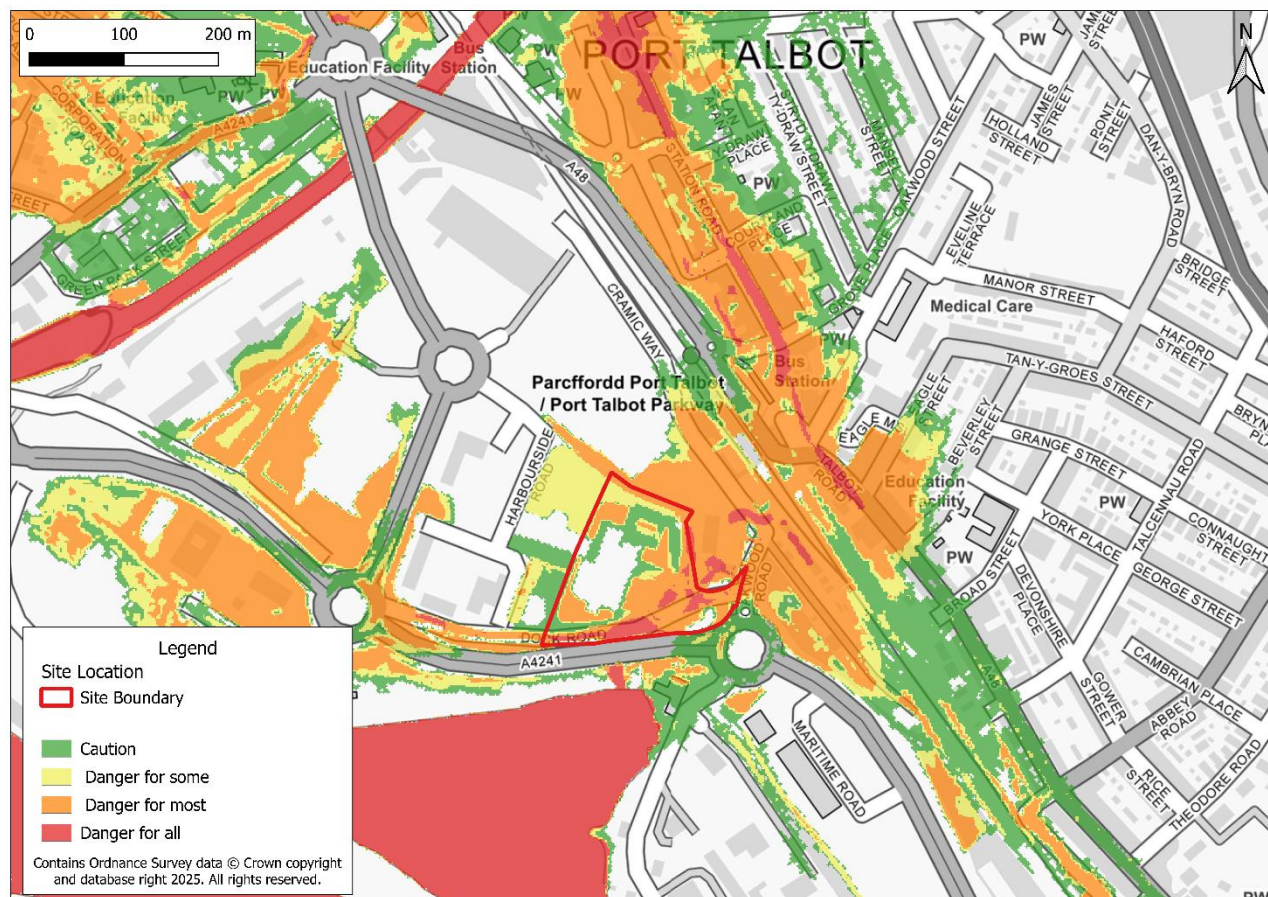


Figure 0-1 - Post-development Hazard to People Map

Section One: Flood Response

1 Phase One: Be Aware and Prepare

The Site Manager (or delegate) is responsible for monitoring triggers and enacting the responses.

1.1 Phase One Trigger Levels

Phase One of the plan will be enacted as a result of any of the following triggers being met:

- Natural Resources Wales issues a Flood Alert for the [Rivers Afan and Kenfig](#) area.
- The Met Office issues an Amber Weather Warning for rainfall in the area.

1.2 Phase One Response Actions

These response steps are for the Site Manager (or delegate) to complete during periods they are at the premises. This page can be printed separately and marked in an incident to evidence actions have been completed.

Phase One Actions	Completed (Y/N)
1. Make staff, visitors and all those on site aware that the site is on standby and to be prepared for the possibility of flooding.	
2. Instruct employees and site users that the car park is to be closed and that if they wish to leave the site using their vehicles, they must do this now. Then close the car park to vehicles.	
3. Obtain the visitor log and a register of staff on site.	
4. Instruct staff to ensure that potentially hazardous / polluting materials are safe, secure and away from flood risk areas or above possible flood levels.	
5. Tie / anchor down or move outdoor objects that could float away in flood water to a safe location.	
6. Check the pedestrian evacuation route on the cycle path that exits onto Harbourside is clear and accessible for evacuation.	
7. Make sure that, should containment be necessary, supplies for safe refuge are stocked, including water and food enough for up to 28 hours of containment on-site.	
8. Monitor the triggers listed in Phase Two: Act, Adapt and Evacuate, and be prepared to activate.	

2 Phase Two: Act, Adapt and Evacuate

The Site Manager is responsible for monitoring triggers and enacting the responses as outlined in this section or delegating this responsibility monitoring and response capability during hours the site is operational and immediately before and after operating hours. Throughout this phase, if there is any risk to life, then any individual must call 999 and request emergency services. Await their instructions and prioritise them over those listed in the plan.

2.1 Phase Two Trigger Levels

Phase Two of the plan will be enacted as a result of any of the following triggers being met:

- Natural Resources Wales issues a Flood Warning for areas [River Afan at Port Talbot](#) and/or [River Ffrwdwyllt at Taibach, Port Talbot](#).
- Observations or reports of flooding on the A48 and immediately adjoining roads.
- Reports of road closures in the local area due to river flooding, notably at Talbot Road and Oakwood Road.
- The on-site water sensor at the east of the site registers high levels of water are present in the SuDS features.

2.2 Phase Two Response Actions

These response steps are for the Site Manager (or delegate) to complete during periods they are at the premises. This page can be printed separately and marked in an incident to evidence actions have been completed.

Phase Two Actions	Completed (Y/N)
1. If a flood warning has been issued, check for flooding in Wales on the Government website or by calling Floodline on 0345 988 1188 to see if your area has been affected.	
2. Check the pedestrian route remains dry and safe to use. If it is not, proceed to Phase 3.	
3. Instruct all site users to cease all lab work in line with safe working procedures.	
4. Instruct all site users to muster in the building's lobby prior to evacuation of the site.	
5. Instruct all site users to evacuate the site and proceed to the assembly point on the grass verge alongside the A4241 roundabout via Harbourside.	
6. Where it is safe to do so, upon the site manager's exit of the building, secure the building once it is confirmed all site users have left. Proceed to the assembly point.	
7. Once all are evacuated to the assembly point and all site users are accounted for, direct site users to continue to their places of safe refuge (e.g. home or homes of friends or family).	
8. Use appropriate communication channels to inform off-site staff and visitors not to visit the site.	
9. Monitor the triggers listed in Phase Three: Containment, and prepare to activate.	

3 Phase Three: Containment

The Site Manager is responsible for monitoring triggers and enacting the responses as outlined in this section or delegating the responsibility for 24/7 monitoring and response capability.

This phase is activated when any of the below trigger levels are reached.

Throughout this phase, if there is any risk to life, then any individual must call 999 and request emergency services. Await their instructions and prioritise their advice over the ones listed in the plan.

All staff and site users **must** remain contained on the site with the implementation of this phase of the Flood Emergency Management Plan.

The duration of flooding is modelled to exceed 20 hours; therefore, it is likely that it will not be safe to leave the site for approximately 18 to 28 hours.

3.1 Phase Three Trigger Levels

Phase Three of the plan will be enacted as a result of any of the following triggers being met:

- Flooding is observed on site or on or near the pedestrian evacuation route.
- Reports of a reservoir breach.
- Direction from the Emergency Services to immediately seek safe refuge.

3.2 Phase Three Response Actions

These response steps are for the Site Manager (or delegate) to complete during periods they are at the premises. This page can be printed separately and marked in an incident to evidence actions have been completed.

Phase Three Actions	Completed (Y/N)
1. Inform everyone on site they must remain within the designated safe refuge location on the first floor and that evacuation is no longer possible.	
2. Undertake a sweeping check of the building (if safe to do so) and check that all staff and site users have reached the safe refuge location of the property.	
3. Take a register of all employees and site users that are contained on-site.	
4. Ensure site users have access to essentials including food, warmth and water.	
5. Remain in containment until water levels have receded from around the site or directed otherwise by the emergency services.	

4 Evacuation and safe refuge

4.1 Evacuation route

Harbourside Route (**This route is viable during Phase 1 & 2**): Evacuate via the cycle path that runs along the site's northeastern boundary. Access from the site to this path is in the southeast corner of the site following the pedestrian pathway from the SWITCH buildings main entrance, follow the path northwest towards Harbourside. Thereafter, follow Harbourside north and then west. Assemble at the roundabout where the A4241 meets the A48 walking or driving across the overpass towards the M4 junction

Oakwood Road Route (**Vehicular route Only to be used during Phase 1 Prior to flooding along access Road or On-site**): Exit the sites main entrance from the Carpark to the east. Turn Right onto Oakwood Road and south taking the 3rd exit on the roundabout. Continue to follow the A4241 west and then take the 3rd exit of the roundabout north towards the M4. Then continue to follow signs to the M4 via the A48.

Staff and visitors should seek safe refuge if evacuating the site by travelling home or with friends and family. To leave the Port Talbot area, site users should use the M4 east or west due to it being raised above the surrounding landscape and levels of flooding.

If Phase 3 of the FEMP is in effect then all site users should **NOT** leave the site and should seek safe refuge as detailed in 4.2 On site-containment

4.2 On site-containment

Containment in a safe refuge is when individuals will remain within the property when flooding occurs. The safe refuge location is the upper floor of the SWITCH building.

The building on site is not considered to be at flood risk during a 1% AEP +CC climate change event.

Therefore, if Phase 3 of the FEMP is in effect off-site evacuation should not be attempted.

The upper floors will provide suitable welfare facilities and will be safely above the flooded area for the duration of the flood event. Site users will have sufficient access to food, water and warmth.

4.3 Assessing Risks to Safe Refuge

When determining whether on-site containment in a safe refuge remains a safe option, consider the following elements:

- What is the potential duration for the flood event?
- What is the time of day? If the event continues into the night, you may be there for additional hours until it is light and safe to move out of the building.
- Are there any medical conditions which take priority?
- Are there enough resources on the site to care for all personnel?
- Are phones charged and do you have access to a portable charger, so you are able to listen for updates?

4.4 Warning and Lead Times

National Resources Wales (NRW) provide a flood warning service, notifying of the possibility of a fluvial flooding affecting the site. This along with Met Office weather warnings, are the most reliable sources for predicting fluvial flood events, with the warnings being suitable on which to base the necessary preparation measures that need to be taken prior to evacuation.

Advice for the public on Floodline: **0345 988 1188**

- Flood Alert: Rivers Afan and Kenfig
- Flood Warnings: River Afan at Port Talbot / River Ffrwdwyllt at Taibach, Port Talbot

NRW aims to provide between 2 and 12 hours lead time between a Flood Alert being issued and possible flooding occurring and a minimum of 1-2 hours lead time for Flood Warnings on rivers.

Table 4-1 - Flood Alert and Warning Summary

Flood code	What it means
 Flood Alert	Flooding is possible, be prepared
 Flood Warning	Flooding is expected, immediate action is required
 Severe Flood Warning	Severe flooding and danger to life
Warning no longer in force	Warning has been removed in the last 24 hours

Further details and explanations of flood alerts and warnings are provided in Section 11 of the plan.

5 Flood Evacuation Management Plan Background

5.1 Aim and Objectives

This Flood Evacuation Management Plan records the contingency measures drawn up to maximise the safety of persons at the proposed research and industrial complex development at Oakwood Road, Port Talbot.

Aim:

To minimise the risk of harm to staff, visitors and any other individuals on the site by promoting safety at the development during a flood and immediately after a flood event.

Objectives:

- To reduce the risk to life;
- To establish procedures for activating the plan;
- To define the areas of responsibility for those participating in the plan.

5.2 Scope

This Flood Evacuation Management Plan has been informed by the Flood Consequence Assessment (FCA) completed by JBA Consulting in November 2024 on behalf of Morgan Sindall Construction Ltd for the SWITCH research and industrial complex development at Oakwood Road, Port Talbot.

The Flood Evacuation Management Plan has been written for a fluvial and surface water flood events which could cause flooding to the surrounds of the site.

This plan has been based on the following guidance documents:

- Planning Policy Wales and Future Wales
- TAN 15
- Flood risk emergency plans for new development; guidance for planners – Environment Agency and ADEPT Flood risk emergency plans for new development (2019);
- Local planning guidance.

5.3 Who is Responsible for the Plan?

In this plan, the term "Site Manager" is used and refers to the person responsible for the research and industrial units of the site, for coordinating the response plan and for facilitating evacuation. They may be individual site managers per commercial unit.

A copy of this plan will be given to the Management Company, which will be responsible for ensuring all staff are aware of the emergency response plan and that it is reviewed at least annually.

5.4 Critical Success Factors

For the plan to be effective, the following actions must be undertaken in advance of activation of the plan:

- Receive app notifications or sign up for severe weather warnings for Wales from the [Met Office Weather App](#), and [Met Office: Guide to email alerts](#);
- Go to [NRW: Sign up for flood warnings](#) to receive Flood Alerts and Warnings from Natural Resources Wales;
- Deep water signage should be put in place across the site at the boundary of the SuDS features
- Provide a summary of this plan in in both English and Welsh (Cymraeg) in communal areas such as the lobby.
- Install water level sensors and/or CCTV cameras that can track when flooding first occurs on site.
- Ensure a stock of essential supplies for safe refuge, including food, water and blankets that is routinely checked at least monthly and when Phase 1 of this plan is triggered.

5.5 Health and Safety

For the success of the Flood Evacuation Management Plan, the Site Manager must acknowledge the following before undertaking any evacuation procedures.

- If there is a risk to life at any stage of the evacuation process, the emergency services should be called on 999; request their assistance and await their instructions.
- Each individual should assess each situation to check it is safe to proceed and request help if required. Those on site have not been trained as a member of the emergency services and should never be asked to do anything that could put their life at risk.

5.6 Training and Exercising the Plan

This Plan should be trained and exercised by all relevant staff, and tests should be done that include residents or site users to maintain familiarity with procedures.

Identified lessons are to be formally recorded, with an effective implementation plan developed to embed those lessons.

5.7 Plan Review Schedule

For the plan to be a success, those responsible for the plan will need to ensure that all details within the plan are regularly checked, rehearsed, reviewed and revised. It is essential that:

- The plan is reviewed annually or following any flooding incident that triggers the activation of this plan.
- The plan is reviewed and amended following any lessons identified from a flood incident, training and/or exercises.
- That an amendment record is kept and updated following any reviews and subsequent revisions.
- That amendments to the plan are communicated to all site users, including staff, residents and visitors.

6 Precautionary Actions

6.1 General Considerations

Listed below are general precautionary actions, tasks and considerations that the resident must consider.

6.1.1 Monitoring Persons on Site

It is important to remain aware of what staff, visitors and other site users are on site to make it easier to communicate messages to those who need to be aware of flood risk and to those away from the area who may be returning during a flood event.

This also helps keep track of the staff and visitors leaving the site during an evacuation so that missing persons can be identified and that the register can be ready to give to the emergency services if requested.

6.1.2 Vulnerability of Site Users

The vulnerability of site users is unknown at this stage. However, it is possible that elderly staff or visitors and people with disabilities or long-term illnesses will be present on site.

If individuals on site are vulnerable due to disabilities etc., they are to have priority as they may require extra assistance. During evacuation, these vulnerable people may have extra needs that need to be catered for. It is recommended that provisions are made to accommodate these in the event of evacuation. A greater lead time may need to be given to allow additional assistance to be made in good time.

6.2 Preparedness

You can check the [Be Flood Ready](#) page [Understanding your Flood Risk](#) for more information on preparing for a flood.

6.2.1 Flood Kit

On receipt of a Flood Alert (prepare), it is strongly advised that site managers prepare a Flood Kit to make the evacuation or containment easier should it be necessary. A Flood Kit should include everything you may need if you must evacuate. The following items are considered essential to include in a Flood Kit on activation of Phase One: Be Aware and Prepare.

- Staff register
- Building Keys
- Mobile phone and charger.
- First aid kit

Additional considerations:

- Torch and batteries (not rechargeable).
- High Visibility Jacket (clearly marked as site manager)
- A laminated copy of the emergency actions as outlined in this plan.
- Bottled water
- The means to wash hands (e.g. hand sanitiser)

It is recommended that such resources and important documents kept on site are kept in an accessible, safe place and sealed so that these can be promptly accessed.

6.2.2 Commercial Stock and Hazardous Materials

It is advised that any materials on site that could be lifted by floodwater and / or that are pollutants or present a hazard to others are secured, contained and moved to areas not at risk or above the flood level.

On-site Chemical storage areas are designed as such that flooding should not affect its integrity. The on-site Nitrogen storage is within its own fixed cryogenic store that is not modelled to be affected by flooding and is not dependant on power supply to safely store eliminating the risk on-site of disruption of critical processes due to power loss.

7 Communicating Flood Risk

Any information communicated must be accessible to all relevant individuals. This means picking clear, direct, and timely communication formats. Alongside this, communications should be as accurate as possible to ensure all individuals have a shared understanding of the risk and their next actions.

Below are recommendations on communication methods that should be established and prepared on the site.

7.1 Informing Site Users

The Site Manager must ensure that all staff are aware of the Flood Evacuation Management Plan. The main objective of raising awareness is to ensure staff and visitors thoroughly understand their role and responsibility as part of the response procedure and what to do in a flood event.

7.1.1 Signage

To promote awareness of flood response, signage should be implemented across the site in both English and Welsh to alert individuals to the risk of flooding. Signage should also consider users with English not as a first language and should include appropriate alternative first languages if applicable. All Signage should be clearly visible within prominent locations on the site internally and on external notice boards.

7.2 Contacts directory

An emergency contacts directory should be prepared. This should include all key contact details for external organisations that may be contacted before, during, and after a flood event (e.g., insurance providers, utilities providers, etc.). An example contacts directory with key external organisations is provided below.

Organisation	Contact Number
National Resources Wales	0300 065 3000
South Wales Police – Heddlu Cymru	Emergency: 999 Non-emergency: 101
South Wales Fire and Rescue Service – Gwasanaeth Tan ac Achub	Emergency: 999
Neath Port Talbot Council	Urgent but not life-threatening: 01639 686868
Welsh Water – Dwr Cymru	0800 052 0130
Electrical emergency number	105
Gas emergency number (24hr)	0800 111 999
National Grid	0800 6783 105

Table 7-1: Emergency Contact Directory

8 Returning to Site

8.1 Returning to Site and Site Reopening

The intention of this section is to provide a list of actions for the Site Manager and Management Company to consider in the immediate aftermath of a flood event to maintain site safety.

Firstly it is important to find out if it is safe to return to the site. If floodwater has receded from the roads, the site is likely safe to return to. If the site has flooded, it is recommended that advice is sought from either of the following organisations before returning to the site:

- The emergency services.
- Your insurance company.
- Neath Port Talbot Council.

The government website contains flood guidance, including what to do if a flood happens and advice on clearing up after a flood: [Natural Resources Wales – What to Do After a Flood](#).

The British Damage Management Association also provides information and guidance on flood recovery and what should be expected from personal contractors: [Understand basic flood recovery procedures - BDMA \(British Damage Management Association\)](#).

The following list recommends actions to be taken immediately after the flood, as well as follow-up actions during the clean-up operations. The actions listed are not exhaustive and only seek to list generic recovery actions.

8.1.1 Immediate Actions

- Open doors and windows to provide ventilation to impacted area of the building.
- Speak to your building's insurance company's 24-hour Emergency Helpline as soon as possible for advice on dealing with your claim and assistance in recoverability.
- Make arrangements to deal with any secondary pollution or contamination due to the flood event (for example, backed up sewerage in the building). Contact your insurance company and arrange for an assessment and clean-up work (as required).

Section Two: Site Information and Flood Risk

9 Site Information

9.1 Site Location

The proposed development site is located in the Harbourside regeneration area of Port Talbot, South Wales. Proposed Development

The site is a Research, Development, and Innovation (RD&I) Hub for the decarbonisation of the steel and coal industries. The South Wales Industrial Transition from Carbon Hub (SWITCH) is a collaborative innovation centre working with academia and industry partners to develop and deploy new technologies, products, and processes to move towards a net zero carbon future.

The construction will consist of a mix of office space, laboratories, research and production areas, storage areas and external works. An extract of the development proposals is shown in Figure 9-1 below.

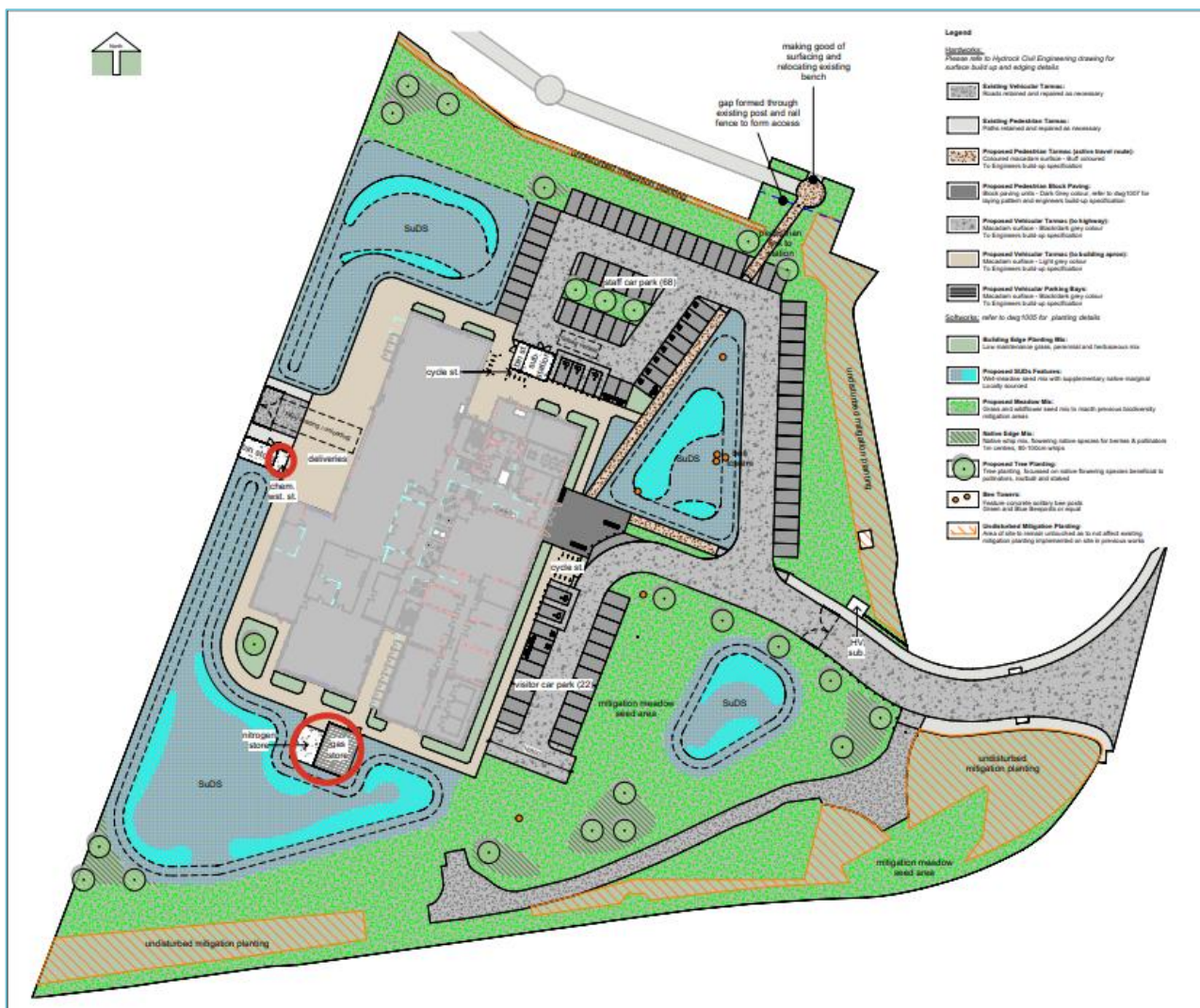


Figure 9-1 Development Plan(extract Drawing No. 26CB02 -FRL -30 -XX-D -L -1001)

The site buildings will have a minimum Finished Floor Level (FFL) of 7.9mAOD, and the ground levels around the building, including car parking areas, will be raised to 7.2 – 7.9mAOD.

9.1.1 Site Access

The main site entrance can be accessed via Oakwood Road from the west. There is a proposed pedestrian / cycle exit to the east of the site running northeast onto Harbourside Road.

The Land to the rear of the SWITCH building, adjacent to the sites western boundary is classified as third party land and is not designated as a public highway.

9.1.2 Local Geography

The proposed Harbourside strategic development site is located in close proximity to Port Talbot Docks, adjacent to the A4241 Harbour Way which bounds the site to the south. At the southern boundary of the site, the docks are located approximately 60-70m away. To the east and west, the site is bound by existing development, with Port Talbot Parkway station car park to the north. The site is approximately 2km north of the Swansea Bay coastline.

10 Flood Risk

10.1 Overview

The 2024 JBA Consulting Flood Consequence Assessment for the site identifies that the site is at very low risk of coastal flooding, medium risk of fluvial flooding, low to medium risk of surface water flooding, no risk of sewer flooding, low risk of groundwater flooding and low risk of flooding as a result of a reservoir or canal embankment failure.

The principal watercourses in the vicinity of the site are the River Afan, located 380m to the northwest of the site and Ffrwdwyllt 850m to the east. Both watercourses flow in a south-westerly direction, ultimately, into Swansea Bay.

NRW flood defences are present along the banks of the River Afan located to the northwest and west of the site. The site falls within an area benefiting from river flood defences on the River Afan. The Ffrwdwyllt discharges into the Port Talbot Docks approximately 560 meters south of the site via a culvert under the A4241 (Harbour Way), before flowing into the Swansea Bay.

10.2 Tidal and Coastal Flood Risk

The NRW's Flood Risk Assessment Wales (FRAW) Flood Mapping indicates that the entirety of the proposed site is located in an area at Very Low risk of Tidal/Coastal flooding. No figure has been provided as areas at very low risk are shown as transparent on the NRW FRAW map.

10.3 Fluvial Flood Risk

10.3.1 Fluvial Baseline

NRW's Flood Risk Assessment Wales (FRAW) flood indicates that a large portion of the northern areas of the proposed site is located in an area at medium risk of flooding from rivers, with a between 1% AEP and 3.3% AEP each year. However, the majority of the site is located within a low-risk area of flooding from rivers, with between a 0.1% - 1% AEP chance of flooding in any given year. The proposed development site is located within an Area Benefiting from Flood Defences for Rivers.

10.3.2 Fluvial Flood Modelling

Detailed post-development hydraulic modelling for the site was run for a 1% AEP (+25% climate change). The maximum flood level around the perimeter of the proposed building is 7.84mAOD. The proposed FFL of the building is 7.90mAOD. Consequently, the building is not predicted to flood. The ancillary areas of car parking and internal estate roads surrounding the building are predicted to experience flooding of less than 300mm. Flood depths are likely to exceed 1m along the southern and eastern boundaries of the site and

within the SuDS features. Depth will also be significant along the sites pedestrian evacuation route the cycle path to the northeast.

10.3.3 Fluvial Hazard to People

Buildings on site are modelled to remain dry. Flood hazard across the wider site remains as 'Caution' around the footprint of the building. The majority of the land to the northeast and southeast of the proposed building, is modelled to pose a 'Danger for most'. Areas identified in Figure 10-1 as 'Danger for all' are part of the SuDS features and conveyance strategy. Similarly, the development of SuDS 'wetlands' to the southwest and northwest of the building marks areas of 'danger to most,' where water will be attenuated.

Oakwood Road has a hazard to people rating of danger for some and areas of danger to all during the flood event. This hazard classification also continues west along Dock Road. The pedestrian access route northeast of SWITCH complex onto Harbourside Road has a maximum hazard to people rating of 'Danger for most'

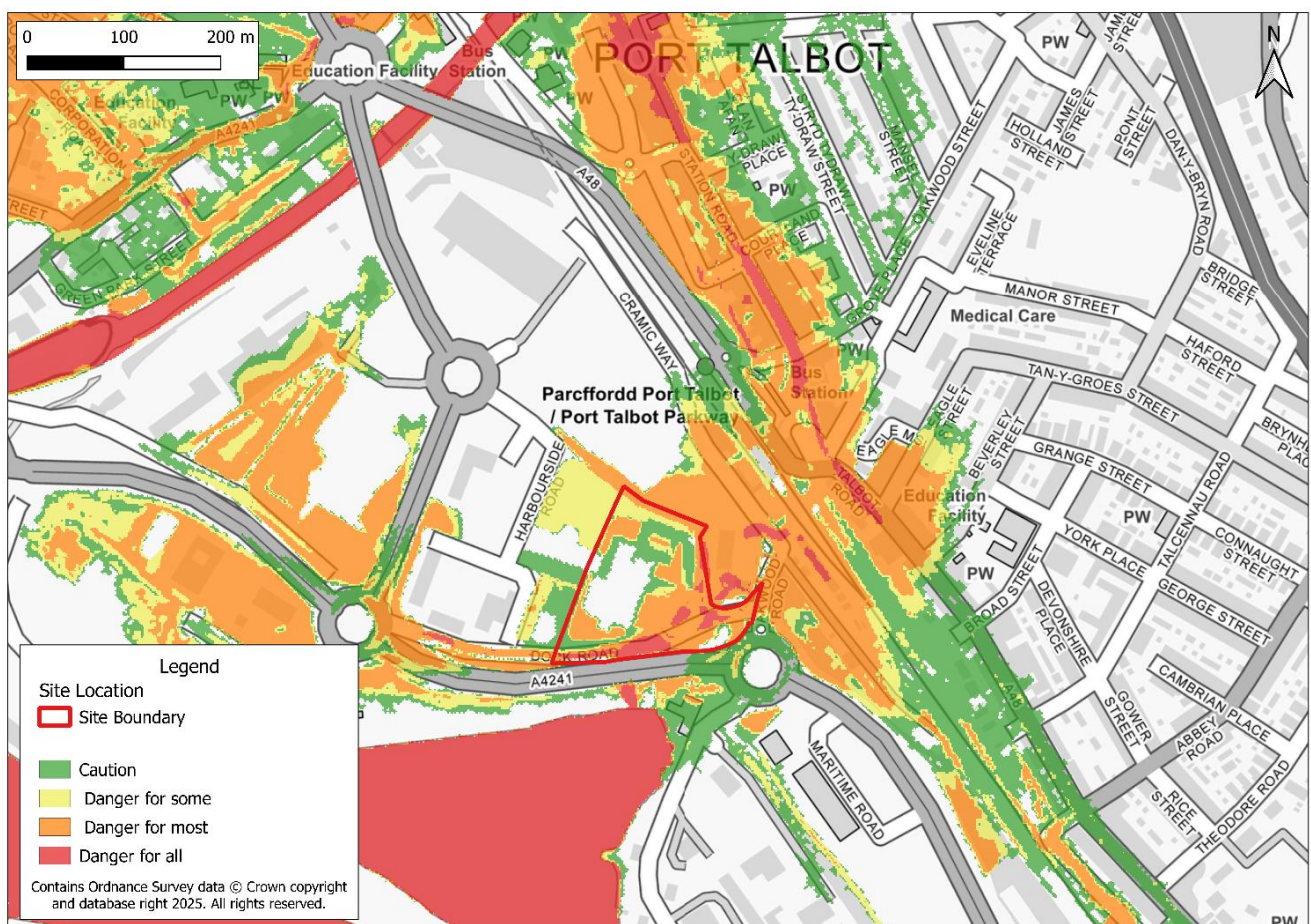


Figure 10-1 1% AEP + 25% Climate Change Hazard Map

10.3.4 Fluvial Flood Duration

From the first instance of flooding occurring in the local area, the modelled first instance of flooding on-site occurs at +4hr 50mins, it will not be feasible to evacuate the site after 5hr model time, inundation will increase for approximately 6 hours before reaching its maximum extent. The maximum flood extent remains for approximately 2 hours before beginning to recede. Flood water will remain on and around the site for upwards of 28 hours, although depths will be greatly decreased after approximately 20 hours.

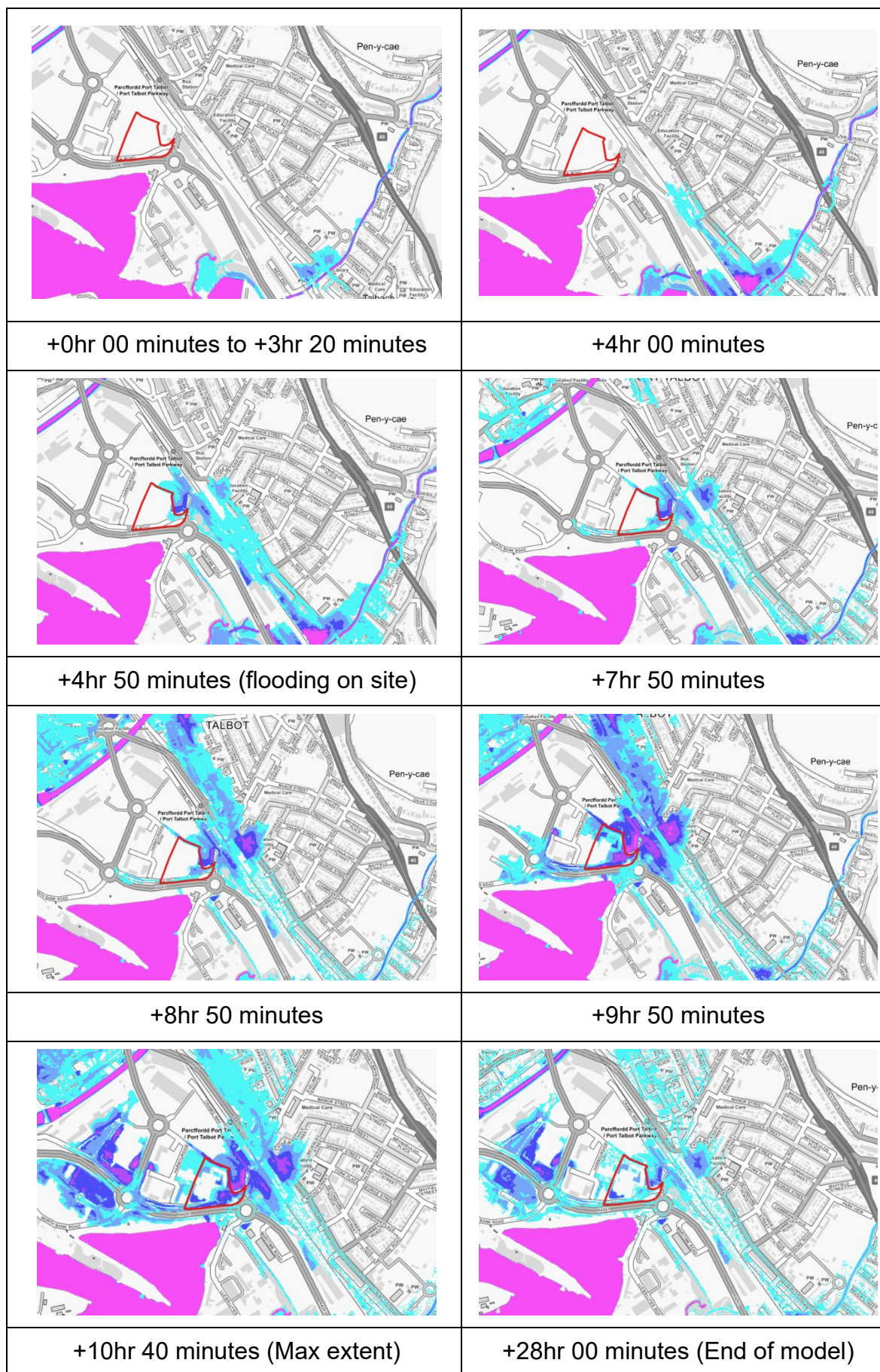


Figure 10-2 - Modelled Flood Depth Durations

10.4 Surface Water Flood Risk

NRW's Flood Risk Assessment Wales (FRAW) flood mapping indicates that most of the site is located in an area at low risk of flooding from surface water or small watercourses as seen in Figure 10-3. The majority of the site area has a chance of flooding between 0.1% and 1% AEP in any given year from surface water or small watercourses.

A horizontal area across the north of the site is in an area of medium risk of flooding from surface water and small watercourses. This area has a chance of flooding between 1% and 3.3% AEP of flooding each year from surface water or small watercourses.

The flood map for surface water and small watercourses flooding does not reflect the current topography of the site, nor the significant drainage infrastructure that allows water to flow under the A4241 and into the dock. Consequently, with knowledge of these factors and the proposed drainage strategy, the development is concluded to be at **low** risk of surface water and small watercourses flooding.

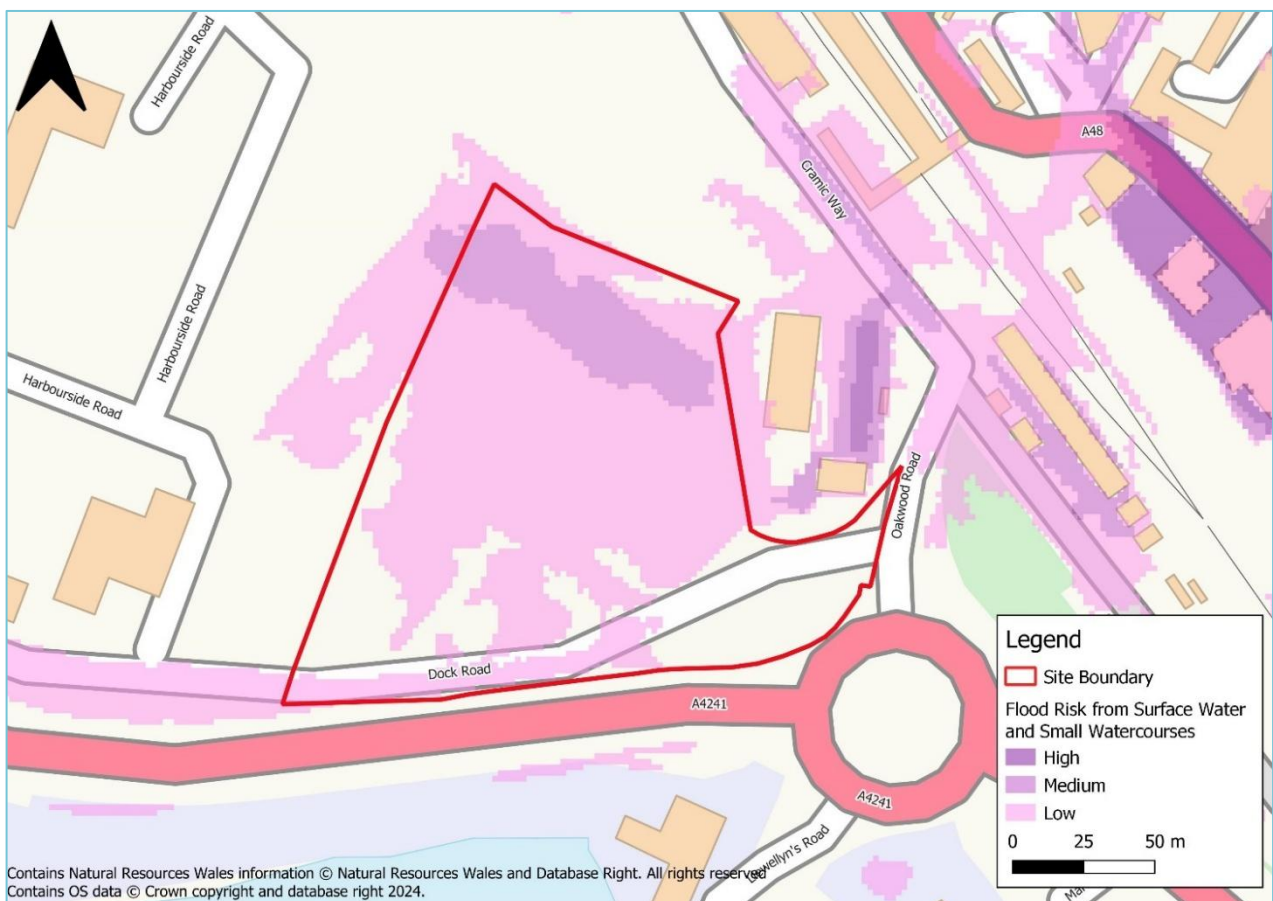


Figure 10-3 – FRAW Risk of Flooding from Surface Water and Small Watercourses Map

10.5 Groundwater Flood Risk

Groundwater flooding is caused by unusually high groundwater levels. It occurs as excess water emerges at the ground surface or within manmade underground structures such as basements. Groundwater flooding tends to be more persistent than surface water flooding, in some cases lasting for weeks or months, and it can result in significant damage. The risk of groundwater flooding depends on the nature of the geological strata underlying the site, as well as on the local topography.

The Neath Port Talbot Council (NPTC) Local Flood Risk Management Strategy (2013) states that “Historically, there are no specific areas of groundwater flooding recorded in the Neath Port Talbot area.”

The underlying superficial geology comprising Tidal Flat Deposits tends to be impermeable and therefore would not provide a pathway for groundwater to rise and impact this development. Furthermore, the site is extensively built upon ground raising it above the natural groundwater table established by the dock level.

From the information above, and our knowledge of the site, the risk of groundwater flooding has been assessed as **low**.

10.6 Flood Risk from Sewers

Flood risk from sewers is a result of excess surface water within the sewer drainage network. The NPTC Local Flood Risk Management Strategy (2013) states that 430 sewer events have been recorded by Dŵr Cymru Welsh Water. However, no sewer flooding issues are associated with the Harbourside area. The risk of sewer flooding for this site has therefore been assessed as **low**.

10.7 Risk of Flooding from Reservoirs

NRW flood maps indicate that the proposed development site is in an area that is at risk of flooding from a reservoir failure as seen in

Reservoirs in Wales are strictly regulated for safety by NRW under the Reservoirs Act 1975. The probability of failure and consequently the risk is considered to be **extremely low**.

Section Three: Information Sources

11 Information Sources

11.1 Directory of Information Sources

The following services provide a wide range of useful information for monitoring a flood event. The list is not exhaustive.

It may be useful to follow these sources on social media platforms.

Table 11-1: Met Office Flood Information Sources

Met Office Services	What to look out for
National Severe Weather Warnings	A severe weather warning for rainfall - this may indicate potential stormy conditions.
Weather forecast	Weather forecast for Port Talbot
Met Office subscribe to alerts	Register for warnings

Table 11-2: Environment Agency Flood Information Sources

Natural Resources Wales	What to look out for
5-day flood risk for Wales	Notification of severe weather and flood risk
Flood Alerts and Flood Warnings	Notifications of flood alerts and warnings for Wales
Sign up for Flood Warnings	Register for warnings
River Levels in Wales	River levels at Ffrwdwyllt at Taibach - Afan at Marcroft Weir

Table 11-3: Other weather and flood-related services for monitoring activities

Services	What to look out for
South Wales Police – Heddlu Cymru	Potential notification of flooding.
BBC Port Talbot BBC Wales Swansea Bay Radio	Notifications of flooding can be disseminated via local TV and/or radio stations.
Highways Wales	Notifications of road closed due to flooding.
Neath Port Talbot Council	Potential notification of flooding.

It is important to note that for river flooding, the Natural Resources Wales typically issues a flood alert 2-12 hours ahead of possible flooding and aims to issue Flood Warnings 1-2 hours before the predicted event.

11.2 Met Office Weather Warnings

The Met Office warn the public of severe hazardous rainfall that can potentially cause damage, widespread disruption and/or danger to life via their national severe weather warning system. The warning levels are determined based on the likelihood of the rainfall event occurring and the impact the conditions may have.

This is colour-coded as:

No Severe Weather	Be Aware	Be Prepared	Take Action

To view the Met Office National Severe Weather Warnings, visit: [UK weather warnings - Met Office](#)

On the site, several tabs are at the top of the page. The tabs allow you to navigate through the next seven days, with warning triangles highlighting any weather warnings affecting the UK each day. To see the full details for each warning, click on the chosen warning label on the map.

For example, if Port Talbot is shown to be affected by a Yellow, Amber or Red Warning for Rainfall, ensure you click on the warning and read the further detailed information. This is explained on the [Met Office's Weather warnings guide](#).

11.3 Summary of Flooding Advice from Natural Resources Wales Warnings

Stage	Before Flooding	Flood Alert (Be prepared)	Flood Warning (Immediate Action Required)	Severe Flood Warning (Danger to Life)	After Warning ends
					
Actions	- Prepare a flood Kit - Move valuables and pets to safety - Move any vehicles that may be at risk to higher ground	- Monitor River levels using the live flood map service - Move livestock or animals / tether any items (such as outdoor furniture) that could be moved by floodwater - Install any available flood protection measures	- Move family, pets and valuables to a safe place. - Turn off all utilities if safe to do so. - Install flood protection measures if still safe to do so.	- If not already evacuated remain in a safe place, be ready to evacuate if required. - If you feel that there is a danger to life, immediately call the Emergency services (999)	- When returning to a property that has been flooded, check with utilities providers before turning them back on. - Contact insurers and gather evidence and document damages - Clean and disinfect the property - Seek support from your local authority.
Safety Advice	- Walk around your property block / be aware of any water entry points - Move furniture that could be damaged to higher floors or cover	Stay informed via Floodline (0345 988 1188)	Follow official advice and evacuation orders (This will often come from your local authority or police force)	- Do not enter flood water under any circumstance - If evacuating remember to take essentials, including medication and provisions for infants and/or (if required and able)	- Avoid contaminated water - Check for structural damage in and around your property. - Look after mental health and wellbeing, support services include: British Red Cross , National Flood Forum , Community Flood groups

Offices at

Bristol
Coleshill
Doncaster
Dublin
Edinburgh
Exeter
Glasgow
Haywards Heath
Leeds
Limerick
Newcastle upon Tyne
Newport
Peterborough
Portsmouth
Saltaire
Skipton
Tadcaster
Thirsk
Wallingford
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