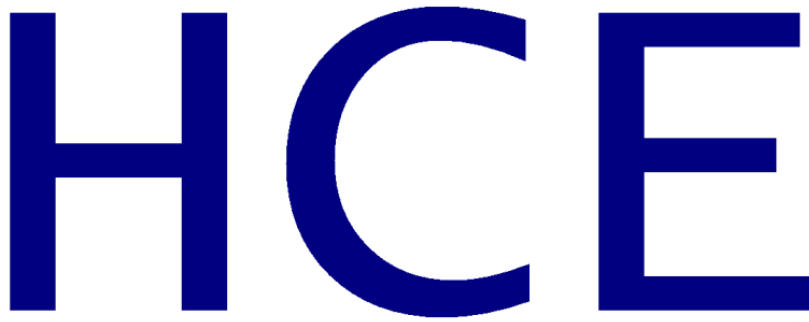




Civil

Structural

Surveys

Project Management

Report Title: Flood Consequence Assessment

Address: Industrial Development At Abergarwed

Client: ASW Scaffolding Ltd

Project Reference: 1429

Our Reference: 1429-FCA-001

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1.0 INTRODUCTION

HCE Ltd were commissioned to prepare a flood consequence assessment report to support a proposed industrial development at a previous industrial site in Abergarwed, consisting of a single-storey industrial building and ancillary car parking to a derelict former industrial site.

The proposed building will be constructed over part of the former building's footprint.

It is understood that the Afon Nedd hydraulic modelling held by NRW was updated in 2019 and is considered the best available data and follow the latest technical guidance.

2.0 SCOPE OF REPORT

The existing site proposed for development is shown as being C2 on the NRW Flood Mapping For Planning as shown in Figure 1 below. As such the NRW have requested that the development be justified with a robust demonstration that flood risk can be managed in accordance with TAN15 through hydraulic modelling and a detailed Flood Consequence Assessment (FCA).

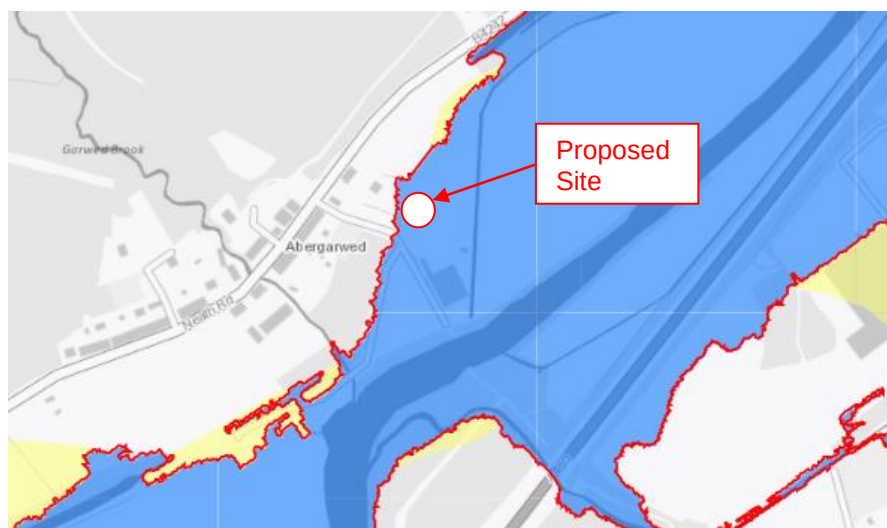


Figure 1: NRW Development Advice Map

The prime objective of a flood consequence assessment is to develop a full appreciation of:

- The consequences of flooding on the development
- The consequences (i.e. the overall impacts) of the development on flood risk elsewhere within the catchment for a range of potential flooding scenarios up to that flood having a probability of 0.1%.
- Establish whether appropriate mitigation measures can be incorporated within the design of the development to ensure that development minimises risk to life, damage to property and disruption to people living and working on the site or elsewhere in the floodplain.

3.0 TAN 15 - FCA REQUIREMENTS

The technical requirements for a Flood Consequences Report are set out in section E of TAN 15. All reports should include the following as a minimum:

1. location plan [Ref. Appendix A]
2. site levels to OD [Ref. Appendix D]
3. Existing information on river risk and any historic events [Ref. Section 6]
4. site cross sections and levels [Ref. Appendix C & D]
5. new runoff volumes [Ref. Section 6 & 7]
6. offsite impacts [Ref. Section 6 & 7]
7. residual risks [Ref. Section 6 & 7]
8. summary of any potential flood risks and how they would develop, catchment impacts [Ref. Section 6, 7 & 8]
9. emergency plans [Ref. Section 7 & 8]

4.0 TAN 15 DESCRIPTION OF DEVELOPMENT ZONES

The development advice maps are based on the best available information considered sufficient to determine when flood risk issues need to be taken into account in planning future development. Three development advice zones are described on the maps, to which are attributed different planning actions. The description of each development zone is shown Figure 2 which is extracted from Section 4, TAN 15 [Ref. 1].

Description of Zone		Use within the precautionary framework
Considered to be at little or no risk of fluvial or tidal/coastal flooding.	A	Used to indicate that justification test is not applicable and no need to consider flood risk further.
Areas known to have been flooded in the past evidenced by sedimentary deposits.	B	Used as part of a precautionary approach to indicate where site levels should be checked against the extreme (0.1%) flood level. If site levels are greater than the flood levels used to define adjacent extreme flood outline there is no need to consider flood risk further.
Based on Environment Agency extreme flood outline, equal to or greater than 0.1% (river, tidal or coastal)	C	Used to indicate that flooding issues should be considered as an integral part of decision making by the application of the justification test including assessment of consequences.
Areas of the floodplain which are developed and served by significant infrastructure, including flood defences.	C1	Used to indicate that development can take place subject to application of justification test, including acceptability of consequences.
Areas of the floodplain without significant flood defence infrastructure.	C2	Used to indicate that only less vulnerable development should be considered subject to application of justification test, including acceptability of consequences. Emergency services and highly vulnerable development should not be considered.

Figure 2: TAN 15 Description of Development Zones

The description of the development category is shown in Figure 3 below;

Development category	Types
Emergency services	hospitals, ambulance stations, fire stations, police stations, coastguard stations, command centres, emergency depots and buildings used to provide emergency shelter in time of flood
Highly vulnerable development	all residential premises (including hotels and caravan parks), public buildings (e.g. schools, libraries, leisure centres), especially vulnerable industrial development (e.g. power stations, chemical plants, incinerators), and waste disposal sites
Less vulnerable development	General industrial, employment, commercial and retail development, transport and utilities infrastructure, car parks, mineral extraction sites and associated processing facilities, excluding waste disposal sites

Figure 3: TAN 15 Description of Development Category

5.0 DESCRIPTION OF SITE & PROPOSED DEVELOPMENT

The site is located on a derelict former industrial site within the village of Abergarwed adjacent to Abergarwed Farm as shown in Figure 4 below. The 1:1250 site location plan is included in Appendix A.



Figure 4: Site Plot Plan

The existing external levels are 22.30 and 22.40 AOD and there is a gentle fall from the proposed building to the rear of the site entrance where the land then rises up to Neath Road (B4242). The topographical survey is included in Appendix D. The remainder of the site is

undeveloped and is relatively flat with a gentle slope falling towards the boundary with the former Neath Canal and adjacent farmland. The new development will consist of a single-storey rear steel portal framed building to provide a industrial storage at ground floor and offices. The proposed ground floor level will be the slightly higher than existing levels with a proposed ground floor level of EL+22.45m AOD.

The existing and proposed plans, elevations and sections are included in Appendices B & C.



Photograph 1: Plan View Of Proposed Development

6.0 FLOOD RISK ASSESSMENT

It is understood that the river Nedd hydraulic modelling held By NRW was recently updated and is the best available data for flood risk assessment.

6.1 Potential Sources of Flooding

Flood zone maps are intended for general guidance on flood risk and it is also necessary to consider other, more detailed, sources in relation to local factors.

6.1.1 Fluvial Flooding

A review of the NRW flood risk hazard map data indicates that the site has a low risk of fluvial flooding as shown in Figure 5 below.



Figure 5: Flood Risk From Rivers

NRW have categorized Low to mean that each year, this area has a chance of flooding of between 1 in 1000 (0.1%) and 1 in 100 (1%). This takes into account the effect of any flood defences that may be in this area.

A more detailed review of the flood risk and flood level assessment is discussed in section 6.3 below.

6.1.2 Surface Water

Review of the NRW online mapping data confirms that the site remain flood free from surface water.



Figure 6: Flood Risk From Surface Water & Small Watercourses

6.1.3 Groundwater

Review of the NRW online mapping data confirms that the site is at risk from groundwater. The superficial geology for the area consists of Alluvial Fan Deposits (Sand And Gravel) and Alluvium (Clay, Silt, Sand And Gravel) overlying a bedrock geology of Upper and Middle Coal Measures (comprising mudstone, siltstone and sandstone). When also taking the terrain into account and the site's elevated position relative the adjacent agricultural land the risk of groundwater flooding is considered to be low.

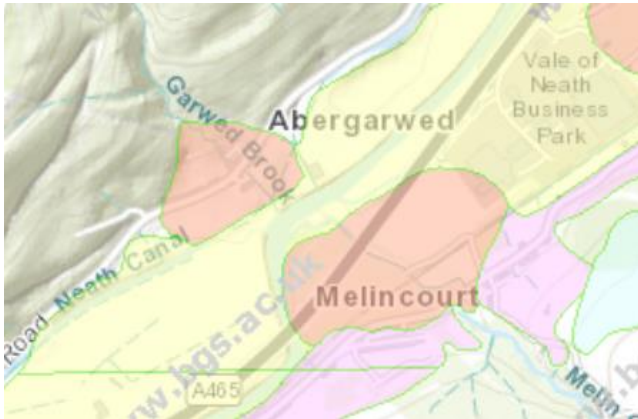


Figure 7: Superficial Geology

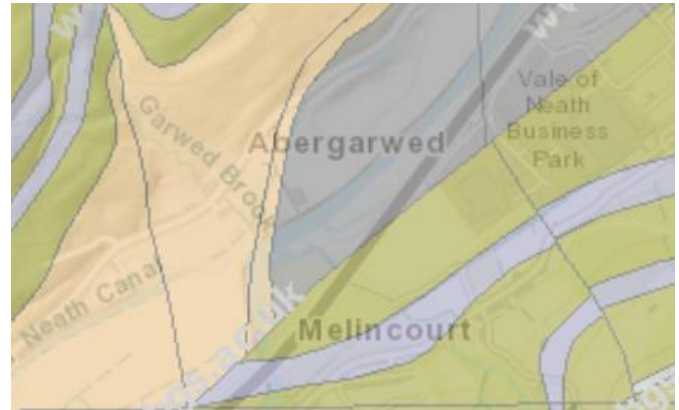


Figure 8: Bedrock Geology

6.1.4 Reservoirs & Sea

Review of the NRW online mapping data confirms that the site remain flood free from tidal events. The site is considered not to be at risk from reservoir failure/flooding.



Figure 9: Flood Risk From Reservoirs & Sea

6.1.5 Recorded Historic Flood Events

Review of the NRW online mapping data confirms that the site remain has not suffered from historic flooding.



Figure 10: Areas of Historic/Recorded Flooding

6.1.6 Areas Benefitting From Flood Defence

Review of the NRW online mapping data confirms that the whole site benefits from flood defence works as shown in Figure 11 below. The location of the flood defences along the bank of the river Nedd is shown in red.

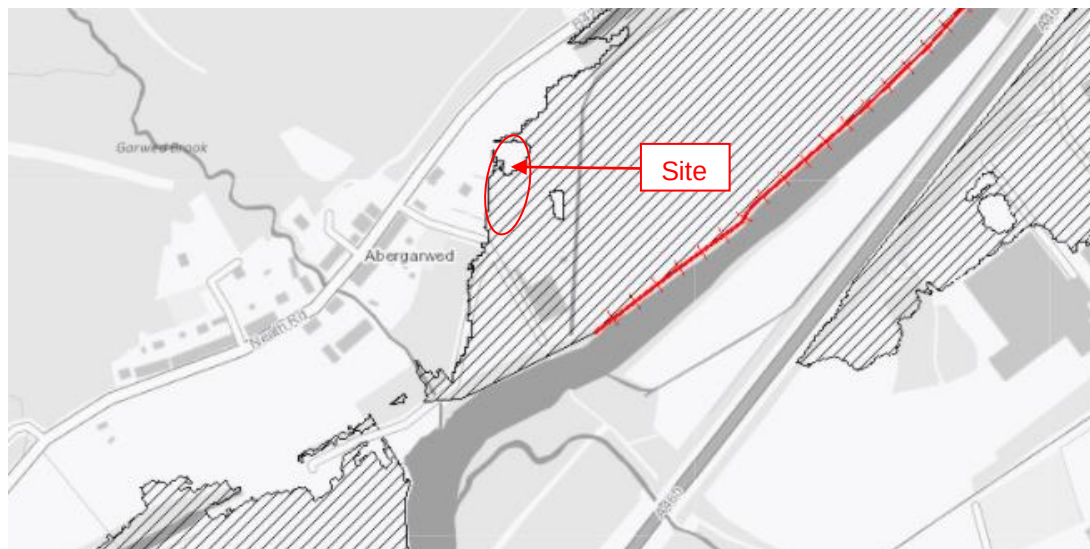


Figure 11: Areas Benefitting From Flood Defences

6.2 Fluvial Flood Level Model Results Summary

The maximum depth, velocity and hazard mapping available from NRW for the pre-developed site are shown below. The majority of the area where the new industrial building is to be located is located outside the area susceptible to flooding. Maximum flooding around the building is likely to be between 150mm to 300mm.

Maximum flood water depths on site are shown to be between 300mm to 900mm for low risk events i.e. events that have a risk of flooding between 1 in 1000 (0.1%) and 1 in 100 (1%). It is therefore estimated that water levels will be 22.6m AOD for the 1% AEP plus climate change and 23.2m AOD for the 0.1% AEP event.

This demonstrates a maximum internal depth within the building of 0-150mm during the 1% AEP plus climate change and 150-300mm for the 0.1% AEP event.



Figure 12: Flood Depths For Low Risk Events

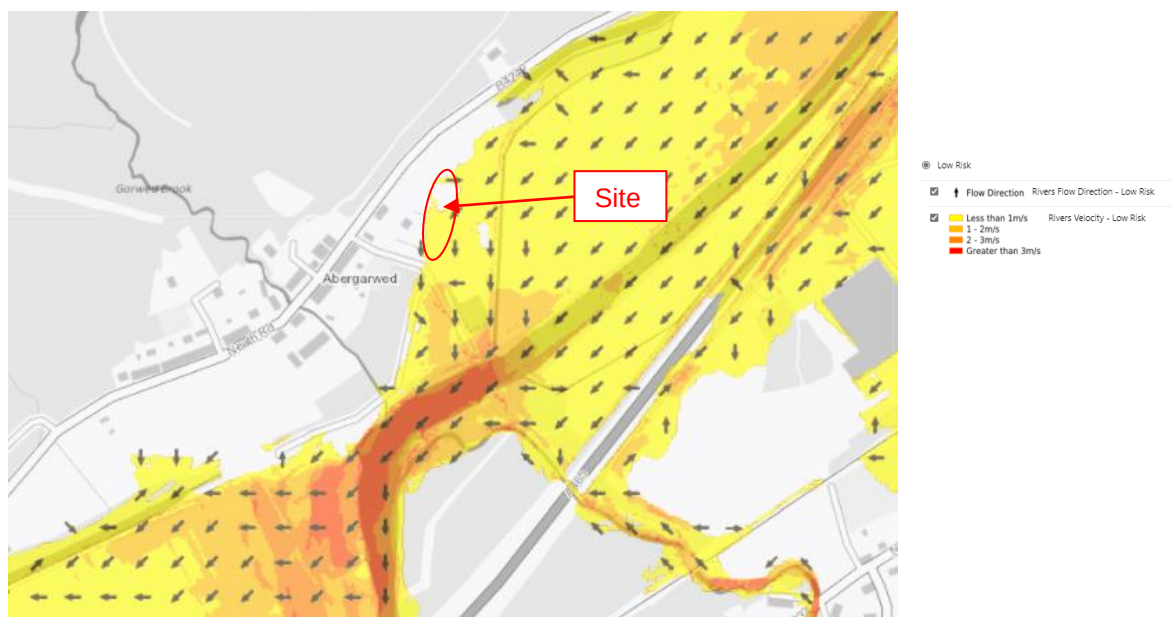


Figure 13: Flood Velocities & Flow Direction

The maximum flood level velocities are less than 1.0 m/s for the 1% AEP plus climate change and 0–0.30 m/s for the 0.1% AEP plus climate change.

As the proposed development will match the existing levels at the building and will continue through to the proposed extension, there is no significant change to depths or velocities experienced. The maximum depth, velocity and hazard mapping for the post-developed model are included in Appendix F.

7.0 ASSESSMENT OF FLOODING CONSEQUENCES

7.1 Proximity To River Neath/Nedd

The development is approximately 75m from the River Neath and is considered to be at sufficient distance from fast flowing water and submerged debris. During extreme flood events (high flow and flood) the river Neath would be considered dangerous. Also, during such events there would be a high probability of objects existing within the water column being carried downstream e.g. logs, debris etc.

7.2 River & Catchment Area Response To Rainfall

The river Nedd/Neath catchment has an area of approximately 190km² from the downstream study extent. The watercourse starts up in the Brecon Beacons National Park, from multiple small steep channels. The landscape continues to be mountainous and rural until it flows through the small town of Glyneath and village of Pontnedfechan. The river becomes more modified with bridges and culverts and canals along the watercourse, which constrict flow. Approximately 21km downstream of Resolven, the River Neath discharges into Swansea Bay. A man-made reservoir (Ysradfelte) is located at the upstream portion of the catchment on Afon Mellte which is a tributary of the river Neath. However, this is unlikely to cause much attenuation at the study site, due to its limited catchment area and distance away from the area of interest.

The British Geological Survey (BGS) website 1:625,000 scale mapping a mainly upland catchment with mixed geology, from S to N: Coal Measures; Millstone Grit; Carboniferous Limestone and Old Red Sandstone. Extensive Boulder Clay cover in mid-catchment. Livestock farming predominates; some areas of upland heath; some forest cover; minor urban development in valley.

Approximately half of the catchment (~48%) is composed of moderately permeable bedrock with 43% mixed permeability superficial deposits over. The River Neath at Resolven is likely to have a moderate response time to rainfall based on the size of the catchment and the mixed permeability of ground.

7.3 Flood Level Assessment & Flooding Acceptability Criteria

The flood level modelling for the site, summarised in section 6 has demonstrated that flooding occurs on site during extreme events with a risk of occurrence of 1% and 0.1% i.e. flooding events with a 100year and 1000year return periods.

Flood Modelling Results For 1:100 year Return Period Flood Event (1%)

Maximum Water Levels Pre-Development	=	22.60m AOD
Maximum Depth Adjacent To Proposed Building	=	150mm
Maximum Site Depth of Flooding Pre-Development	=	300mm
Maximum Flood Water Velocities Pre-Development	=	0–1.0 m/s

Flood Modelling Results For 1:1000 year Return Period Flood Event (0.1%)

Maximum Water Levels Pre-Development	=	23.20m AOD
Maximum Depth Adjacent To Proposed Building	=	300mm
Maximum Site Depth of Flooding Pre-Development	=	900mm
Maximum Flood Water Velocities Pre-Development	=	0–1.0 m/s

7.4 TAN 15 – 1% Fluvial Flooding Acceptability Criteria

The acceptability criteria guidance for extreme flooding events is given within Appendix 1, Section C of the TAN 15. An extract of this is shown in Figure 14 below.

Type of development	Maximum depth of flooding (mm)	Maximum rate of rise of floodwaters (m/hr)	Maximum speed of inundation of flood risk area (hrs)	Maximum velocity of floodwaters (metres/sec)
	Property Access			Property Access
Residential (habitable rooms)	600 600	0.1	4	0.15 0.3
Commercial & Retail	600 600	0.3	2	0.15 0.3
Industrial	1000 1000	0.3	2	0.3 0.45
Emergency Services	450 600	0.1	4	0.15 0.3
General Infrastructure	600 600	0.3	2	0.3 0.3

Figure 14: TAN15 - 1% Fluvial Flooding Acceptability Criteria Guidance

A review of the TAN 15 acceptability criteria shows that for the 1% flood event that the maximum water depths at site range from 300mm to 900mm. This is below the TAN15 guidance shown in Figure 14 above. The floodwater velocities are above the recommended TAN 15 guidance values.

7.5 Impact From Development Upon Others

A qualitative assessment of the site concludes that the proposed development is likely to have little impact upon the flood levels and floodwater velocities. However, further flood level modelling would be required to confirm this conclusion.

7.6 Proposed Site Use

The proposed use of the development is for industrial purposes which is classed as 'less vulnerable' within TAN 15.

Whilst development within C2 zoned areas is discouraged the overall impact of the proposed development needs to be considered. The existing site has a history of industrial brownfield use, along with the immediate adjacent neighbour. The site having fallen into disrepair and dereliction presents an ideal opportunity for regeneration as a brownfield site with good local transport links.

It is considered that the proposal will aid in the regeneration of the local area whilst providing additional local employment opportunities.

7.7 Flood Warning

It is understood that an automatic flood warning system is in place for the properties located within zone C on the development advice map, although due to the high response of the river Neath, the NRW is only able to give short flood warning periods.

7.8 Residual Risk

Residual risks

- No new defences will be constructed or needed and the residual risk from development is discussed in section 8.0.

All sources of flood risk are detailed in within this document

- From rivers - Neath catchment areas have been considered.
- From the sea - no tidal influence
- From land - no adjacent land slopes towards the site.
- From groundwater - there are no springs or weep areas on site
- From sewers - there are no local reports of sewer surcharge
- From reservoirs - none nearby

7.9 Flood Proof Measures

It is intended that the development will be within the Q1000 plane and although the risk from flooding is considered LOW, the risk of flooding cannot be completely eliminated. Flooding can result in the need for expensive repairs. As well as the direct damage to buildings, flooding can impact in many other, and possibly more stressful, ways. The inconvenience of cleaning up a building and the loss of valuables can be immeasurable. There are methods, however, to limit and mitigate against the consequence of flood damage. Some of these are discussed in this section and should be considered during the refurbishment.

Water can enter a building:

- Around the edges of closed doors;
- Through airbricks;
- Backflow through overloaded sewers;
- Seepage through walls especially cracks;
- Seepage through the ground;
- Around cable / services entrance into the building.

Dryproofing - Preventing the water from entering the building.

In the first instance it is possible to take measures to prevent the ingress of water (dryproof).

- There are several propriety barriers available, however, these can be expensive. If desirable, it might be more appropriate to ensure that the walls of the building are able to act as a barrier themselves. Care should be taken to ensure that the pointing and any external plastering are kept in good order and that all cracks and gaps around cables and ducts entering the building are sealed;
- Providing temporary covers to any low air vents. These covers should be removed once the risk of flooding is over. Alternatively, the air vents can be installed at a high level;
- Erecting a temporary barrier in front of any external doors or installing flood protection doors;
- Installing a valve allowing the sewer system to be shut preventing any back flow.

Raising the levels locally above the flood depths is not considered feasible, it is possible to limit the damage that the water can cause once in the building (wetproof). Where appropriate the following could be considered for the ground floor:

- Move valuable items to a higher level;
- Have solid concrete floors. Suspended floors are more difficult to clean and dry underneath;
- Use water resistant render for walls;
- Use non water absorbing insulation;
- Use corrosion resistant fittings such as galvanised or stainless steel;
- Ensure that the ground floor electrics is on a separate circuit to the rest of the building and that the electric cables are fed from above with the ground floor sockets kept high;
- Use an appropriate damp proof course;
- Consider freestanding movable equipment;
- Install equipment with motors high up from the floor;
- Install solid internal and external doors effectively sealed;
- Avoid storage heaters on the ground floor;
- Ensure boilers are off the ground.

8.0 CONCLUSIONS & DEVELOPMENT RECOMMENDATIONS

The proposed industrial development is considered a 'less vulnerable development' under TAN 15. Under TAN15, C2 zoned development areas can be used for 'less vulnerable developments' provided adequate demonstration is provided within an FCA report.

The River Neath/Nedd due to size of catchment and underlying geology is considered to have a moderate response to rainfall it is understood that local authority automatic flood warning systems are in place for properties located with Zone C in addition to the normal weather warning systems via the national news and media. As such it is considered that both property owners and visitors to the development would be made well aware of any risk from flooding at least 12hours before any such event would take place. As such the risk to personnel from the proposed industrial development is considered low and manageable provided suitable flood risk procedures are written and implemented by the owners.

The proposed development is considered to provide an enhancement to the village and surrounding area and its regeneration by enhancing a former derelict brownfield industrial site whilst offering additional employment.

The NRW flood risk level modelling shows that the risk of flooding across the site is LOW i.e. events that have a risk of flooding between 1 in 1000 (0.1%) and 1 in 100 (1%).

Where the new industrial building is proposed, the maximum flood risk depths are expected to be 150mm-300mm. The proposed building is expected to be around 150mm higher than existing site levels, which will further reduce the risk and depth of flooding within the building.

The flood risk modelling shows that the wider site area, in particular the site access/egress to have a maximum flood risk depth of between 0mm to 900mm for the 1% flood event and is below the guidance value of 1000mm for industrial areas within TAN 15. The floodwater velocities shown by NRW are between 0-1.0m/s which exceed the TAN 15 guidance values. However, the TAN15 values are for guidance not prescriptive.

Based upon a qualitative assessment of the site it is anticipated that the depths of flood water and floodwater velocities will not change post development.

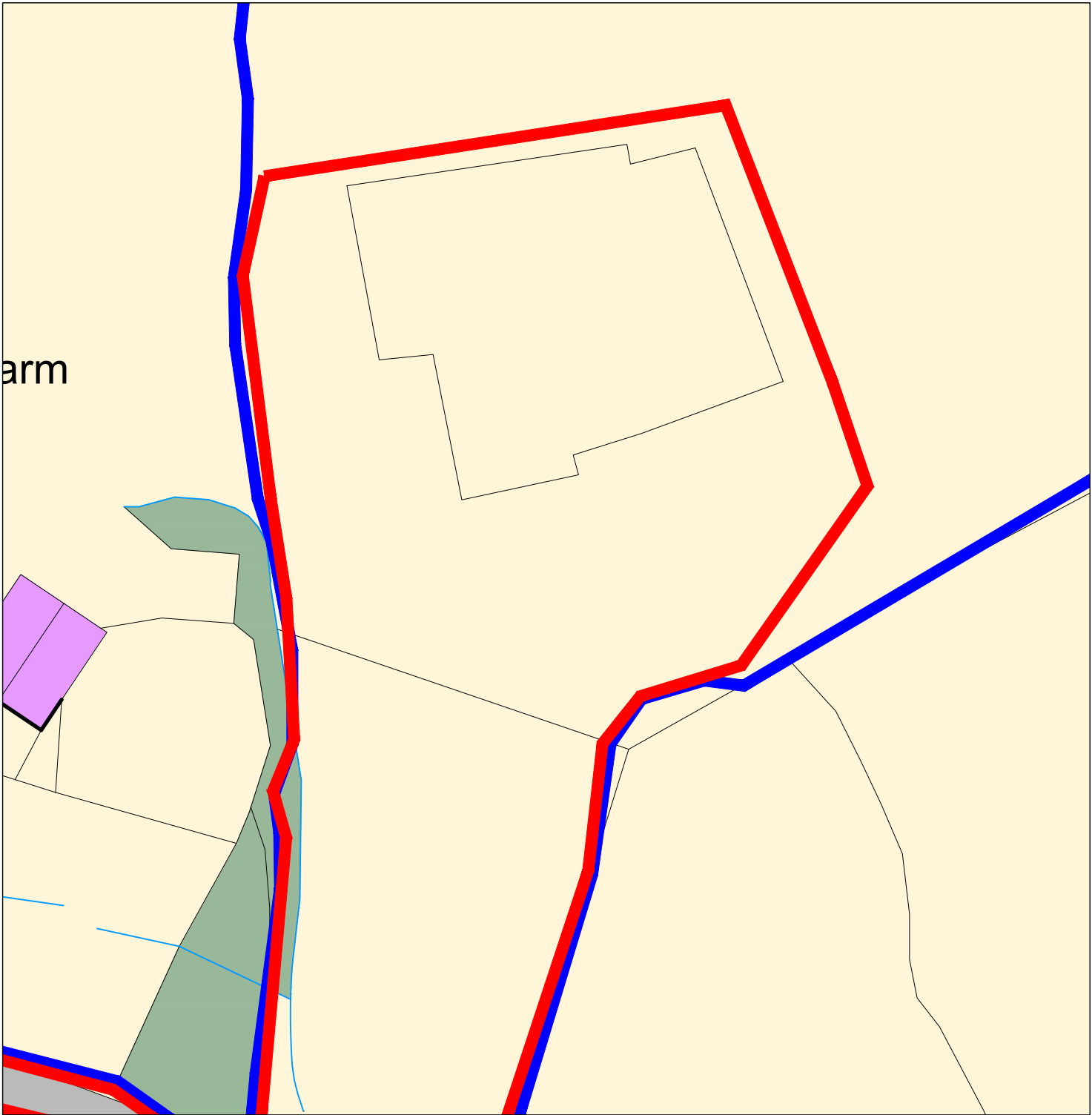
It is concluded that the proposed development will not increase the risk of flooding nor will it likely increase the effects of flooding on site or at adjacent surrounding areas.

It is recommended that any risks to the development from future flooding can be mitigated against by incorporating flood resistant design details such as tanking of the walls at ground floor, providing flood resistant doors and raising of electrical power sockets above the 1% flood level and incorporation of measures detailed in section 7.9.

9.0 REFERENCES

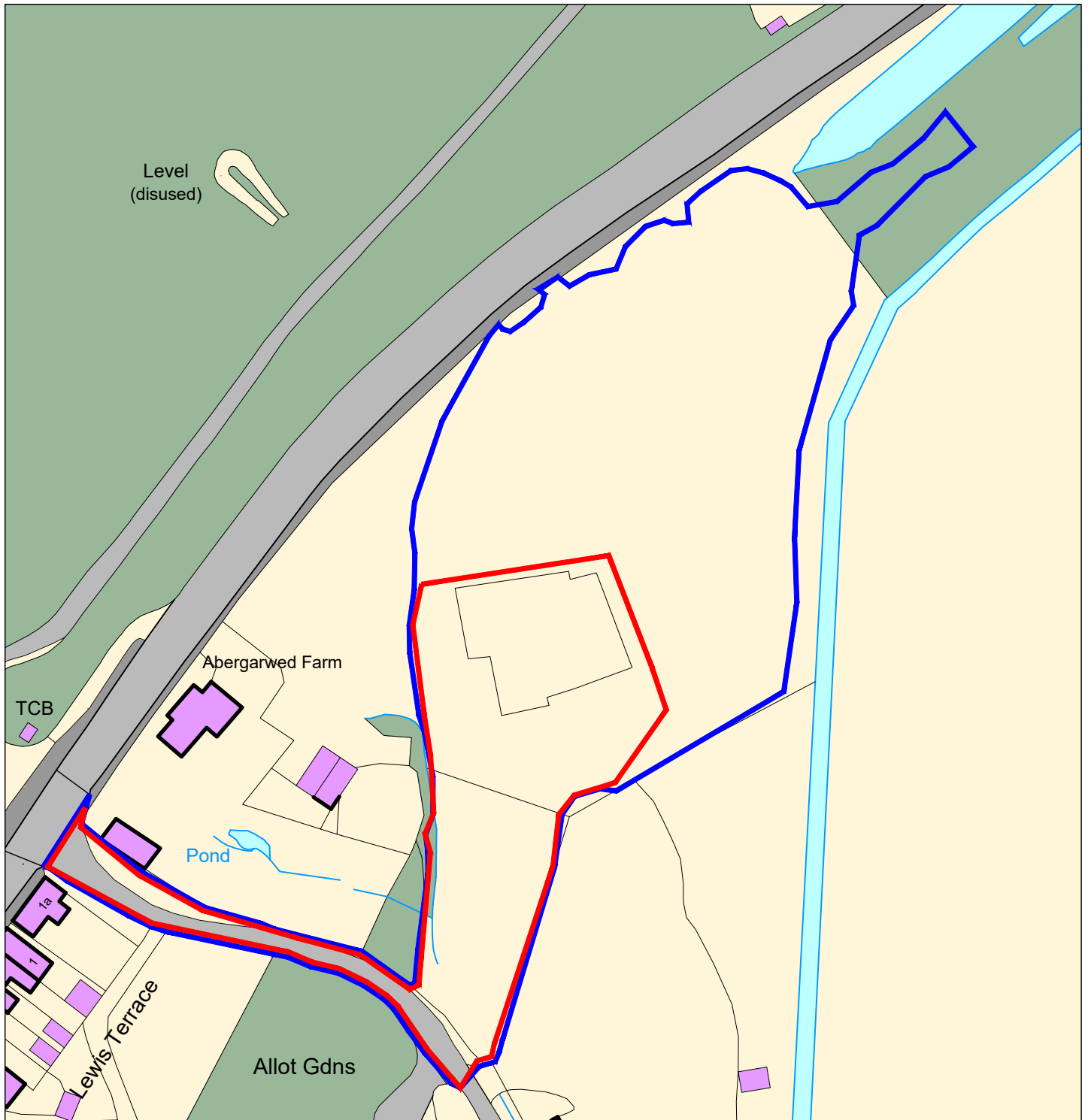
1. Technical Advice Note 15: (TAN 15) Development and Flood Risk, July 2004
2. NRW Flood Risk Level Map Data

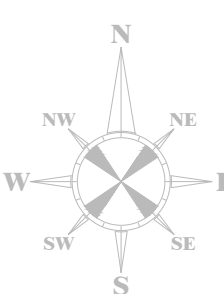
Appendix A – Site Location Plan



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						Project Address 1: Land to South of Neath Road B4242					A4	
						Project Address 2: SA11 4DL					Checked by DLD	
						Drawing Title: Site Block Plan					Approved by DLD	
	B	Application boundary amended		DLD	04.11.2019	Date: 16.09.2019		Scale: 1:500	Drawn By: SJC	Ref: NC074	Drawing No: 002	Rev B
	A	Position of Units Amended		SJC	18.09.2019							
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Appendix B – Existing Plans & Elevations



Notes		REVISIONS		Client: Absolute Scaffolding	
Rev	Comment	By	Date	Project Title: Industrial Units	
				Project Address 1: Land to South of Neath Road B4242	A4
				Project Address 2: SA11 4DL	Checked by DLD
				Drawing Title: Site Location Plan	Approved by DLD
C	Application Boundary Amended	SJC	03.01.2019	Date: 16.09.2019	Scale: 1:1250
B	Application boundary amended	DLD	04.11.2019	Drawn By: SJC	Ref: NC074
A	Position of Units Amended	SJC	18.09.2019	Drawing No: 001	Rev C
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No.	Description	By	Date

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PROJECT

Industrial Units

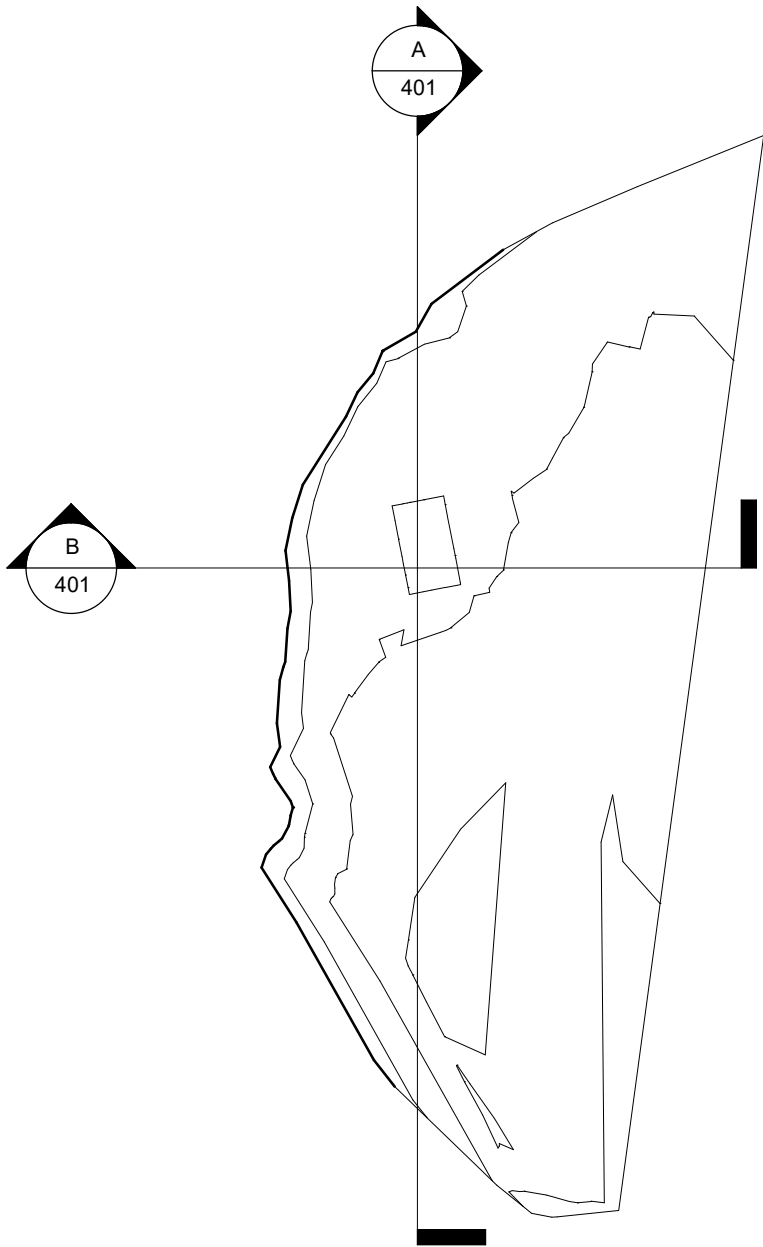
PROJECT ADDRESS

Land to south of Neath Road B4242
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DRAWING TITLE

Existing Site Sections

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PROJECT REF	SCALE	PAPER SIZE
NC074	As indicated	A3
DRAWING	REVISION	DATE
401		14/01/20



Site Section Key 1:2000



Section A 1:1000



Section B 1:1000

Appendix C – Proposed Plans & Elevations

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No.	Description	By	Date

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PROJECT

Industrial Units

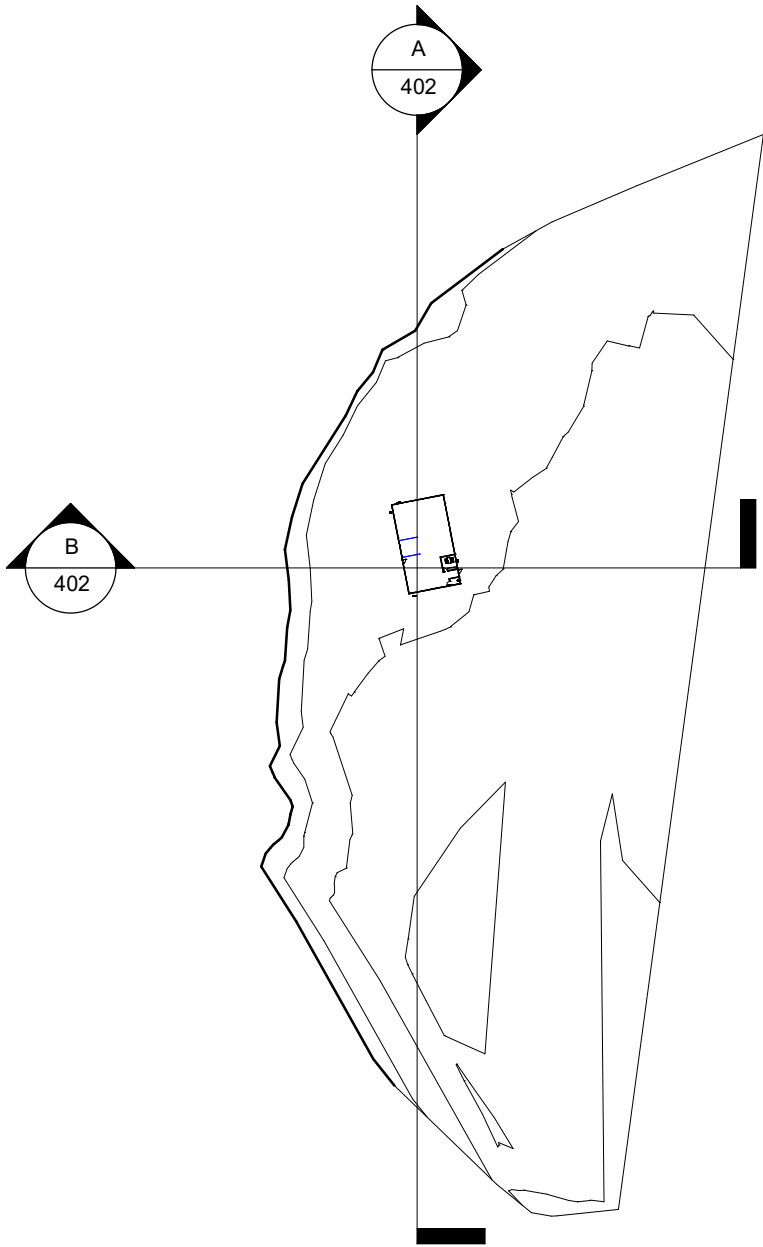
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Land to south of Neath Road B4242
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DRAWING TITLE

Proposed Site Sections

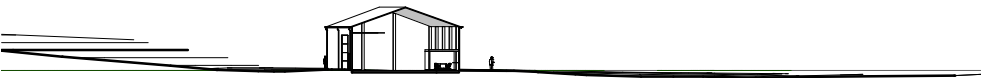
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PROJECT REF	SCALE	PAPER SIZE
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DRAWING	REVISION	DATE
402		14/01/20



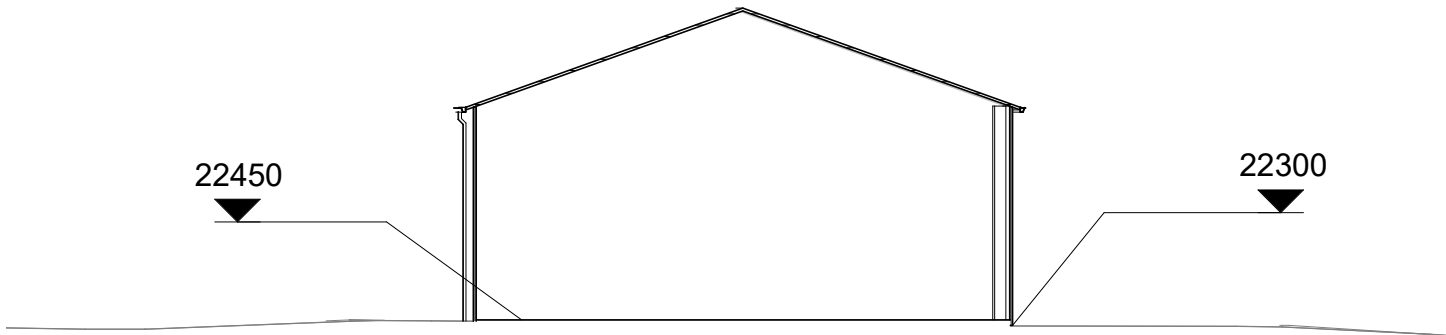
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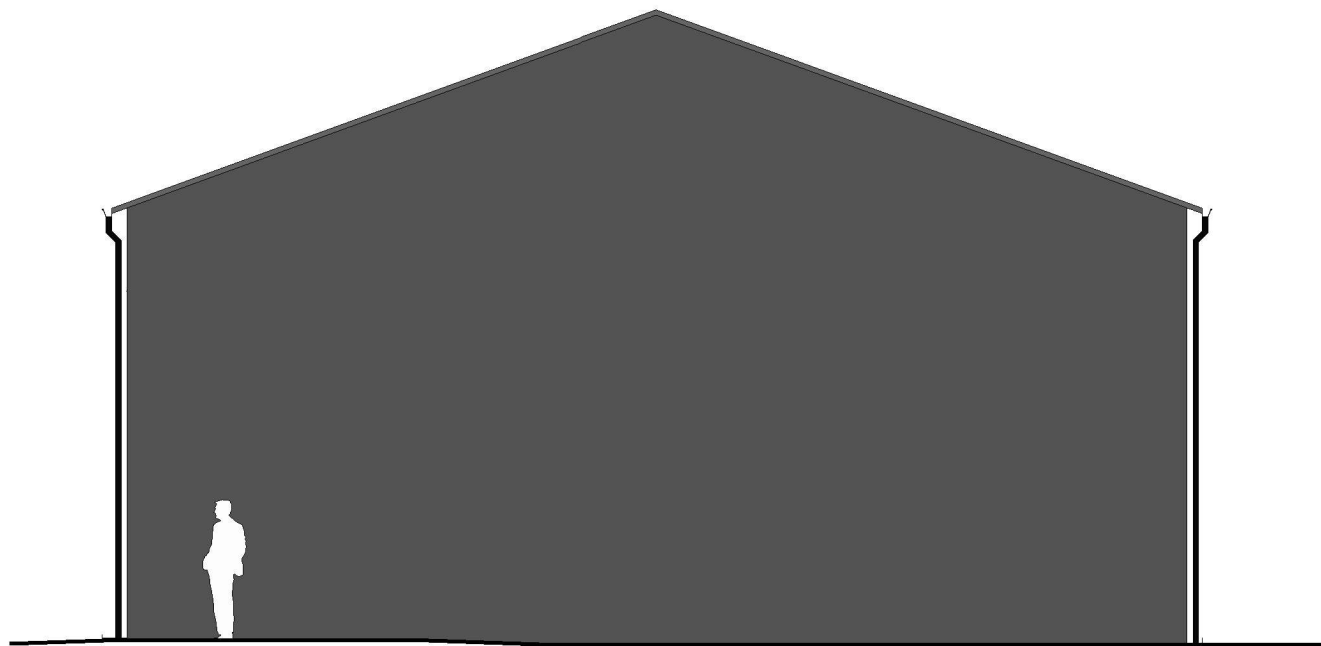
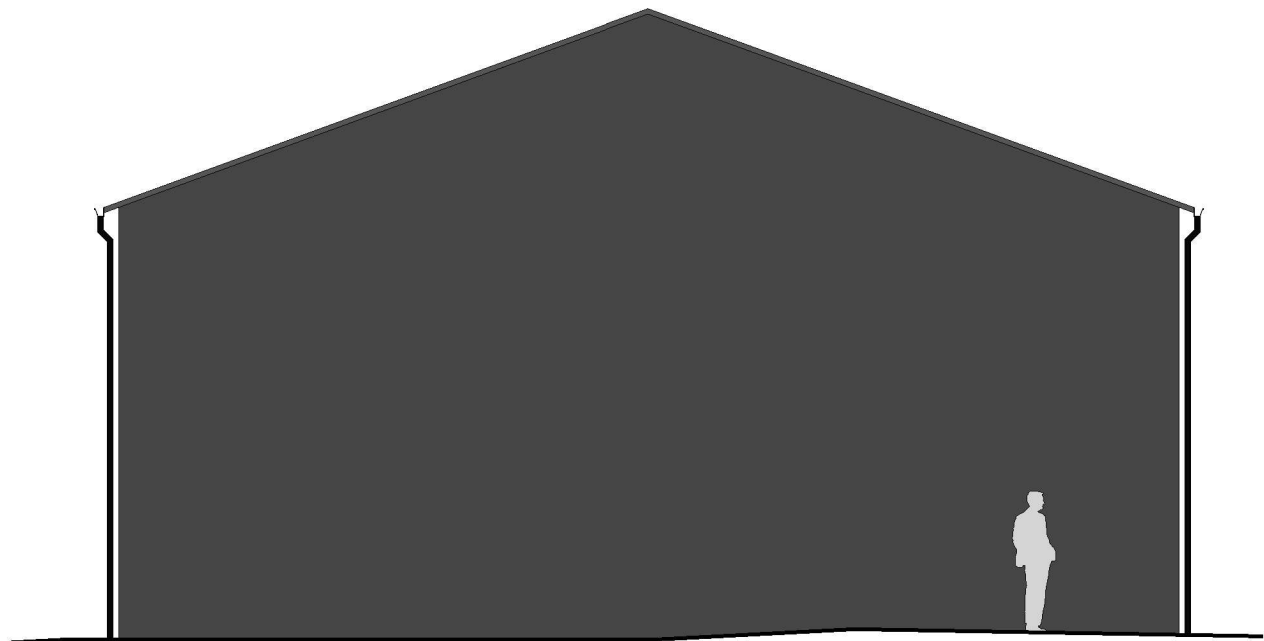
Section A 1:1000



Section B 1:1000



Finished Floor Level 1:200



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No.	Description	By	Date
A	Materials Amended	SJC	18/09/19
B	Office & W/C Added	AJW	19/09/19
C	Unit Size Amended	SJC	20/12/19
D	Elevations and Title Block Amended	SJC	08/01/20

CLIENT

Absolute Scaffolding

PROJECT

Industrial Units

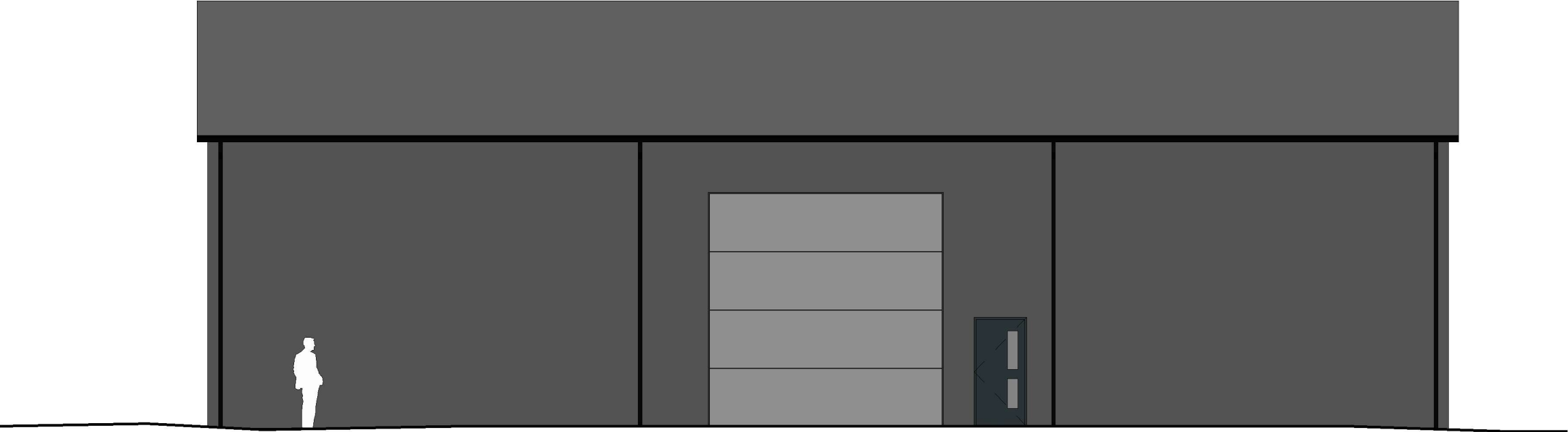
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Land to south of Neath Road B4242
SA11 4DL

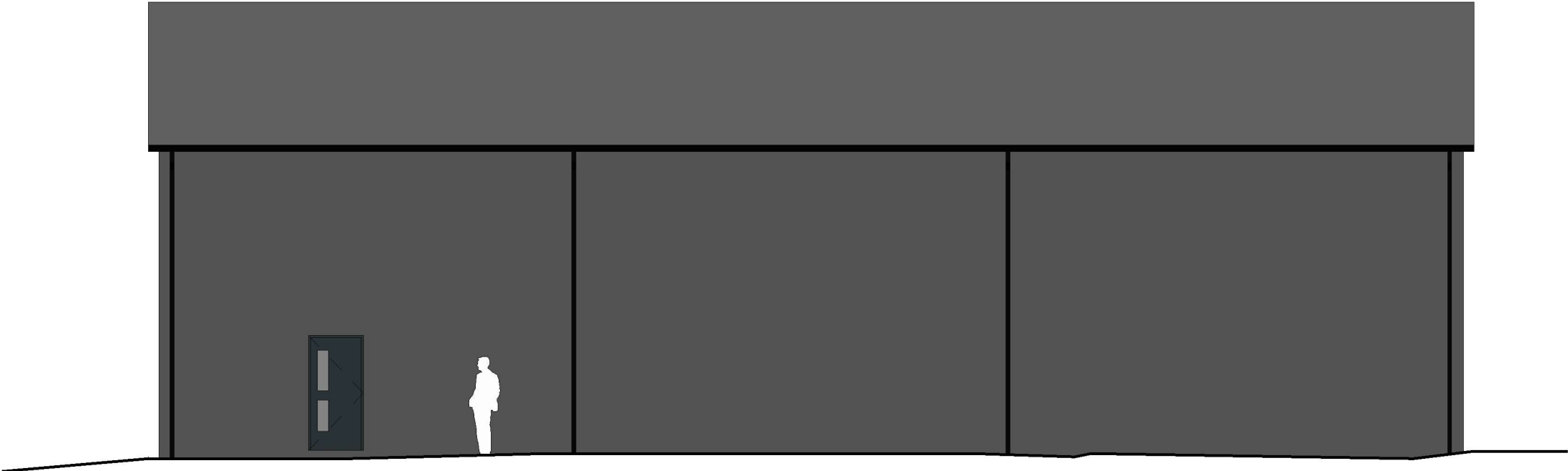
DRAWING TITLE

Side Elevations

DRAWN BY	CHECKED BY	© Copyright Darkin Architects 2019
SJC	DLD	
PROJECT REF	SCALE	PAPER SIZE
NC074	1 : 100	A3
DRAWING	REVISION	DATE
302	D	12/09/19



Front Elevation



Rear Elevation

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No.	Description	By	Date
A	Materials Amended	SJC	18/09/19
B	Office & W/C Added	AJW	19/09/19
C	Unit Size Amended	SJC	20/12/19
D	Elevations and Title Block Amended	SJC	08/01/20

CLIENT

Absolute Scaffolding

PROJECT

Industrial Units

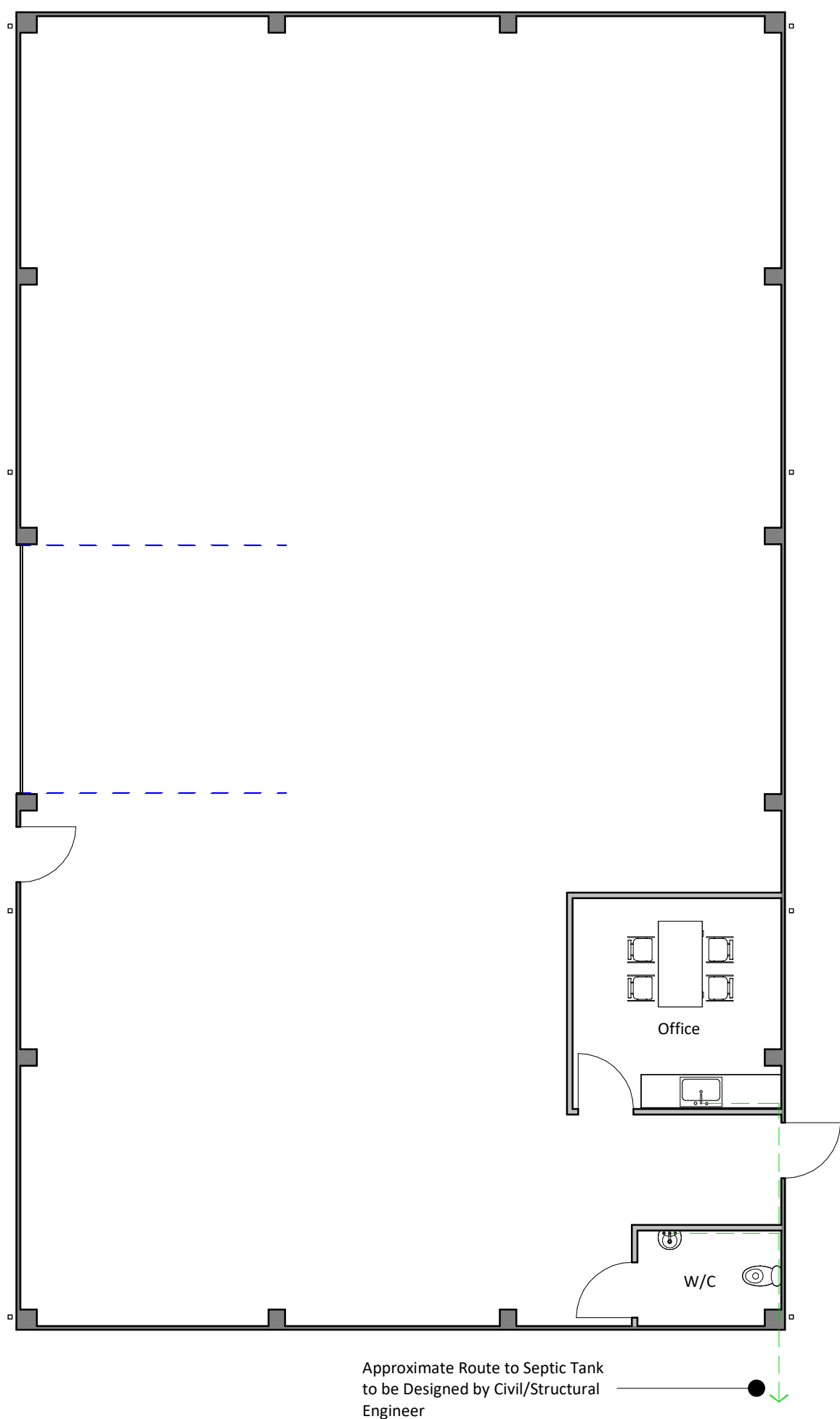
PROJECT ADDRESS

Land to south of Neath Road B4242
SA11 4DL

DRAWING TITLE

Front + Rear Elevations

DRAWN BY	CHECKED BY	© Copyright Darkin Architects 2019
SJC	DLD	
PROJECT REF	SCALE	PAPER SIZE
NC074	1 : 100	A3
DRAWING	REVISION	DATE
301	D	12/09/19



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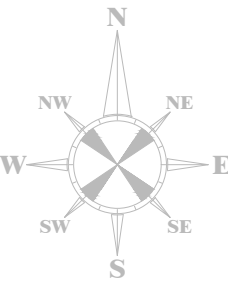
RIBA

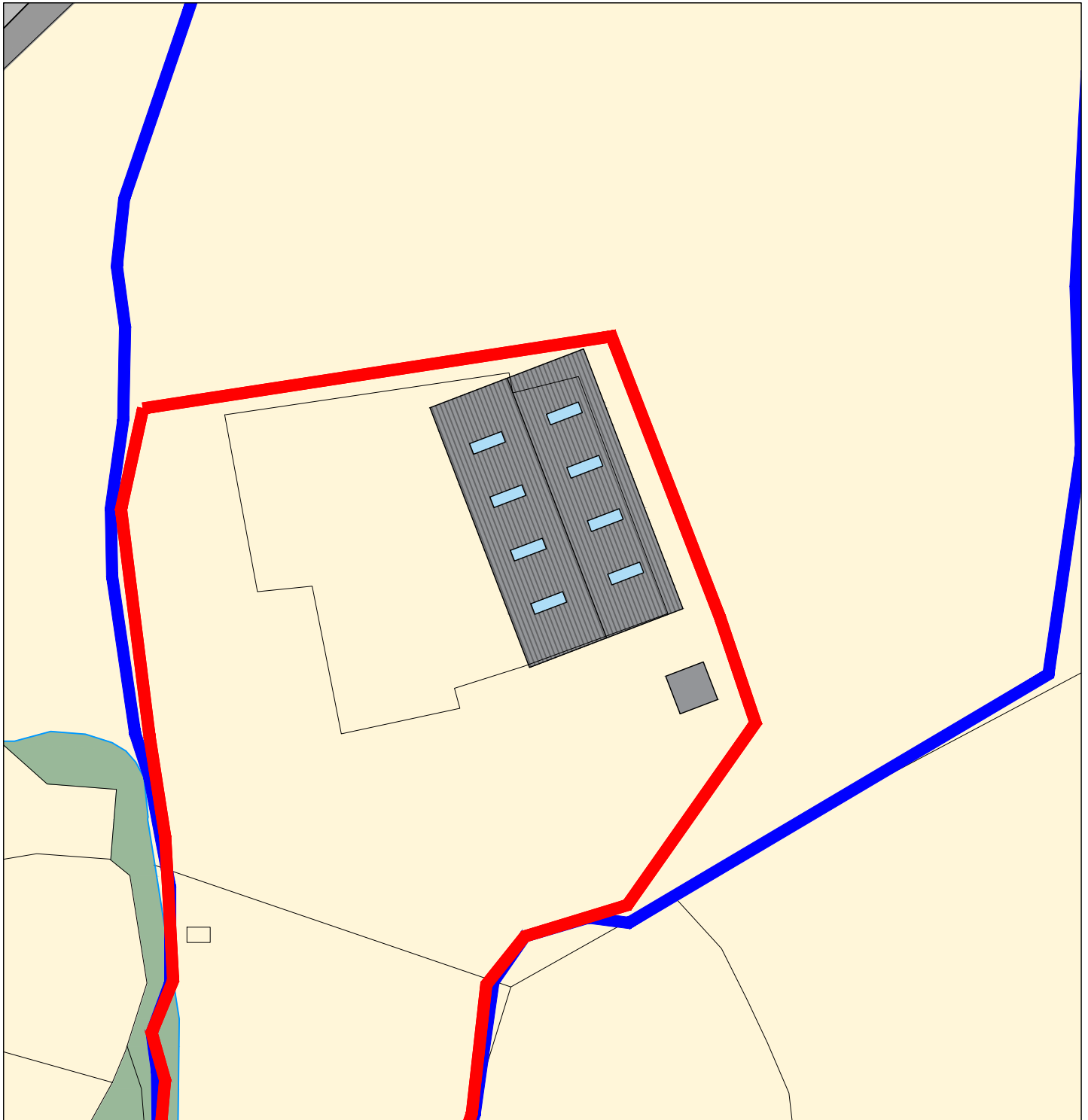
Chartered Practice

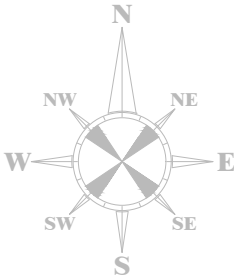
NOTES				CLIENT: Absolute Scaffolding		
				PROJECT: Industrial Units		
				PROJECT ADDRESS: Land to south of Neath Road B4242 SA11 4DL		
				DRAWING TITLE: Floor Plan		
No.	Description	By	Date	DRAWN BY SJC	CHECKED BY DLD	© Copyright Darkin Architects 2019
A	Materials Amended	SJC	18/09/19			
B	Office & W/C Added	AJW	19/09/19	PROJECT REF NC074	SCALE 1 : 100	PAPER SIZE A3
C	Unit Size Amended	SJC	20/12/19			
D	Revised Floor Layout	SJC	08/01/20			
				DRAWING 101	REVISION D	DATE 12/09/19
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	Rev	Comment	By	Date	Client:					
					Project Title: Industrial Units					
					Project Address 1: Land to South of Neath Road B4242			A3		
					Project Address 2: SA11 4DL			Checked by DLD		
					Drawing Title: Proposed Massing Layout					Approved by DLD
	A	Site Layout Amended	SJC	03.10.2019	Date: 18.09.2019	Scale: 1:1000	Drawn By: SJC	Ref: NC074	Drawing No: 004	Rev F
	B	Site Boundary and Layout Changed	SJC	07.10.2019	143 Clifton Street, Cardiff, CF24 1LZ 16 Queen Victoria Road, Llanelli, SA15 2TL 02921 197 196 01554 778 730 info@darkinarchitects.com © Copyright Darkin Architects 2019 RIBA  Chartered Practice					
	C	Site Layout Changed	SJC	08.10.2019						
	D	Location of Industrial Unit	SJC	18.12.2019						
E	Layout of Site and Unit Amended	SJC	03.01.2020							
F	Layout of Site and Unit Size Amended	SJC	08.01.2020							
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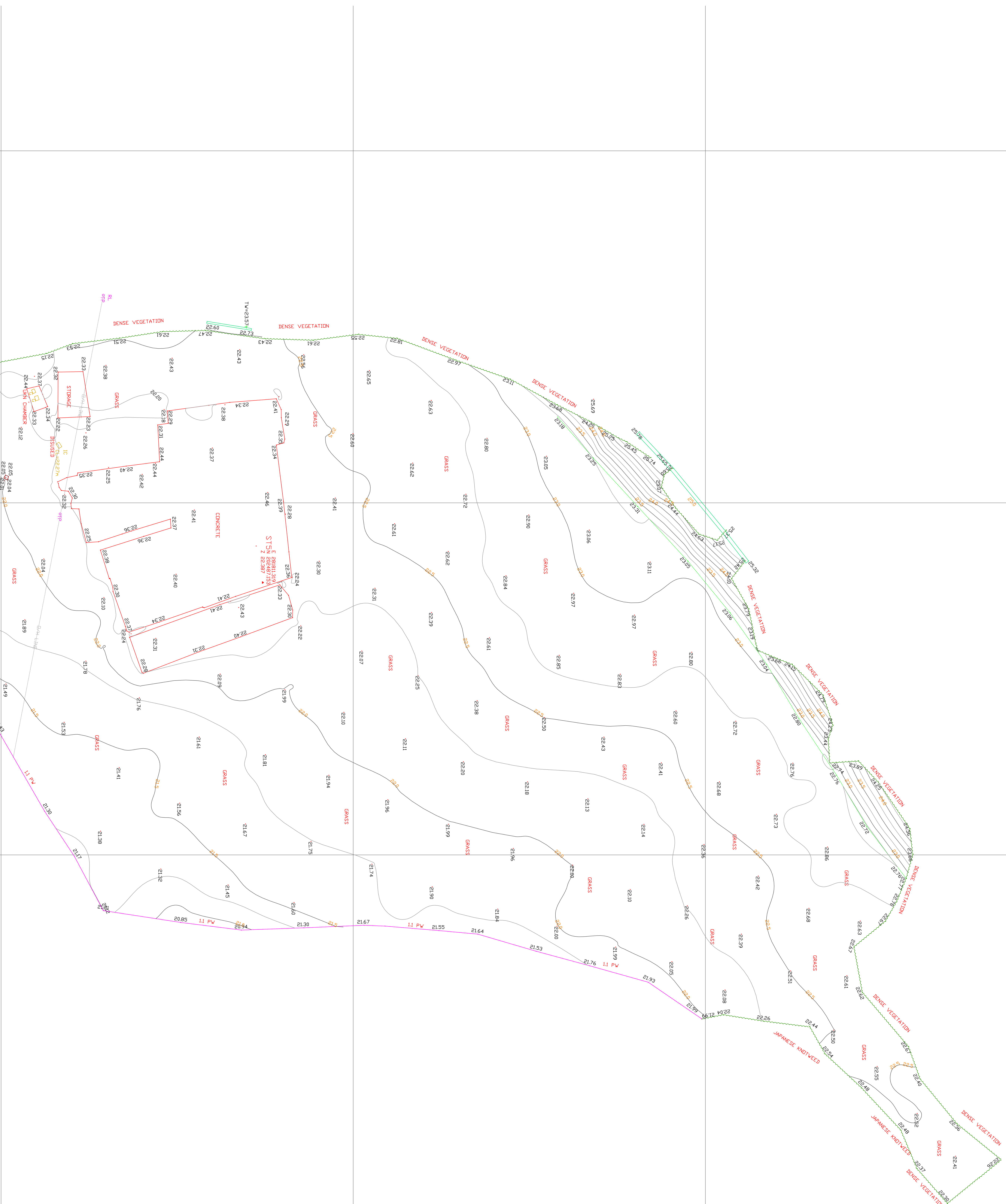


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	Rev	Comment	By	Date	Project Title: Industrial Units						
					Project Address 1: Land to South of Neath Road B4242					A4	
					Project Address 2: SA11 4DL					Checked by DLD	
					Drawing Title: Proposed Site Block Plan					Approved by DLD	
B	Unit position Adjusted	SJC	10/01/20	Date: 16.09.2019	Scale: 1:500	Drawn By: SJC	Ref: NC074	Drawing No: 003	Rev: B		
A	Position of Units Amended	SJC	18/09/19								
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Appendix D – Topographical Survey

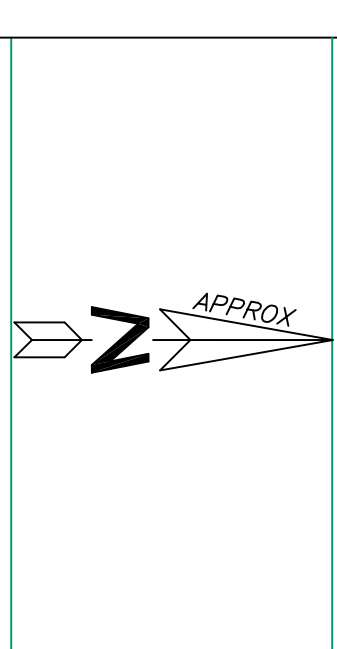
1. SITE GRID AND LEVELS ARE BASED UPON ORDNANCE SURVEY VIA THE ACTIVE GPS NETWORK.

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- | | | | | |
|------|------|---------|-----------|-----|
| 1234 | 5678 | 9101112 | 13141516 | 17181920 | 21222324 | 25262728 | 29303132 | 33343536 | 37383940 | 41424344 | 45464748 | 49505152 | 53545556 | 57585960 | 61626364 | 65666768 | 69707172 | 73747576 | 77787980 | 81828384 | 85868788 | 89909192 | 93949596 | 979899100 | |
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ASW SCAFFOLDING

PROJECT
TOPOGRAPHICAL SURVEY
LAND AT
ABERGARWED

Scale	1:200	Date	22.08.19
Drawn	OZ	Checked	TC
Project Reference No.	ALS/2674		
Drawing Number	ASW/ACA/001		