



THE COAL AUTHORITY

**YNYSARWED WATER TREATMENT PLANT,
RESOLVEN, NEATH,
SOUTH WALES**

UPDATED HERITAGE IMPACT ASSESSMENT

February 2021

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SUMMARY

Wardell Armstrong LLP (WA) was commissioned by The Coal Authority to prepare a Heritage Impact Assessment regarding a proposed upgrade to the High Density Sludge Plant which treats minewater from the former Ynysarwed Mine, Resolven, Neath (affecting two areas centred on NGR SN 80837 01700 and SN 80455 01188).

This Heritage Impact Assessment is designed to assess the impact of the proposed development on the heritage significance of upstanding and below ground heritage assets within the immediate vicinity, drawing on a wider study of the area undertaken in 2018. This updated assessment is required due to the time lapse between the earlier assessment and the production of detailed development proposals for the scheme.

Two areas are to be affected by the scheme, Area A, to the north, adjacent to Neath Road (the B4242) where the existing plant buildings are located, and where new buildings are proposed, and Area B, to the south, adjacent to the River Neath, the Neath Canal and the A465, where there are existing associated reed beds and where new drainage is anticipated.

The core of 19th century mining activity at Ynysarwed occurred a little to the north of Area A, where the staithes were positioned opposite the entrance to Ynysarwed Farm. However, some associated features have been identified in the vicinity, particularly near Area A, and two of these have the potential to be directly affected by the development proposals, a former smithy and associated structures and a ruined structure. Some level of mitigation may therefore be required, dependent on advice from the local planning archaeologist.

It has also been identified that indirect effects on the setting of Neath Canal would occur as a result of the development proposals. Despite the local development plan including a policy to safeguard the canal, the development proposals will ultimately result in beneficial effects in the continued long-term treatment of pollutants into the canal.

ACKNOWLEDGEMENTS

Wardell Armstrong LLP (WA) thanks Mathura Pramekalan at The Coal Authority for commissioning the project and for all assistance throughout the work, and for information and advice during the site visit.

WA also thank Calli Rouse, Historic Environment Record and Information Manager at Glamorgan-Gwent Archaeological Trust for information and advice regarding the Historic Environment Record.

The report has been written by Cat Peters with the figures produced by Helen Phillips. Dave Jackson managed the project and edited the report, which has received final quality assurance review by Frank Giecco.

1 INTRODUCTION

1.1 Circumstances of Project

- 1.1.1 Wardell Armstrong LLP (WA) was commissioned by The Coal Authority to prepare a Heritage Impact Assessment regarding a proposed upgrade to the High Density Sludge Plant which treats minewater from the former Ynysarwed Mine, Resolven, Neath (affecting two areas centred on NGR SN 80837 01700 and SN 80455 01188).
- 1.1.2 This Heritage Impact Assessment is designed to assess the impact of the proposed development on the heritage significance of upstanding and below ground heritage assets within the immediate vicinity, drawing on a wider study of the area undertaken in 2018 (Wardell Armstrong 2018). This updated assessment is required due to the time lapse between the earlier assessment and the production of detailed development proposals for the scheme.
- 1.1.3 The Ynysarwed Mine Water Treatment Plant was established in 1997 to treat mine water discharge from the Ynysarwed Adit, which was once associated with the collieries of Blaenant and Ynysarwed. The plant has been found to be inefficient, with various elements reaching the end of their operational life, resulting in the need for an upgraded plant. Outline designs are proposed for the new scheme.
- 1.1.4 Two areas are to be affected by the proposed scheme, Area A, to the north, adjacent to Neath Road (the B4242) where the existing plant buildings are located, and where new buildings are proposed, and Area B, to the south, adjacent to the River Neath, the Neath Canal and the A465, where there are existing associated reed beds and where new drainage is anticipated.

1.2 The Purpose of the Heritage Impact Assessment

- 1.2.1 The 2018 Heritage Impact Assessment was designed to assess the impact of an upgraded plant on the heritage significance of heritage assets within a 500m radius centred on the scheme (Wardell Armstrong 2018). This addressed three options for the upgrade. Now that more detailed designs are proposed, and due to the length of time between the earlier assessment and now, updated planning legislation professional archaeological guidance, and the 6 month restrictions on many Local Authority Historic Environment Record (HER) datasets means that an updated assessment to assess heritage impacts of the refined scheme is required.

1.3 Planning Policy and Legislative Framework

1.3.1 Planning Policy Wales (PPW), revised in December 2018 (Welsh Government 2018), provides the national planning policy framework for the consideration of the historic environment in Wales (Welsh Government 2018, 118). This states that *'it is important that the planning system looks to protect, conserve and enhance the significance of heritage assets. This will include consideration of the setting of an historic asset which might extend beyond its curtilage. Any change that impacts on an historic asset or its setting should be managed in a sensitive and sustainable way. Any decisions made through the planning system must fully consider the impact on the historic environment'* (ibid, 123).

1.3.2 The planning system also recognises the need to conserve archaeological remains, *'the conservation of archaeological remains and their settings is a material consideration in determining planning applications, whether those remains are a scheduled monument or not'* (ibid, 126). *'Where archaeological remains are known to exist, or there is a potential for them to survive, an application should be accompanied by sufficient information, through desk-based assessment and/or field evaluation to allow a full understanding of the impact of the proposal on the significance of the remains'* (ibid, 127).

1.4 Local Planning Policies

1.4.1 The Neath Port Talbot County Borough Council Local Development Plan (2011-2026) was adopted in January 2016. Within this document, *Strategic Policy SP 21* relates to the *Built Environment and Historic Heritage*. It states that *'The built environment and historic heritage will, where appropriate, be conserved and enhanced through the following measures:*

- 1. Encouraging high quality design standards in all development proposals;*
- 2. Protecting arterial gateways from intrusive and inappropriate development;*
- 3. Safeguarding features of historic and cultural importance;*
- 4. The identification of the following designated sites to enable their protection and where appropriate enhancement:*
 - (a) Landscapes of Historic Interest;*
 - (b) Historic Parks and Gardens;*
 - (c) Conservation Areas;*
 - (d) Scheduled Ancient Monuments; and*

(e) Listed Buildings and their curtilage.’ (Neath Port Talbot County Borough Council 2016, 84).

- 1.4.2 Within the Strategic Policy on the Built Environment, a specific policy addresses the extensive Canal Network within the borough, *Policy BE3*. It states that the Neath Canal from Briton Ferry to Ysgwrfa Bridge, Aberpergwm is safeguarded: *‘proposals which would prejudice the conservation, restoration and operation of these safeguarded lengths of canal will be resisted. Proposals will need to demonstrate that they would not adversely affect the setting of the canals or prevent or discourage the use of the canals for recreation and water supply’* (Neath Port Talbot County Borough Council 2016, 87).

2 METHODOLOGY

2.1 Introduction

2.1.1 The preparation of this Heritage Impact Assessment has been undertaken in accordance with general guidance prepared by Bassetlaw District Council (2011) and the Chartered Institute for Archaeologists (CIfA 2020), and the Welsh Government's Technical Advice Note on the Historic Environment (Welsh Government 2017). This states that a heritage impact is '*a structured process that enables the significance of a designated asset to be taken into account when considering proposals for change... [and should be] proportionate both to the significance of the historic asset and to the degree of change proposed, and should include sufficient information to enable both the significance of the asset and the impact of change to be understood*' (Welsh Government 2017, 8).

2.2 Documentary Sources

2.2.1 The data underlying this Heritage Impact Assessment relies heavily on the previous HIA undertaken in 2018 (Wardell Armstrong 2018) due to archive and local library closures in relation to ongoing COVID-19 restrictions, and the fact that little new material would have arisen in the intervening time. A site visit was undertaken relating to the scheme in February 2021 to support this assessment, but no primary research.

2.3 Site Visit

2.3.1 The site and its environs were visited on Tuesday 9th February 2021, particularly concentrating on the two areas to be affected by the scheme, Areas A and B.

2.3.2 The site visit aimed to:

- identify any as yet unknown features within Areas A and B;
- identify whether any known features identified during the research are still present within Areas A and B;
- consider the impact of the proposed development on the heritage significance of heritage assets in the vicinity.

2.4 Impact Assessment Tables

2.4.1 The inclusion of heritage impact tables (Appendix 1), the usual method of assessing the impact of development proposals is included as guidance. These tables use standard assessment methods as used by Government agencies, as for example those used in the Highway Agency's *Design Manual for Roads and Bridges* (2007). They are

designed to first establish the significance of the heritage asset against set criteria, secondly estimate the magnitude of impact and, taking the results of these two together, allow a calculation of impact on overall heritage significance.

2.5 Heritage Impact Assessment

- 2.5.1 For the purposes of this report, the term '*Area A*' is used to refer to the area to be directly affected by the proposed upgraded plant adjacent to Neath Road to the north and '*Area B*' for the area containing the reed beds to the south (Figure 2).
- 2.5.2 As this area has been subject to a wider study previously (Wardell Armstrong 2018), an initial 1km HER study area was commissioned to validate the 2018 dataset. This data was then assessed, to identify those specific assets with the potential to be impacted by the scheme, so that this document can be used in conjunction with the earlier, wider study to avoid unnecessary repetition.
- 2.5.3 **Historic Environment Record (HER):** the HER, maintained by the Glamorgan-Gwent Archaeological Trust (GAT), was consulted in January 2021 in order to obtain updated data to complement the results of the previous HIA of the area (Wardell Armstrong 2018). Assets identified as being of particular relevance to the present proposed development have been included in Appendix 2 and Figure 3, with the wider area already covered in the earlier study, referenced where applicable.
- 2.5.4 **National Heritage List:** the online database of all designated assets (scheduled monuments, listed buildings, registered parks and gardens, battlefields etc.), maintained by the Welsh Government's Historic Environment Department (Cadw) was searched for the 1km study area, and relevant results specific to the scheme are detailed in Appendix 2 and illustrated in Figure 3.
- 2.5.5 **The Coal Authority Records:** no records relevant to this area are held by The Coal Authority.
- 2.5.6 **Wardell Armstrong LLP:** various publications and unpublished reports on excavations and other work in the region are held within the Wardell Armstrong library and these were examined and are referenced as appropriate.
- 2.5.7 **Websites:** various websites were checked for information relevant to the site's assessment, including Google Earth™, and the British Geological Survey. These are listed, as appropriate, in the bibliography.

2.6 Reporting

2.6.1 Digital copies of the report will be sent to The Coal Authority and the Historic Environment Record, maintained by Glamorgan-Gwent Archaeological Trust, where access will be made available on request. A copy will also be forwarded to the Local Planning Archaeologist by The Coal Authority.

2.7 Glossary

2.7.1 The following standard terms are used throughout the report:

- Designation – the process that acknowledges the significance of a heritage asset and thus advances its level of consideration/protection within the planning process. Designated assets can either be statutory, like listed buildings, or non-statutory such as registered parks and gardens or conservation areas.
- Heritage Asset – a building, monument, site, place, area or defined landscape positively identified as having a degree of heritage significance that merits consideration in planning decisions.
- Mitigation – action taken to reduce potential adverse impacts on the heritage significance of a place.
- Setting – the surroundings in which a heritage asset is experienced. The extent is not fixed and will vary according to the historic character of the asset and the evolution of its surroundings.
- Significance – the value of a heritage asset to present and future generations attributable of its heritage interest. That interest may be archaeological, architectural, artistic, or historic (including historical associations).

3 DESCRIPTION

3.1 Location

3.1.1 The Ynysarwed Water Treatment Plant is located on land either side of the A465, north of the River Neath, to the north-east of Clyne, and south west of Resolven, in the County of Neath Port Talbot (Figure 1).

3.1.2 The specific areas to be affected by the proposed upgrading scheme comprise a linear stretch of land adjacent to the B4242 Neath Road where the present plant structures are located (Area A, centred on NGR SN 80837 01700; Figure 2) and, to the south-west, the existing reed beds adjacent and to the south of the River Neath with a linear tract of land extending north-eastwards containing an access route (Area B, centred on NGR SN 80455 01188; Figure 2).

3.2 Geology

3.2.1 The bedrock geology of the area is mapped as mudstone, siltstone and sandstone of the Llynfi Member, a sedimentary bedrock formed approximately 310 to 315 million years ago in the Carboniferous Period. This is overlain by superficial deposits of clay, silt, sand and gravel Alluvium, formed up to 2 million years ago in the Quaternary Period (BGS 2021).

3.3 Landscape Character

3.3.1 The area has been identified as lying within National Landscape Characterisation Area 37: South Wales Valleys. The key characteristics of this area are:

- Extensive upland plateaux;
- Numerous steep-sided valleys;
- Ribbon urban and industrial areas in valleys;
- Extensive remains of heavy industry – with a mix of derelict, preserved and largely redeveloped areas, notably for coal mining;
- Contrast of urban valley activity next to quiet uplands;
- Large blocks of coniferous plantation and deciduous woodland fringes;
- Heather, rough grassland and steep bracken slopes – much is common land;
- Improved pastures on some lower valley sides;
- Field boundaries – drystone walls mark the boundary of common land while fields on lower slopes are bounded by dense, hawthorn hedges;
- Transport routes restricted to valleys; and
- Iconic cultural identity (Natural Resources Wales 2014, 3).

3.4 Archaeological and Historical Background

- 3.4.1 This historical and archaeological background is compiled predominantly from the Heritage Impact Assessment produced for the wider area in 2018 (Wardell Armstrong 2018). It is intended only as a summary of historical developments specific to the present development proposals to support the earlier assessment and will not repeat the wider work undertaken in the previous study. The locations of known, relevant heritage assets within the vicinity, taken from an initial 1km search radius and the results of the previous HIA, are shown in Figure 3 and summarised in Appendix 2.
- 3.4.2 **Prehistoric to Roman:** there is no specific evidence for prehistoric or Roman activity in the vicinity, though a Roman fort was established at Neath, and it is likely that associated activity occurred in a wider area (Wardell Armstrong 2018, 9).
- 3.4.3 **Medieval:** settlement continued at Neath in the medieval period, and a castle was established there in 1129. The origins of coalmining in the area lie in the late medieval period, with small opencast mining for local purposes in the Neath area documented in the early 16th century (Wardell Armstrong 2018, 10). The name 'ynys' appears in many local place names and means clearing or field, suggesting woodland may have been cleared for extraction purposes.
- 3.4.4 **Post-medieval:** coal extraction accelerated in the post medieval period, dominating the area by the second half of the 18th century, and improved transport links, in the form of canals, were created, to export coal from the steep valleys (Wardell Armstrong 2018, 10). One of these, the Neath Canal (Asset 1), was conceived in 1790 to replace earlier, shorter stretches of canal, and eventually linked Neath and Port Talbot, to Glynneath to the north-east. This passes the proposed development areas. A number of structures in the vicinity relate to the construction of the canal, including the site of the 1792-3 Ynysbwlllog Aqueduct (Asset 2; replaced after 1980 by a modern structure) and the site of a probable stable and feedstore to accommodate horses used to tow canal barges (Asset 3; since demolished). Limekilns (Asset 11), depicted to the south-west of the canal on the First Edition Ordnance Survey map (Figure 4), were likely specifically located in close proximity to the canal to transport lime. They are no longer depicted on the Third Edition Ordnance Survey map of 1918 (Figure 6).
- 3.4.5 The Neath Canal was completed in 1795 and was a catalyst for the industrial development of the vale of Neath. This is represented in the vicinity of the proposed development by the sinking of a colliery at Ynysarwed on the Ynysarwed Estate. It is first documented in 1823, when it was owned by Messrs Morgan and Perkins (Wardell

Armstrong 2018, 11). After passing hands several times, it was eventually abandoned in 1875. First Edition Ordnance Survey Mapping of 1878 (Figure 4) shows this to have been focused on the hillside to the north-west of the Neath Road, to the north of Area A, served by a tramway which ran south-eastwards, crossing Neath Road and the canal, and continuing adjacent to the access track to Ynysarwed Farm to meet the railway, the southern stretch to the railway, likely a later extension.

- 3.4.6 Other tramways and tracks are shown heading south-westwards to link various coal levels, drifts, quarries and gravel pits dotting the hillside. Many of these are annotated 'old' on the 1878 plan, including one close to the Neath Road, north of Area A (Asset 4). A number of structures are depicted to the immediate north-east of this 'Old Coal Level' (Asset 4), which are likely to have been associated with the colliery (Asset 5). A Sales Plan of 1891 indicates that these were cottages (Plate 1, *confer* 3.4.8), though they are not shown on the Second Edition Ordnance Survey map of 1899 (Figure 5). To the south of these, and closer to Area A, a 'Smithy' and adjacent structures (Asset 6) are depicted on the 1878 plan, and on subsequent historic Ordnance Survey maps, but had disappeared by 1963 (Figures 4-7). An 'old Tramway' (Asset 9), annotated as such on the Second Edition Ordnance Survey map, and depicted, though not labelled, on the First Edition Ordnance Survey map, a little to the south-west, and an adjacent building, annotated 'Ruin' (Asset 8) were also associated with the extraction and transport of material to the road and canal network. A well (Asset 10) may have also been associated with the colliery, providing water for the workers' housing to the south-west, or may have had its origins with the canal, providing water for horses and canal users. This is no longer shown on Ordnance Survey mapping of 1963 (Figure 7).
- 3.4.7 A milestone (Asset 7), also shown on the First Edition Ordnance Survey map, may predate the colliery, and may be associated with the formalisation of Neath Road as a turnpike, and thus also of post medieval origin. It is shown on historic Ordnance Survey mapping (Figures 4-7), but not modern mapping.
- 3.4.8 In 1891, the Ynysarwed Estate was auctioned off in three lots (Lots 11, 12 and 13) as part of a wider sale, comprising an area of c. 799 acres and 17 cottages. Lot 11 was '*all that valuable and extensive colliery, known as The Ynysarwed Colliery, and all the veins and seams of coal, culm, iron ore, fire and other clay*' and concerned only below-ground minerals within the areas of Lots 12 and 13; Lot 12 comprised '*all that very valuable freehold messuage, farm, and lands, known as Ynysarwed Demesne*' (Wardell Armstrong 2018, 11) and included Area A (Plate 1). A structure is shown in the vicinity of Area A, presumably the smithy and adjacent structures (Asset 6), as are other

features noted from the First Edition Ordnance Survey map (Assets 4, 5 and 7). The staithe were situated to the north, close to the access track for Ynysarwed Farm.

3.4.9 **Modern:** documentary evidence indicates that a new drift was opened at Ynysarwed Colliery in 1904/5, and by 1913 the colliery employed 390 men (Wardell Armstrong 2018, 12). This renewed activity might explain the appearance of an additional level (Asset 12) on the Third Edition Ordnance Survey map of 1918 (Figure 6), though it was already labelled 'old'. This level is still depicted on modern mapping. There is documentary evidence for the colliery throughout the early to mid-20th century, changing ownership in 1918; in 1947, becoming part of the Nationalisation scheme, under the South Western Division No 1.: Swansea Area when it employed 62 men above ground and 172 below; and in 1954 transferring to the No. 9: Neath Area, before finally closing in 1955 (Wardell Armstrong 2018, 12). Despite this, Ordnance Survey mapping of 1918 (Figure 6) and 1963 (Figure 7) continues to show the extractive features in the vicinity of the proposed development site as 'disused' or 'old', suggesting the focus of later activity was either elsewhere, or that this later activity had all begun and ceased between those years.

3.4.10 The present Ynysarwed Mine Water Treatment Plant, including reed beds, was established in 1997 to treat mine water discharge from the Ynysarwed Adit (Plates 2-4), which was once associated with the collieries of Blaenant and Ynysarwed. This aimed to reduce the contamination of the River Neath and the Neath Canal. Recent studies have shown that this plant is becoming inefficient and would need to be upgraded to continue to provide effective water treatment.

3.5 Previous Archaeological Works

3.5.1 As outlined, this assessment is designed to support a previous Heritage Impact Assessment undertaken in 2018 (Wardell Armstrong 2018), now that the developed proposals have been refined, and thus draws heavily on the previous work. The earlier document concluded that the development proposed at that stage may have directly impacted an Historic Hedgerow, any surviving sub-surface remains of known former field boundaries and a former colliery tramway and have indirectly affected the grade II listed bridge over the Neath Canal at Ynysarwed (Cadw 82273) and the canal itself. Many of these assets are not applicable to the present development proposals, and only those assets that are relevant have been included within the present study.

3.6 Site Visit

- 3.6.1 The site was visited on Tuesday 9th February 2021 and concentrated on the two areas to be affected by the scheme, Area A, adjacent to Neath Road and containing the present Plant buildings, and Area B, to the south-west containing the reed beds.
- 3.6.2 **Area A:** the structures comprising the present Plant at Ynysarwed are of late 20th century metal and concrete construction, retaining no historical, architectural or archaeological interest (Plate 5). As expected from the historic map regression, none of the known former features identified in the vicinity of Area A were visible during the site visit (Assets 5, 6, 7, 8, 9, 10 and 12), except the former old coal level (Asset 4), presently fenced off (Plate 6), and the Neath Canal (Asset 1). The area to the immediate north of the Neath Road is steeply sloping and heavily tree-covered (Plate 7). The Neath Canal runs immediately adjacent to the plant and is tree-lined on both sides. The present plant structures are visible from the canal bank (Plates 8 and 9).
- 3.6.3 **Area B:** the existing reed beds within Area B comprise two wetland cells surrounded by a path. The beds contain tall reeds which hinder visibility at ground level (Plates 10 and 11). This area has been majorly affected by the construction of the A465, which has resulted in the re-alignment of the Neath Canal (Asset 1) and the River Neath, which once ran through the area of the present reed beds (compare Figures 7 and 2). This means that no as yet-unknown archaeological remains were likely to be identified at ground level in this area. None of the known former features in the vicinity were identifiable (Assets 2, 3 and 11). An existing track provides access from the A465 to the reed beds and runs parallel to the A465 and the River Neath (Plate 12).

3.7 Development Proposals

- 3.7.1 **Area A:** the proposals are for the establishment of a number of replacement structures on the south-eastern side of the Neath Road, where only one permanent structure exists at present (Figure 8). Dependant on the detail of the buildings and the requirements for groundworks and deeper excavations for any foundations and service cuts etc, it is possible that direct impacts could affect any surviving sub-surface remains of two former features known to have existed in the vicinity (Assets 6 and 8; Figure 3). In addition, indirect affects, in terms of the setting of the Neath Canal (Asset 1) area also likely to result from the development proposals in Area A.
- 3.7.2 **Area B:** the proposals are for a number of additions to the two wetland cells, including a proposed splitter chamber at the north-eastern extent and new connections to existing discharge points for the water outfall (Figure 8). Overall, these are minor

alterations, unlikely to indirectly affect the setting of the Neath Canal (Asset 1), and unlikely to directly affect any as-yet unknown sub-surface archaeological remains. The other former heritage assets known from this area have already been demolished, likely as part of the construction of the A465 (Assets 2, 3 and 11).

4 DISCUSSION

4.1 Summary of Heritage Assets

4.1.1 This research has identified 12 heritage assets with the potential to be impacted by the detailed proposals, all of which are of post medieval origin, and relate to the industrial development of the valley, mostly in the form of features associated with the former mine (Assets 4, 5, 6, 8, 9 and 12) or in the form of features associated with the Neath Canal (Asset 1, 2, 3, 11). A well and milestone adjacent to the Neath Road also once survived in the vicinity (Assets 7 and 10).

4.1.2 Only a former coal level (Asset 4) and the Neath Canal survive (Assets 1), and several other assets have been totally destroyed by modern developments (Assets 2, 3 and 11). It is possible that sub-surface remains of the other seven assets survive (Assets 5-10 and 12), although most of these are likely to remain unaffected by the development proposals, and thus do not warrant further consideration (Assets 5, 7, 9, 10 and 12).

4.1.3 Four heritage assets have been identified which may be affected by the development proposals (Assets 1, 4, 6 and 8), all four lying in the vicinity of Area A. All of these are considered to be of local significance (Appendix 1, Table 1), although the Neath Canal has been highlighted as of particular concern in local planning legislation (*confer* 1.4.2). The four assets comprise:

- Neath Canal (Asset 1);
- The coal level (Asset 4);
- The site of a former smithy and associated structures (Asset 6);
- The site of a ruined structure (Asset 8).

4.2 Magnitude of Impact of the Scheme

4.2.1 A total of four heritage assets have been identified as at potential risk of impact by the development proposals, with an additional eight heritage assets remaining unaffected.

4.2.2 The coal level (Asset 4), former smithy and associated structures (Asset 6) and ruined structure (Asset 8) have all been identified in the vicinity of Area A. The coal level (Asset 4) is the adit from which discharged water from the former mineworking is being treated by the scheme, and thus is unlikely to be greatly affected by the development proposals. No upstanding remains of the former smithy and adjacent structures (Asset 6) or ruined structure (Asset 8) are identifiable, although it is possible

sub-surface remains do survive. If the development proposals require foundation or service trenching, this could result in the 'loss' of such features (Appendix 1, Table 2).

- 4.2.3 The Neath Canal (Asset 1) runs adjacent to Area A, and to the west of Area B, and any alterations, particularly from the development proposals in Area A, will have an impact on its setting. This is likely to have a noticeable change on the setting, categorised as a 'less than substantial impact' (Appendix 1, Table 2).

4.3 Conclusions

- 4.3.1 The core of 19th century mining activity occurred a little to the north of Area A, where the staithes were positioned opposite the entrance to Ynysarwed Farm. However, some associated features have been identified in the vicinity, particularly near Area A, and two of these have the potential to be directly affected by the development proposals, a former smithy and associated structures (Asset 6) and a ruined structure (Asset 8). The 'loss' of such heritage assets of local significance would result in a limited impact on heritage significance (Appendix 1, Table 3). This means some level of mitigation may be required, dependent on advice from the local planning archaeologist.
- 4.3.2 For Neath Canal (Asset 1), a 'less than substantial' impact on an asset of local significance would result in a 'very limited' impact on heritage significance (Appendix 1, Table 3). However, Policy BE3 of the Local Development Plan states that '*proposals will need to demonstrate that they would not adversely affect the setting of the canals or prevent or discourage the use of canals for recreation and water supply*' (Neath Port Talbot County Borough Council 2016, 87). As the development proposals will ultimately result in the continued long-term treatment of pollutants into the canal, it is unlikely that the small impact on setting, by replacing the existing plant structures within Area A with new structures, will result in a rejection of the development proposals, as the overall long-term effect would be beneficial.

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8th February 2021

APPENDIX 1: HERITAGE IMPACT ASSESSMENT TABLES

Table 1 Measuring Significance

Significance	Designation	Asset types and justification	Preferred response to negative impact
International	Non-statutorily designated heritage assets	World Heritage Site (NPPF s194)	Avoid negative impact where asset contributes to the WHS's defined outstanding universal values (NPPF s201)
National	Statutorily designated heritage assets	Scheduled monuments, grade I and II* listed buildings (NPPF s194). Grade A Listed Buildings in Scotland	Avoid negative impact
National	Non-statutorily designated heritage assets	Registered battlefields, grade I and II* Registered Parks and Gardens (NPPF s194)	Avoid negative impact
National	Non-designated heritage assets of demonstrable equivalence to a scheduled monument (NPPF s138)	Assets where assessment for designation is pending, assets that have been assessed as being capable of designation but have not been designated at the SoS discretion, assets worthy of designation but which are outside the scope of the 1979 Act (NPPF s194)	Avoid negative impact
District or County (Higher)	Statutorily designated heritage assets	Grade II listed buildings (NPPF s194). Grade B Listed Buildings in Scotland	Limit negative impact (avoid substantial harm) and mitigate
District or County (Higher)	Non-statutorily designated heritage assets	Conservation area (NPPF s186), grade II registered park and garden (NPPF s194)	Limit negative impact (avoid substantial harm) and mitigate
District or County (Lesser)	Non-designated heritage assets within a national park or AONB	Any extant heritage assets (NPPF s172)	Limit negative impact and mitigate
District or County (Lesser)	Non-designated heritage assets	Heritage assets placed on a local planning authority list (NPPG). Grade C Listed Buildings in Scotland	Limit negative impact and mitigate
District or County (Lesser)	Non-designated heritage assets	Any area of potential listed in a local plan (NPPG)	Limit negative impact and mitigate
District or County (Lesser)	Non-designated heritage assets	Historic Hedgerow as defined under the Hedgerow Regulations 1997	Limit negative impact and mitigate
Local	Non-designated heritage assets	Any extant heritage assets outside of a national park or AONB.	Mitigate
Negligible	Non-designated heritage assets	Heritage assets recorded in the HER that are no longer extant, individual findspots or structures of no heritage value	No action

Table 2: Establishing the Magnitude of Impact

Magnitude of Impact	Heritage Asset		
	Archaeological Remains (Archaeological Interest)	Historic Buildings (Architectural/Artistic Interest and/or Historic Interest)	Historic Landscapes (Historic Interest)
Loss	- Change to most or all key archaeological materials, such that the resource is totally altered - Comprehensive changes to setting	- Change to key historic building elements, such that the resource is totally altered - Comprehensive changes to setting	Major change to historic landscape character resulting from: - Changes to most key historic landscape elements, parcels or components - Extreme visual effects - Major change to noise or change to sound quality - Major changes to use or access
Substantial	- Changes to many key archaeological materials, such that the resource is clearly modified - Considerable changes to setting that affect the character of the asset	- Changes to many key historic building elements, such that the resource is significantly modified - Changes to setting of an historic building such that it is significantly modified	Moderate change to historic landscape character resulting from: - Changes to many key historic landscape elements, parcels or components - Visual change to many key aspects of the historic landscape - Noticeable differences in noise or sound quality - Considerable changes to use or access
Less than substantial	- Changes to key archaeological materials, such that the asset is slightly altered - Slight changes to setting	- Change to key historic building elements, such that the asset is slightly different - Changes to setting of an historic building such that it is noticeably changed	Limited change to historic landscape character resulting from: - Changes to few key historic landscape elements, parcels or components - Slight visual changes to few key aspects of the historic landscape - Limited changes to noise levels or sound quality - Slight changes to use or access
Minor	Very minor changes to archaeological materials	Slight changes to historic buildings elements or setting that hardly affect it	Very small change to historic landscape character resulting from: - Very minor changes to key historic landscape elements, parcels or components - Virtually unchanged visual effects - Very slight changes to noise levels or sound quality - Very slight changes to use or access
No change	No change		

Table 3 Impact on Heritage Significance

Assessment Matrix to define the degree of impact on heritage asset significance		Magnitude of impact				
		No change	Minor alteration with no reduction in significance	Less than substantial	Substantial	Loss
Significance of Heritage Asset	National	Blue	Yellow	Dark green	Red	Red
	District/County (Higher)	Blue	Yellow	Light green	Dark green	Red
	District/County (Lesser)	Blue	Yellow	Light green	Light green	Dark green
	Local	Blue	Blue	Yellow	Light green	Light green
	Negligible	Blue	Blue	Blue	Blue	Blue

Blue (no appreciable impact) = no mitigation necessary

Yellow (very limited impact) = low level mitigation eg photographic record/watching brief etc

Light green (limited impact) = may need evaluation to establish appropriate mitigation which may include site survey/excavation etc

Dark green (major impact) = may not be agreed and then only with significant justification, may require evaluation and will require significant mitigation such as excavation, detailed building survey, visual restoration, some in-situ preservation and on-site interpretation

Red (very major impact) = unlikely to be agreed except in exceptional circumstances and only with a high level of mitigation

APPENDIX 2: GAZETTEER OF HERITAGE ASSETS

A data search of heritage assets within a 1km study area was assessed, updated from the 2018 dataset, which included assets from the Historic Environment Record (HER) database, maintained by Glamorgan-Gwent Archaeological Trust and Cof Cymru/ National Historic Assets of Wales web resource, developed and managed by Welsh Government's Historic Environment department (Cadw). As the present document supports the 2018 report, only additional assets relevant to the specifics of the present development proposals are included in the table below and shown in Figure 3. For a full gazetteer, please see the original report:

Asset No.	Reference	Site Name	Period	Description	Grid Reference
1	HER PRN 01027.0w	Neath Canal	Post Medieval	Neath Canal was built under Acts of Parliament of 1791 and 1793, and was vital to the industrial development of the Vale of Neath prior to the railway	273414,194060-288253,206360
2	HER PRN 01027.3w	Site of Ynysbwlllog Aqueduct	Post Medieval	Site of a five arched stone aqueduct built in 1792-3 to carry the Neath Canal over the River Neath, destroyed in flooding of 1980. A modern replacement is now in position	280330,201100
3	HER PRN 03294w	Site of rectangular building	Post Medieval	A rectangular building 'aligned northeast-south-west and 4m north of the Neath Canal', accessed to the north by 'a depression leading down from the towpath' and measuring 5.9m by 3.8m built of local stone, was visited in 1997 as part of an archaeological desk-based study for the A465. A structure matching this description is shown on historic OS mapping, but not modern mapping, so was presumably demolished ahead of A465. It was interpreted as a stable and feedstore for horses used to tow barges on the Neath Canal	280429,201272
4	First ed OS map	Site of Old Coal Level	Post Medieval	'Old Coal Level' shown and annotated on north-western side of Neath Road on First Ed OS map of 1878, with adjacent structures to north-east	280859,201750
5	First ed OS map	Site of structures	Post Medieval	A number of structures depicted on north-western side of Neath Road on First Ed OS map of 1878, adjacent to 'Old Coal Level'. Not shown on Second Ed OS map	280867,201756

Asset No.	Reference	Site Name	Period	Description	Grid Reference
6	First ed OS map	Site of smithy and adjacent structures	Post Medieval	Three structures, including a 'smithy', depicted on south-eastern side of Neath Road on First Ed OS map of 1878, south of 'Old Coal Level'. Not shown on 1963 OS map	280870,201731
7	First ed OS map	Site of milestone	Post Medieval	Milestone marked on north-western side of Neath Road on First Ed OS map of 1878, 'NEATH 5 PONT NEDD FYCHAM 7' and 'BM 59.0'. Not shown on modern mapping	280844,201719
8	First ed OS map	Site of ruined structure	Post Medieval	Structure, marked as 'Ruin,' on south-eastern side of Neath Road on First Ed OS map of 1878 close to eastern extent of tramway. Not shown on Second Ed OS map	280809,201666
9	First ed OS map	Site of tramway	Post Medieval	Tramway shown leading from 'Old Coal Level' east-north-eastwards to Neath Road and Neath Canal on First Ed OS map of 1878. Annotated 'Old Tramway' on Second Ed OS map, extended north-eastwards by Third Ed OS map and still depicted on 1963 OS map but not shown on modern mapping	280599,201624- 280799,201670
10	First Ed OS map	Site of well	Post Medieval	Well, shown and annotated on First Ed OS map of 1878, and on later mapping, though not on 1963 OS map	280780,201651
11	First Ed OS map	Site of Old lime kilns	Post Medieval	Two circular structures annotated 'Old Limekilns' on First Ed OS map of 1878 but not shown on Third Ed OS map	280324,201072
12	Third Ed OS map	Old level	Modern	'Old Level' shown and annotated on Third Ed OS map of 1918 and as 'Level (Disused)' on 1963 OS map and still shown on modern mapping	280782,201668

APPENDIX 3: PLATES



Plate 1: Extract from Sales Plan of 1891 (Wardell Armstrong 2018)



Plate 2: Google Earth imagery, Area A, June 2018



Plate 3: Google Earth imagery, Area B, 2006



Plate 4: Google Earth imagery, Area B, April 2015



Plate 5: Existing Ynysarwed Plant structures, Area A, facing south



Plate 6: Probable former coal level (Asset 4), Area A, facing north



Plate 7: Hillside north of Area A, facing north-east



Plate 8: Area A from eastern bank of Neath Canal (Asset 1), facing north-north-east



Plate 9: Area A from eastern bank of Neath Canal (Asset 1), facing west-south-west



Plate 10: Reed beds within Area B, facing south-west

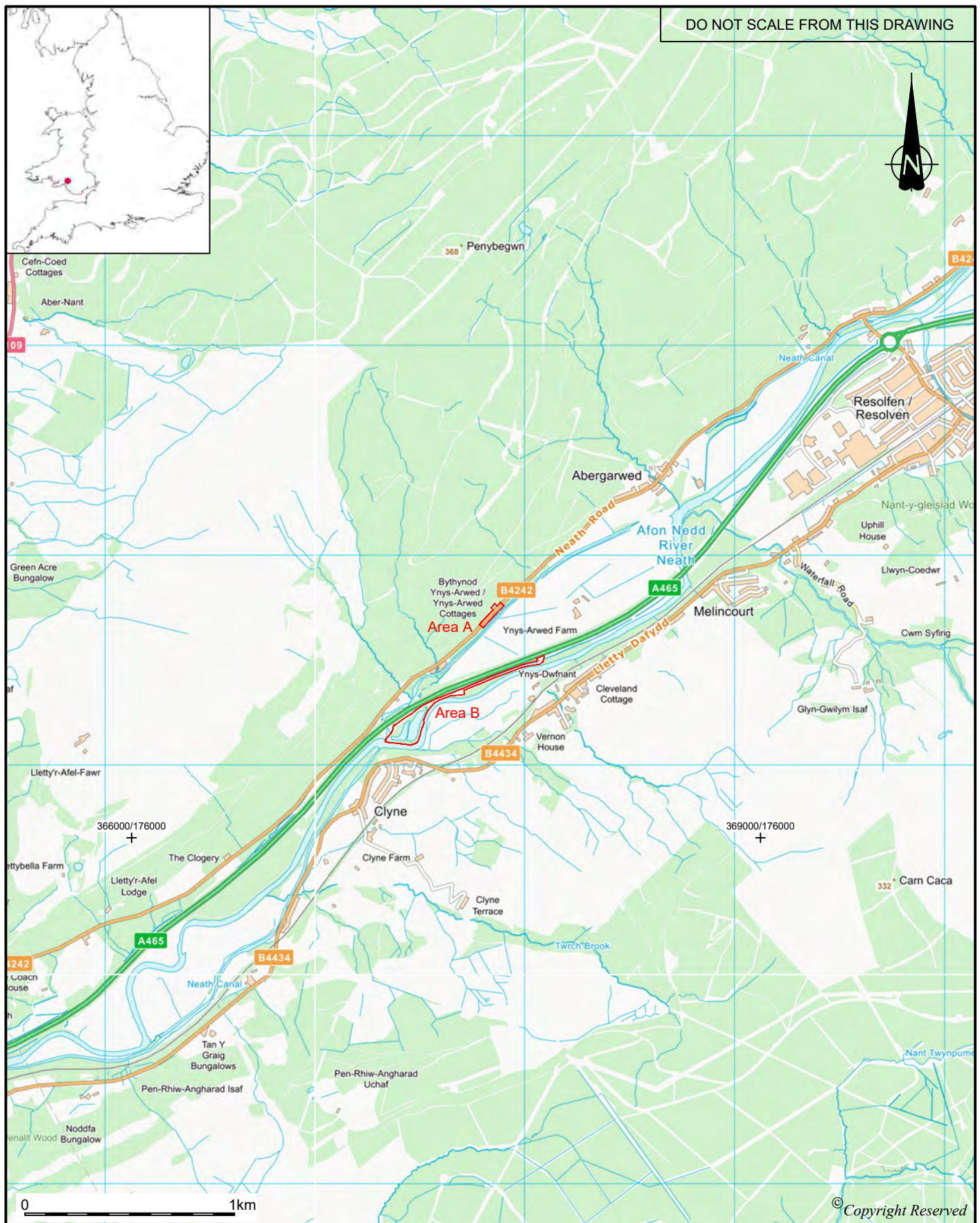


Plate 11: Reed beds within Area B, facing north-north-east



Plate 12: Existing access track from A465 to Area B, facing west-southwest

APPENDIX 4: FIGURES

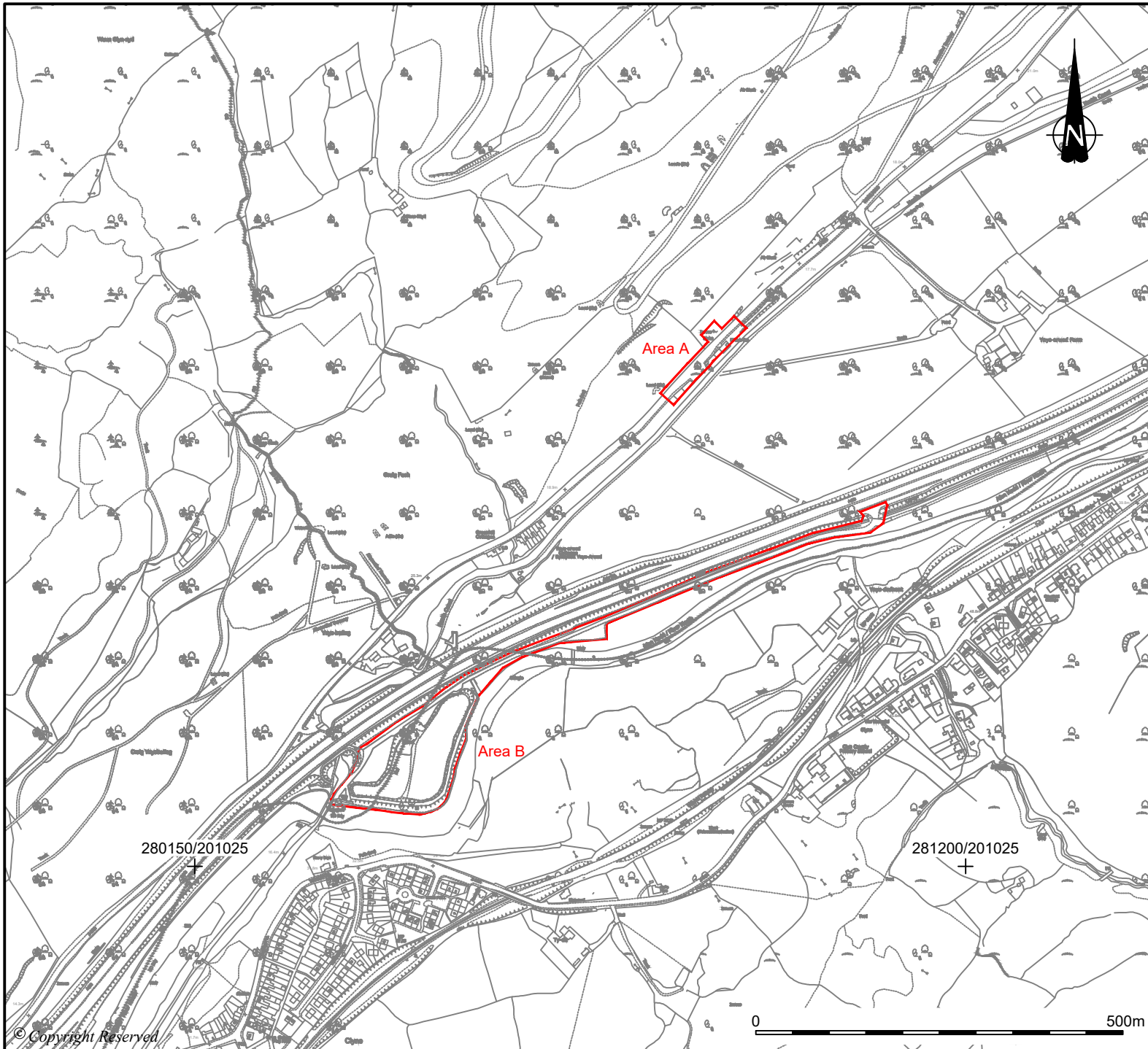


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Figure 2:
Detailed site location

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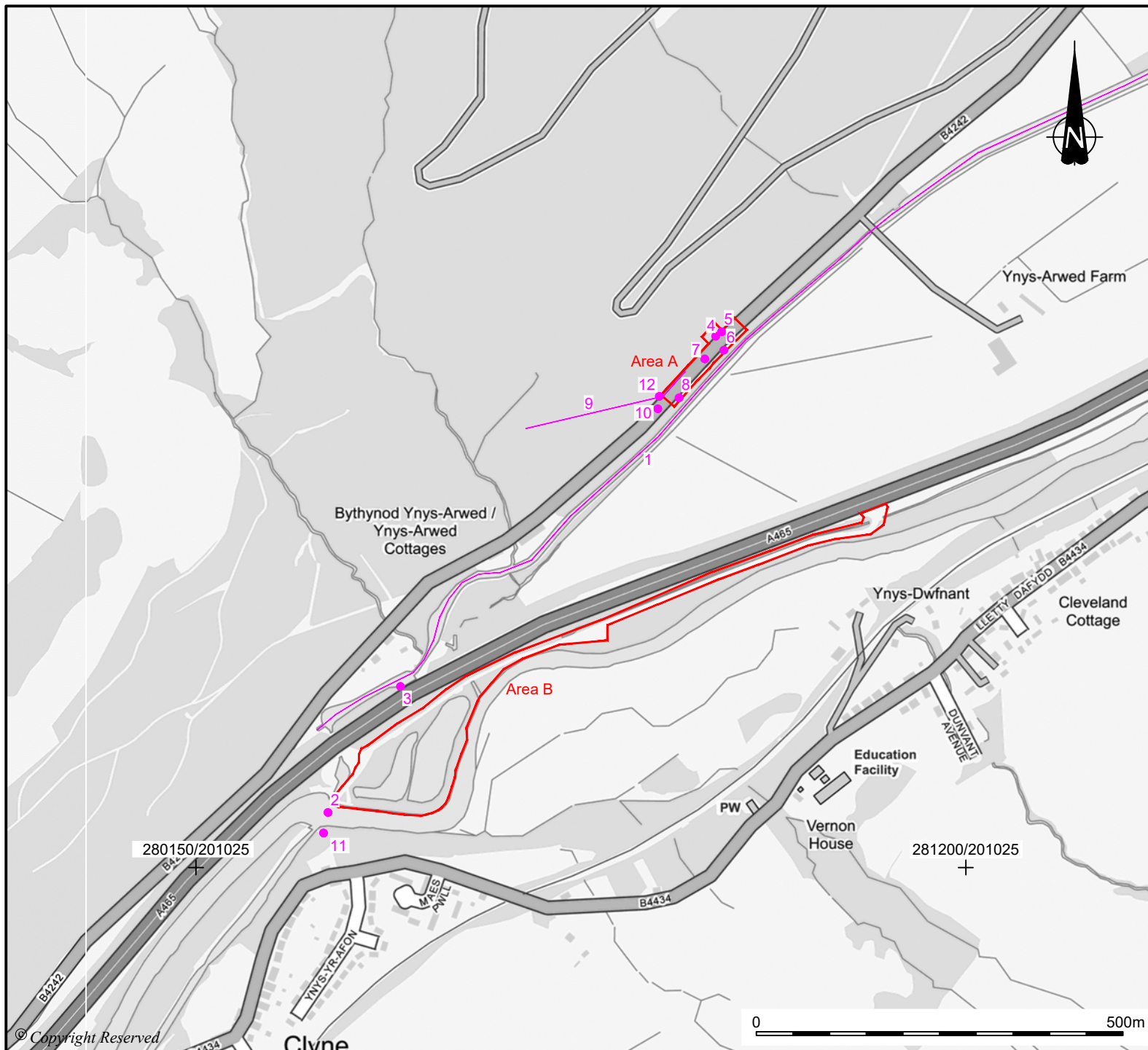


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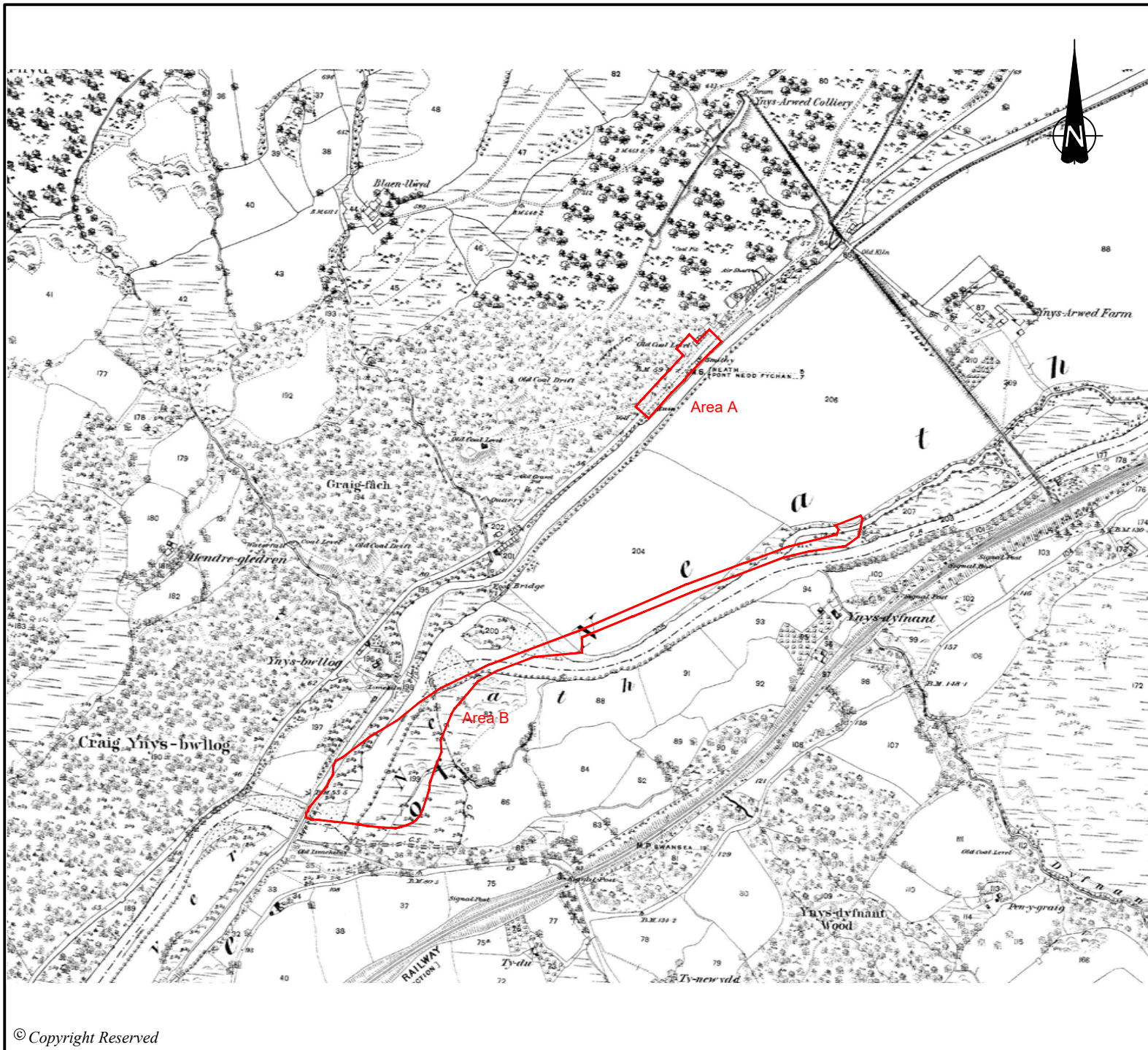
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Figure 3:
Known heritage assets in the vicinity of
the proposed development

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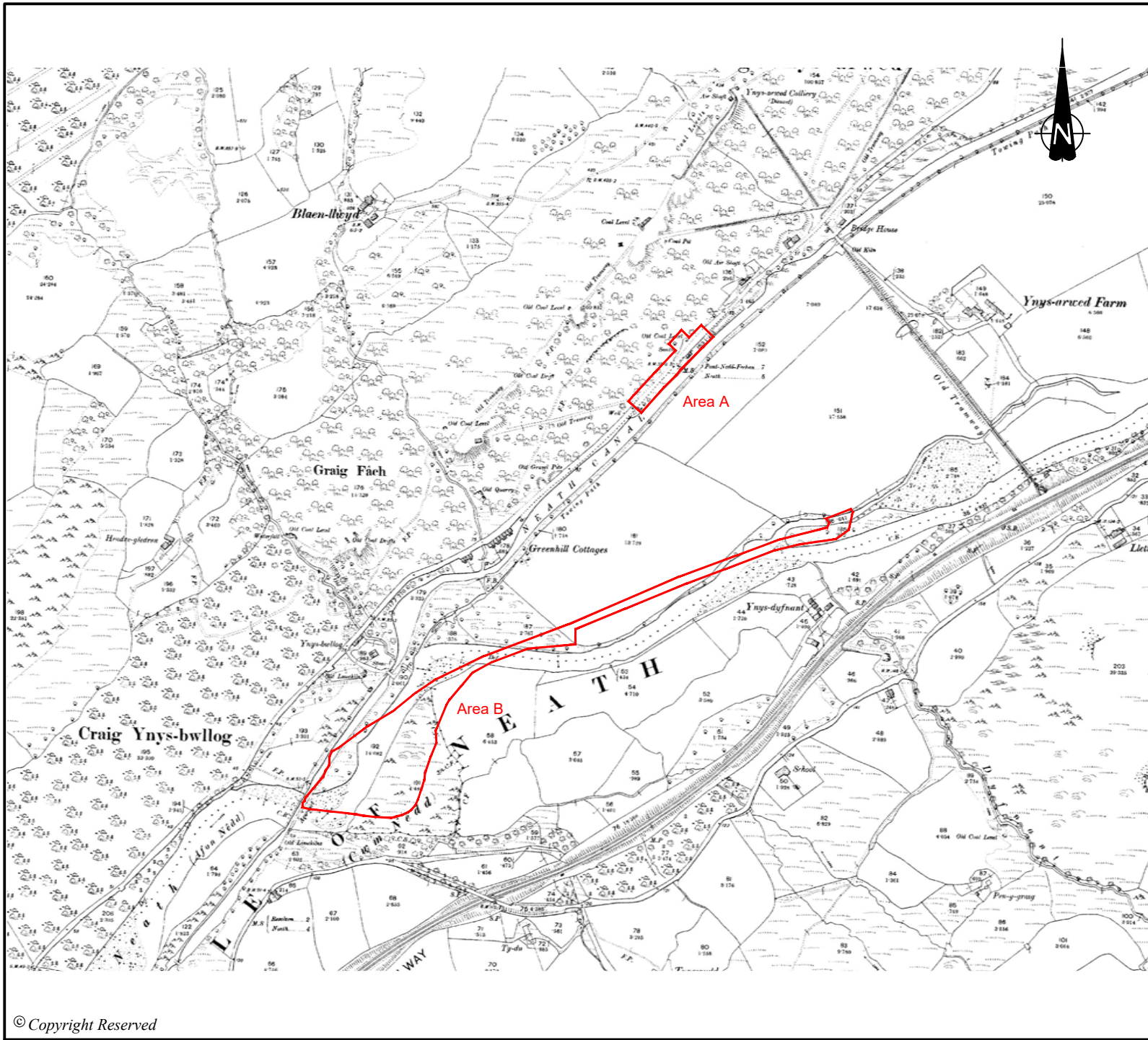


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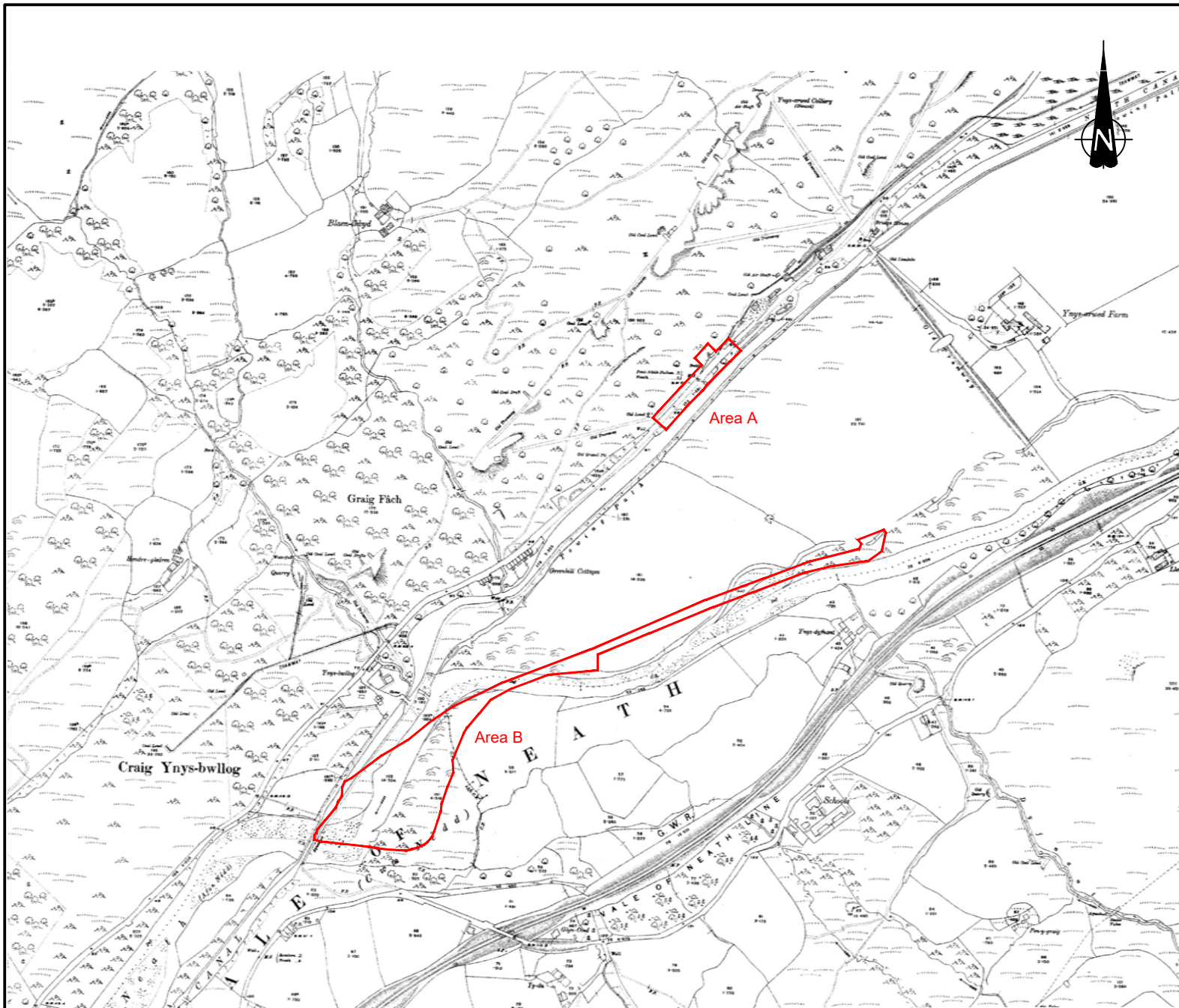
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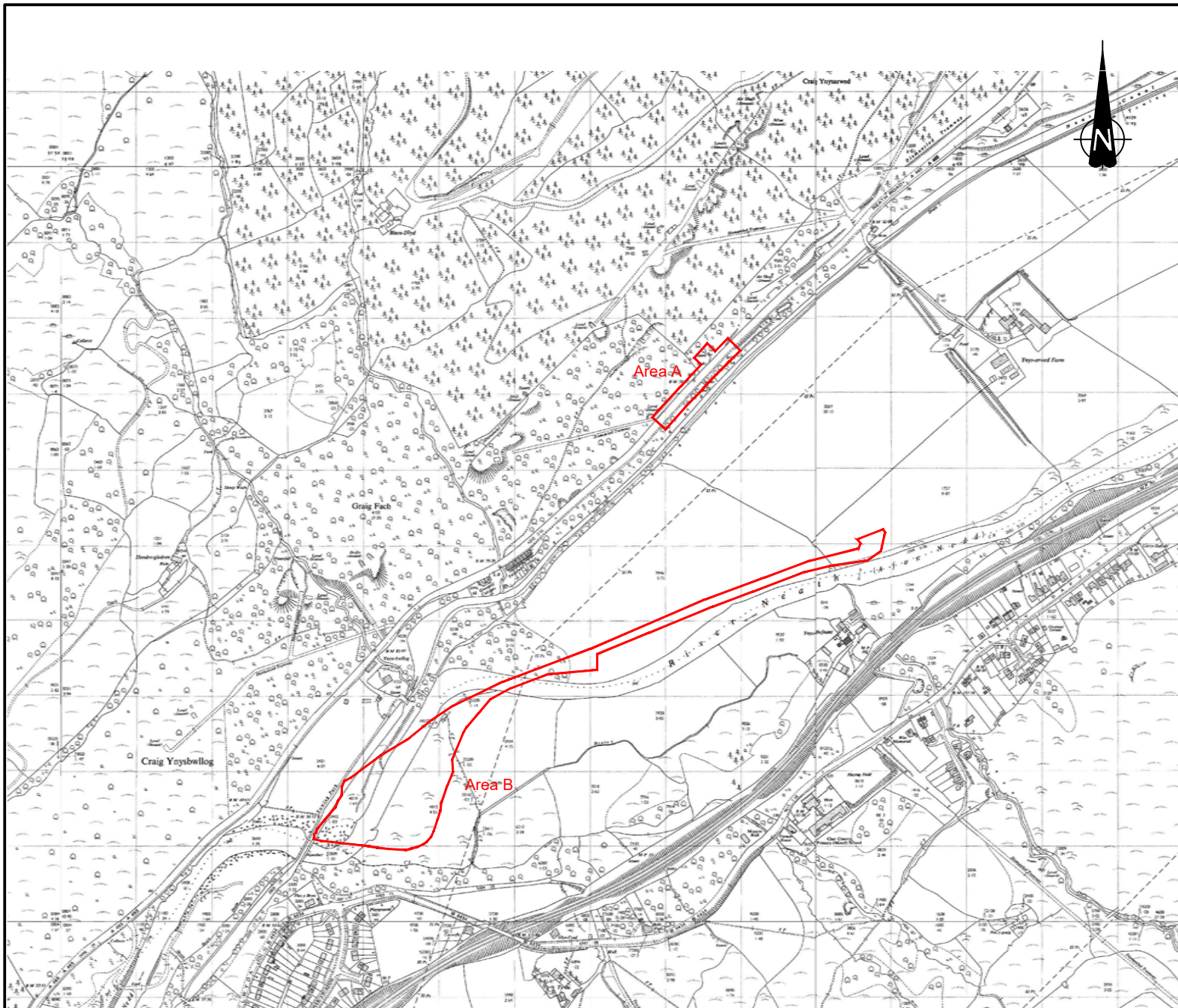
Figure 6:
Third Edition Ordnance Survey Map, 1918
(25 inch to 1 mile scale)

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Figure 7:
Ordnance Survey Map, 1963
(25 inch to 1 mile scale)

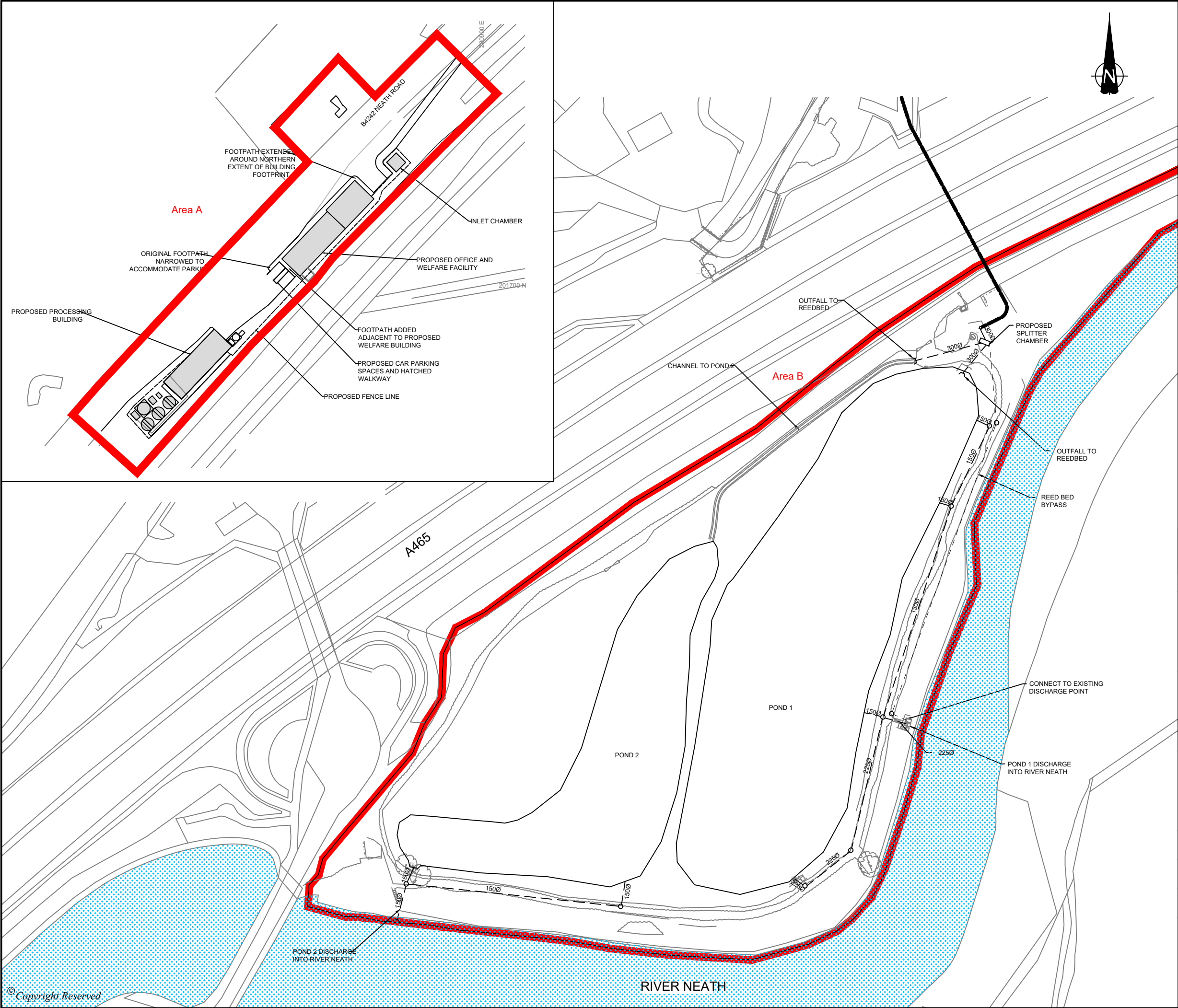
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- SITE BOUNDARY
- EXISTING NEATH CANAL (INDICATIVE)
- RIVER NEATH (INDICATIVE)
- PROPOSED FENCE LINE
- PROPOSED BUILDINGS
- PROPOSED BELOW GROUND MINE WATER TREATMENT PIPE WORK
- EXISTING PIPE FROM TREATMENT PLANT
- PROPOSED BYPASS PIPE WORK
- PROPOSED CHAMBER

B	Area A revision from client	8/3/21	HP	CP	DJ
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Figure 8:
Detail of proposed developments

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