

Marlas Rising Main Scheme

Ecological Constraints and Method Statement for Margam Moors SSSI

Burroughs

61161

June 2026



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S0 – Work in progress

S1 – For coordination

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List of Abbreviations

Abbreviation	Full Description
EPSL	European Protected Species Licence
GCN	Great Crested Newts
GLTA	Ground-Level Tree Assessment
INNS	Invasive Non-Native Species
SEWBRcC	South East Wales Biodiversity Record Centre
EcCoW	An Ecological Clerk of Works is an ecologist with the suitable experience to oversee or complete the stated task.
Project Ecologist	To contact if changes to methods or decisions on approach is required.
SSSI	Site of Special Scientific Interest
WCA	Wildlife and Countryside Act (1981 – as amended)

1 INTRODUCTION

- 1.1.1 TACP (UK) Ltd (hereafter referred to as 'TACP') was commissioned by Burroughs on behalf of their clients, Alun Griffiths (Contractors) Ltd (AGC) and Dwr Cymru Welsh Water (DCWW), to prepare a summary of surveys undertaken and an Ecological Method Statement (MS) relating to the replacement of the foul rising main at Margam Moors SSSI. This work is part of the larger scheme where replacement of the foul main rising from Kenfig pumping station to Afan WWTW (hereafter referred to as the 'Scheme').
- 1.1.2 This document should be read in conjunction with the AGC MS for the installation methods (pages 13 to 17 for installation of pipe using trench boxes and pages 18 to 21 for the installation of chambers).
- 1.1.3 The pipe location along the SSSI is shown in Appendix A. The Ordnance Survey (OS) grid reference is SS 79296 83460.

1.2 Site Description

- 1.2.1 The footprint of the pipe works extends into the Margam Moors SSSI at the northern end of the scheme (hereafter referred to as 'The Site'), and to the west it reaches just above the littoral line of Margam Sands. The Site lies approximately 10km north of Bridgend and 2km northwest of North Cornelly. The western border of the Site comprises coastal dunes. The eastern extent is bordered by the Afon Cynffig for most of the Site. The M4 crosses the southern extent of the Site and then runs parallel to the current foul rising main. The Site comprises coastal dune grassland, dense scrub, semi-improved neutral grassland and marshy grassland. The underlying geology is Mercia Mudstone Group, with areas of alluvial and storm gravel beach deposits overlaid by varying depths of windblown sand. The topography is varied but is generally comprises high sand dunes and low-lying areas.

1.3 Scope

- 1.3.1 This Ecological MS details the ecological methods to be followed at the Margam Moors SSSI only and will be in accordance with legislation and protected species guidance when carrying out the vegetation clearance and pipe works. The habitats and protected species considered are detailed in the Preliminary Ecological Appraisal (PEA), species-specific survey reports issued to DCWW by TACP in 2024 and an ecological walkover undertaken by TACP and AGC 7th April 2026.
- 1.3.2 This document includes the relevant legislation (refer to Appendix D), a summary of the results of ecological surveys and walkover of proposed overground pipe, and methods to address any impacts to, and mitigation for the following species, habitat and designated site:
 - Bats
 - Otters
 - Great Crested Newts
 - Dormice
 - Badger
 - Reptiles & other amphibians
 - Breeding birds

- Invertebrates
- Margam Moors SSSI habitats (see section 2.2.2)

1.3.3 Documents associated with this method statement are:

- HS.F.63 Method Statement Proforma 014- Pipe Installation works all phases A04
- 61161_REP_KenfigHillHRA_P1_FI (Appendix E)

1.3.4 TACP staff who are assisting DCWW and their contractor AGC, are the following ecologists:

- **James Bilham** – Principal Ecologist, has 12 years of experience, is a Full Member of CIEEM and is Named Ecologist on the GCN licence and Project Ecologist for this scheme. James holds an NRW GCN and NRW bat licence.
- **Joseph Coyle** – Senior Ecologist has 8 years of experience, is an Associate member of CIEEM, is a NRW and NE GCN survey licence holder and is accredited on the GCN licence for this scheme. Joey is the Ecological Clerk of Works – EcCoW for this scheme.
- **Jordan Fox** – Senior Ecologist with 5 years of experience is an Associate member of CIEEM, holds an NRW and NE Dormouse licence and NRW GCN survey licence.

2 ECOLOGY SUMMARY

2.1.1 An ecological constraints map in Appendix B, shows locations of features and species identified during the extended Phase 1 Habitat survey and species specific surveys in 2024 at the SSSI only. Species identified as being present or having potential presence are listed below in Table 1.

Table 1 - Species identified as being present on the Site or having potential presence

Species	Summary
Bats	Preliminary roost assessments and activity surveys were undertaken of buildings within 100m of the proposed route. Building 1 identified a hibernation roost and maternity roost for Lesser Horseshoe Bats (<i>Rhinolophus hipposideros</i>). Other species of bat were noted. Refer to 61161_REP_KenfigHillPRA_P1_S3 for further details. No buildings within 100M of the Margam Moors SSSI, including "B3" (Appendix B) have been identified with a bat roost. Ground Level Tree Assessments were undertaken of trees within 100m of the Site. A large number of alder and willow trees are present across The Site. Branches of these species are particularly susceptible to splitting. As such a lack of PRFs presently does not exclude their possibility at a later stage.
Otters	The extended phase 1 survey undertaken in January 2024 identified otter spraints and prints on the bank of the river Afon Cynffig at OS grid reference SS 80019 82910. No holts were found during the survey. Fish species were identified within the Afon Cynffig. Foraging is likely to present along the river. Due to the location of the Site in relation to the identified area.
Great Crested Newts	eDNA samples were collected from four waterbodies in June, during the appropriate survey season. Samples were collected from ponds 1 and 2. Further samples were collected from 3 connecting locations of the Rhynes at Margam moors. No water bodies tested positive for GCN DNA. All presence/absence and population estimate surveys were conducted under suitable weather conditions. A total of 3 waterbodies were surveyed with the presence of GCN recorded in pond 4 (outside of Margam Moors) on two occasions. Both GCN recordings were efts.
Dormice	The SEWBrEC data search showed no records of dormouse presence within 2 km of the site. However, during the extended phase 1 habitat survey a discussion with the Ranger from Kenfig National Nature Reserve confirmed that a hazelnut with teeth marks identified as dormouse was discovered in 2023. Monthly dormouse surveys commenced in May 2024 and were completed in October 2024. No evidence of dormouse was identified during the surveys.
Badger	No badger setts were identified during the extended phase 1 habitat survey. However, there are many signs of badgers identified across the survey area. Prints, latrines and routes were identified in multiple areas. They were found in especially high numbers in the Margam Moors SSSI.
Reptiles and amphibians	There is a distribution of both reptiles and amphibians throughout the Site. A reptile survey identified a high population of slow-worm (<i>Anguis fragilis</i>), common lizard (<i>Zootoca vivipara</i>) and grass snake (<i>Natrix helvetica</i>). Other species noted from GCN and Reptiles surveys were: common frog (<i>Rana temporaria</i>) and palmate newt (<i>Lissotriton helveticus</i>).

Species	Summary
Birds	A total of 39 species of birds were encountered during the surveys, of those species, nine have the highest local, national and international importance due to their protection and population status.
Invertebrates	Data search records show a large number of priority pollinator species that occupy the area. For the full list, refer to the PEA report (TACP 2024)

2.2 Habitats

- 2.2.1 For full details of designated sites within 2km of the proposed Scheme, refer to the PEA and Habitat Regulations Assessment (HRA) reports (TACP 2024a; TACP, 2024b).
- 2.2.2 The habitats identified at the Margam Moors SSSI during the extended Phase 1 Habitat survey are listed below and are shown in Appendix C:
- Unimproved neutral grassland
 - Semi- improved neutral grassland
 - Semi-natural broad-leaved woodland
 - Dense/continuous scrub
 - Modified Dune grassland
 - Marsh/marshy grassland
 - Ephemeral/short perennial
 - Swamp
 - Continuous bracken
 - Tall ruderal
- 2.2.3 The SEWBRc data search for included priority floral species within 2km of the entire Site and are listed in Table 2.

Table 2 – Priority plant species

Species name	Common name	Record	Most recent record
<i>Clinopodium acinos</i>	Basil Thyme	3	2014
<i>Hyacinthoides non-scripta</i>	Bluebell	15	2023
<i>Gymnadenia conopsea</i>	Common Fragrant-orchid	5	2008
<i>Liparis loeselii</i>	Fen Orchid	71	2023
<i>Gymnadenia densiflora</i>	Marsh Fragrant-orchid	3	2020
<i>Orobancha picridis</i>	Oxtongue Broomrape	3	2021
<i>Salsola kali subsp. kali</i>	Prickly Saltwort	11	2023
<i>Matthiola sinuata</i>	Sea Stock	54	2023
<i>Oenanthe fistulosa</i>	Tubular Water-dropwort	28	2021
<i>Hypopitys monotropa</i>	Yellow Bird's-nest	5	2016

- 2.2.4 Over 280 species of vascular plants were identified during the extended Phase 1 Habitat survey. Additional species would likely be found if the survey was carried out

at a different time of year. Table 3 lists the priority species that were identified during the survey.

Table 3 – Priority plant species

Species name	Common name	Target Note No.
<i>Anacamptis pyramidalis</i>	Pyramidal orchid	57, 96
<i>Dactylorhiza sp.</i>	Marsh-orchid (indeterminate)	60, 65
<i>Ophrys apifera</i>	Bee orchid	96
<i>Matthiola sinuate</i>	Sea stock	106
<i>Euphorbia portlandica</i>	Portland spruce	86
<i>Epipactis palustris</i>	Marsh helleborine	96
<i>Pyrola rotundifolia</i>	Round leaved wintergreen	97

Locations of the protected and priority plant species are noted in the PEA report (TACP, 2024) and proposed pipe location is shown in Appendix A.

2.3 Invasive Species

- 2.3.1 Japanese knotweed (*Fallopia japonica*), Himalayan balsam (*Impatiens glandulifera*) wall cotoneaster (*Cotoneaster horizontalis*) are Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and were identified within the Site. For full details on their locations, please refer to the PEA (TACP, 2024a). No INNS were noted within the footprint of the proposed pipe location within the SSSI habitats. However, Himalayan balsam is present within the southern rhynes system just outside the working area.

2.4 Temporary Overland Pipe Works

- 2.4.1 The Scheme's ECcoW, Joseph Coyle (TACP), and the Project Manager from Alun Griffiths Contractors undertook a site walkover of the SSSI route and associated access points on 7th April 2026. The purpose of the visit was to identify ecological and environmental constraints, assess potential impacts, and agree on appropriate mitigation measures for the temporary overland works. A site walkover with NRW on 29th April 2026 was undertaken to agree methods, and a SSSI assent for this work was issued 1st May 2026.
- 2.4.2 It was identified that vegetation along the fence lines and ditch edges requiring clearance had a low potential to support nesting birds. Nevertheless, pre-construction nesting bird checks were undertaken before the contractor's fencing works, including at all fence and ditch crossing locations.
- 2.4.2.1 Previous reptile surveys undertaken in 2024 recorded a low presence of reptiles within the vicinity of the SSSI. Accordingly, before any tracking activities, a precautionary fingertip search was carried out in areas of potential disturbance, including locations of plant movement and pipe installation. Although no great crested newts (GCN) were recorded in 2024, their known presence in nearby waterbodies outside the SSSI necessitates a precautionary approach; therefore, checks for amphibians were also conducted concurrently.

- 2.4.2.2 Water levels and quality were monitored weekly throughout the overground pipe installation works. No issues or incidents were observed, and silt mitigation was in place to prevent runoff entering the waterbodies. Monitoring included visual inspections and measurements of turbidity and pH using an aqua probe.

3 METHOD STATEMENT

- 3.1.1 For the detailed method of works undertaken by the contractor, see pages 13 to 21 on the HS.F.63 Method Statement Proformas 014 document. The following constraints are to be considered and mitigated for:

3.2 Species

- 3.2.1 The construction programme will need to consider the following protected species that are likely to be active within or adjacent to the site boundary:

- Otter
- Badgers
- Breeding birds
- Reptiles
- Bats
- Amphibians
- Invertebrates

- 3.2.2 Injury or accidentally killing of the species listed above is avoidable if appropriate **mitigation** measures and **controls** are followed.

3.3 Habitats

- 3.3.1 From the proposed works of pipe installation, areas of habitat identified within the Margam Moors will likely be temporarily impacted including the rhynes (ditches). The impact will be further reduced following the controls and mitigation measures listed in this method statement.

3.4 Controls

- 3.4.1 Each area will be subject to a Pre-works Assessment, Pre-Works Check, Environmental Permit to Work (if required), a Toolbox Talk, and a full Ecological Watching Brief as required.
- 3.4.2 **Pre-works Assessment:** Prior to mobilising clearance or contractor teams, each area will be subject to a Pre-works Assessment by an EcCoW to ensure conditions have not significantly changed since the initial assessments. In the event of any significant changes, the methods may require updating. In areas where ecological sensitivity is negligible further ecological input (i.e. subsequent steps) may not be required – this will be agreed by the Project Ecologist. Unless agreed otherwise, all subsequent steps must be followed. To enable assessment prior to works, a site engineer (or equivalent) will accurately identify and demarcate areas for clearance and overland pipe works to the environmental team. It is the responsibility of the site engineer (or equivalent) to allow sufficient time wherever possible for the Pre-works Assessments to be carried out to avoid delays.
- 3.4.3 **Environmental Permit to Work (EPTW):** Following the Pre-works Assessment, a request to work will be submitted by the site engineer (or equivalent) and an Environmental Permit to Work (EPTW) will then be issued by an EcCoW. This will detail the work to be undertaken (including methods), any sensitive environmental receptors and the environmental supervision required. It will be held onsite by those carrying out the works and reviewed, amended and signed by environmental/ecological supervisors

as required. Any amendments to the methods agreed during the works will be noted on the EPTW. EPTW must be issued for all works, this includes, but is not limited to, the creation of access tracks, trial pits, and similar works. Even if no environmental controls are anticipated, an EPTW must be issued before clearance works or topsoil strip works can commence in a specified location. The EPTW must be signed by an EcCoW, site engineer (or equivalent), and groundworkers. This confirms their understanding of the information and methods and controls required prior to works commencing in the area under the EPTW and confirms that the methods and controls in place will be followed. Upon completion of the work covered by an EPTW, it is the responsibility of the contractor/section engineer (or equivalent) to ensure the permit is returned to the EcCoW as a record of the works completed and approach taken.

- 3.4.4 **Pre-Works Check:** Immediately prior to any vegetation clearance or overground pipe works, or topsoil strip, a Pre-Works Check is to be undertaken by an EcCoW. This will include visual checks and a hand and/or fingertip check as appropriate to ensure all protected species have been identified and safely removed (if appropriate). If there are restrictions that prevent this Pre-Works Check being undertaken sufficiently then the clearance method may require review and modification. Any modifications required will be focused on small, localised areas where possible and not necessarily be applicable to the entire clearance area. Some areas may require no further ecological input beyond the Pre-Works Check. In areas where ecological sensitivity is negligible, as determined during the Pre-works Assessment, a Pre-Works Check may not be required.
- 3.4.5 **Toolbox Talks:** Relevant toolbox talks will be delivered to all operatives working on clearance areas concerning wildlife and legal requirements relating to the works. Operatives will sign these before commencing with vegetation clearance and overground pipe works.
- 3.4.6 **Ecological Watching Brief:** All works are to be conducted under an Ecological Watching Brief provided by the onsite EcCoW or unless specified otherwise by the Project Ecologist. Exceptions include if there are negligible ecological constraints (as assessed by the EcCoW or Project Ecologist at the Pre-works Assessment or Pre-Works Check stage). A minimum of one EcCoW per clearance and contractor gang will be required working within a single area unless specified otherwise prior to commencement. I.e. if two excavators are stripping topsoil within the same general vicinity, two EcCoWs will be required to cover the watching brief.

3.5 Mitigation

Bats

- 3.5.1 All trees not previously identified with actual or potential bat roosts that require removal as part of these works will be subject to a ground-level tree assessment (GLTA) as part of the Pre-works Assessment. This will be undertaken by a EcCoW in accordance with best practice guidelines (Collins 2016). Any trees with roost potential will be retained in situ until discussed with NRW and if required, a European Protected Species Licence (EPSL) for bats has been obtained.

Otter

- 3.5.2 If any otters or evidence of holts are found or suspected, then work must stop until advice has been sought from the Project Ecologist. The Project Ecologist may review

with the contractor alternative locations in the first instance. If there are no alternative locations for the works, an EPSL for otter may be required if the vegetation clearance and pipe works are likely to disturb or destroy a holt. Works can continue beyond 50 metres after no further holts have been identified.

Dormouse

- 3.5.3 If a dormouse or suspected dormouse nest is found within the works area, then works must stop until advice has been sought by the Project Ecologist and NRW. The Project Ecologist may review with the contractor alternative locations in the first instance. If there are no alternative locations for the works, an EPSL dormouse licence may be required if the works are likely to disturb or destroy dormice and their habitats. Works can continue on habitats not associated with dormice after agreement from the Project Ecologist and NRW.

GCN

- 3.5.4 For the clearance and overground works at Margam Moors SSSI an EPSL was not required. The presence of GCN was not recorded within this area. However measures and controls outlined in the EPSL obtained for the current scheme extent will be undertaken due to presence confirmed at pond 4 which is not within the boundary of the SSSI.
- 3.5.5 Any potential refugia (collection of rubble, wood, soil) will be avoided where possible, or dismantled under a watch brief if impacted by proposed works.
- 3.5.6 Vegetation clearance will be completed using appropriate cutting equipment, including machinery, as agreed with the Project Ecologist. Where vegetation exceeds 150mm, a first cut will be undertaken, following ecological checks. If this cut is undertaken with handheld cutting tools or other means that minimise the risk of harm to GCN as agreed in advance with the Project Ecologist, these checks would not need to be fingertip searched. However, if machinery is to be used then finger-tip searches may be required. Once these checks and first cut have been completed, where appropriate, a second cut may be required prior to overground pipe works later in the programme. Appropriate handheld cutting equipment or low ground bearing machinery should be used as discussed and agreed with the Project Ecologist.
- 3.5.7 If a GCN is found during the works, then works must pause until advice has been sought by the Project Ecologist and NRW.

Badger

- 3.5.8 If a badger sett is found within 30m of the works then works must pause until advice has been sought by the Project Ecologist. The Project Ecologist may review with the contractor alternative locations in the first instance. If there are no alternative location a badger licence may be required if the proposed works are likely to disturb or destroy a sett. Works can continue beyond the 30 metres after no further setts have been identified.

Reptiles and Amphibians

- 3.5.9 Methods described under GCN will be also apply for reptiles and other amphibians, except for the requirement of finger-tip searches. Habitats such as grassland, tall ruderal and scrub will be thoroughly checked prior to clearance or overground pipe Works. The following must be adhered to:
- 3.5.10 A first stage cut to 150mm to be undertaken using hand tools or low ground pressure quad and flails (as agreed between the Project Ecologist and contractor). This will be supervised by the EcCoW as detailed on the EPTW.
- 3.5.11 The second cut is to be undertaken using appropriate handheld cutting equipment or low ground bearing machinery as discussed and agreed with the Project Ecologist.
- 3.5.12 Any potential hibernacula/refugia (collection of rubble, wood, soil) will be left in situ or dismantled by hand under watching brief if impacted by the proposed works.

Birds

- 3.5.13 The main bird breeding season is February to September inclusive (weather and temperature dependent). Most birds tend to build nests and lay their eggs between March and July however, this is dependent on weather conditions and the species which can result in early or late breeding.
- 3.5.14 Ground-nesting bird species such as skylarks, meadow pipits, snipe and lapwing have the potential to be present in a variety of habitats including grasslands, heathlands, coastal areas, farmland and areas that can be viewed to have limited potential such as cropped arable fields, patches of bare ground, or areas where materials and equipment are stored such as around site cabins etc. Due to the proposed works being undertaken during the breeding season potential disturbance is likely during the programmed works.
- 3.5.15 However a pre-cautionary method of vegetation checks should be undertaken if suitable nesting grounds have been encountered including scrub and woodland or areas where ground nesting birds may be present. If bird nest is present then works must pause and an appropriate buffer demarcated with signs to ensure no disturbance of the nest until chicks have fledged.

Invasive Species and Biosecurity

- 3.5.16 All areas of INNS and potentially contaminated areas should be identified and clearly marked on site with high visibility fencing and "biosecurity - restricted access" (or similar) warning signs before the commencement of works.
- 3.5.17 Stockpiles of soil contaminated with INNS should be isolated from other material and marked with appropriate signs.
- 3.5.18 Caterpillar tracked vehicles should not be used within the contaminated site unless there is no other option in which case all practicable measures should be employed to prevent contamination and spread. These include the use of dedicated haul routes lined with root-barrier membrane.
- 3.5.19 Vehicles leaving the area should be confined to haul routes protected by root-barrier membranes, and be pressure-washed or dry-brushed.

- 3.5.20 Vehicles used to transport contaminated soils should be thoroughly pressure-washed, or dry-brushed if near a watercourse, in a designated wash-down area before being used for other work.
- 3.5.21 Material collected from the washing down / cleaning of transport vehicles should be contained, collected and disposed of along with other INNS material.
- 3.5.22 Areas contaminated by Japanese knotweed that are not going to be excavated should be protected by root-barrier membrane if they are likely to be disturbed by vehicles. Root-barrier membranes will need to be protected from damage by vehicles with a layer of sand above and below the root barrier membrane, topped with a layer of hardcore or other suitable material as specified by an engineer.
- 3.5.23 Section N.6.4.5 of British Standard (BS) 3882 Specification for Topsoil (The British Standards Institution, 2015) states that it is critical that material should be free from INNS. Topsoil brought on to the site should be inspected for contamination.
- 3.5.24 Japanese knotweed and Himalayan balsam plants and associated contaminated material are classified as 'controlled waste' under the Environmental Protection Act 1990 (UK Government 2024). Their disposal should be undertaken in accordance with this classification.
- 3.5.25 All relevant representatives of main contractor., including subcontractors should be aware of what Japanese knotweed and Himalayan balsam looks like and what their responsibilities are.
- 3.5.26 A suitably qualified member of Alun Griffiths will be responsible for the management of INNS.
- 3.5.27 Those areas containing Japanese knotweed and Himalayan balsam should be treated according to the constraints at each location and detailed in a task specific Risk Assessment Method Statements (RAMS).
- 3.5.28 Any topsoil affected with Japanese knotweed or Himalayan balsam excavated anywhere within the Site should be isolated, and not be placed in topsoil stockpiles or be used in any landscaping.
- 3.5.29 Where Japanese knotweed and Himalayan balsam occur together, treatment should be in accordance with that specified for Japanese knotweed.
- 3.5.30 All vegetation clearance and excavation in contaminated areas should be carried out under supervision of a suitably experienced EcCoW.
- 3.5.31 All areas used for depositing buried Japanese knotweed and Himalayan balsam arisings and contaminated materials should be mapped and distributed for future reference.

Watercourse Protection

- 3.5.32 All works undertaken close to the Afon Cynffig and the rhyne network within Margam Moors SSSI will be planned and managed to prevent any deterioration in water quality or disturbance to the structure or function of these watercourses. Protective buffer zones will be maintained along riverbanks and rhyne margins, retaining existing vegetation wherever possible to stabilise soils and provide natural filtration. Activities requiring

access to either the river edge or the rhyne banks will utilise temporary barriers, such as sediment curtains, cofferdams, or equivalent containment measures, to prevent the mobilisation of silt or contaminants. Dewatering operations will be controlled to ensure that turbid water is not discharged directly to any watercourse, with all water passed through settlement facilities or appropriate treatment before release. Plant and machinery will be positioned away from watercourses unless essential for specific tasks, and refuelling will take place offsite in accordance with the SSSI assent conditions. Spill kits will be available in all work areas, and water quality will be monitored against baseline conditions established during pre-construction surveys to ensure no adverse effects occur during construction.

- 3.5.33 Due to the ecological sensitivity of the SSSI, any work carried out within or near the rhyne network will be subject to improved protection measures. The rhyne banks and channels will be regarded as high-value watercourses, and it will not be possible to carry out any excavation, trenching, or other intrusive operations within them. The pipeline route will use trenchless installation methods so that the pipe passes under the rhyne beds rather than through them, and AG will supply long-section drawings to show this arrangement and to confirm that there will be no direct physical impact. Strict biosecurity measures will be implemented during the works, and any invasive non-native species found at the site will be reported to NRW and removed in line with the relevant legislation. Clearance of vegetation will be limited to the minimum necessary for access, and the ECoW must be consulted before any vegetation is removed to ensure that breeding birds or sensitive habitats are not disturbed. Welfare units and laydown areas will be situated outside the SSSI boundary to prevent unnecessary damage to the habitat.
- 3.5.34 Access to working areas near both the Afon Cynffig and the rhyne network will be carefully managed to minimise ground disturbance. Existing tracks will be used wherever possible, and any temporary tracks created will be reused to limit the number of access routes across the site. The use of matting will be continually assessed to reduce rutting and compaction in soft ground conditions. All personnel will be made aware of the potential presence of protected species, including Great Crested Newt, and work areas will be left in a safe condition at the end of each shift to ensure that no wildlife becomes trapped in excavations or confined spaces. Exclusion zones will be established around watercourse margins using fencing and clear signage to prevent accidental encroachment.
- 3.5.35 At the places where the pipeline passes under the rhyne channels, trenchless techniques such as HDD, thrust-bore or auger-bore will be used in order to avoid disrupting the rhyne banks and the flow of water (see Appendix F). The launch and reception pits will be situated outside the buffer zones, and the drilling fluids will be continuously monitored to prevent any accidental discharge. All drilling slurry will be collected and pumped into settlement tanks, with disposal carried out by a licensed waste contractor. It will never be allowed for bentonite or drilling fluid to enter any watercourse in any situation. Spill kits will be placed in all work areas, and trained staff will quickly respond to any accidental release of hydrocarbons, chemicals, or drilling fluids. Any incidents will be reported immediately to ECoW and NRW and corrective actions will be carried out without delay.
- 3.5.36 When the work has been completed, the temporary protective measures will be taken down after approval has been given by the ECoW. The work sites will be restored to their original condition in keeping with the requirement that the areas should be returned to the state they were in before the works started. Any disturbed vegetation will be reestablished with suitable native wetland plants. A final inspection of both the Afon Cynffig and the rhyne network will be carried out, accompanied by photographic records and verification that water quality has returned to baseline levels.

Management and Monitoring

- 3.2.1 Grazing should be avoided while vegetation is established. This is of relevance to species which require additional time for growth to mature to a point it can withstand trampling/grazing. E.g. After the first year of plant species establishing, we would expect to see signs of re-generation of most species mentioned between 3 and 5 years, depending on weather conditions.
- 3.2.2 A target species list will be created based on those species present in the relevant SSSI habitats. This can be used as a checklist as part of monitoring the re-establishing site.
- 3.2.3 Monitoring of recovering vegetation in the establishment phase should initially consist of general observations to identify “weeds” (non-target) species which can then either be removed by hand. This is to prevent desirable species being outcompeted.
- 3.2.4 Following the temporary overground pipe works and permanent installation, a Landscape Environment Management Plan will be provided to ensure the recovery and establishment of habitats and protected species

4 REFERENCES

Collins, J.(ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London

Report by TACP a: Kenfig Hill Foul Main Rising Preliminary Ecological Appraisal. For Burroughs. March 2024. Report Ref: 61161_REP_KenfigHillPEA_P2_FI

Report by TACP b: Kenfig Hill Foul Main Rising Habitat Regulations Assessment For Burroughs. September 2024. Report Ref: 61161_REP_KenfigHillHRA_P1_FI.

Taylor, N.G., Grillas, P. & Sutherland, W.J. (2020) Peatland Conservation. Pages 367-430 in: W.J. Sutherland, L.V. Dicks, S.O. Petrovan & R.K. Smith (eds) What Works in Conservation 2020. Open Book Publishers, Cambridge, UK

UK Government (2024) Environmental Protection Act 1990. Retrieved 4th October from [legislation.gov.uk](https://www.legislation.gov.uk/ukpga/1990/43): <https://www.legislation.gov.uk/ukpga/1990/43>.

The British Standards Institution. (2015) BS 3882:2015 Specification for top soil. London: BSI Standards Limited.

5 APPENDICES

Appendix A

Proposed Plan of Foul Main Replacement

10cm - Caution as distortion can occur.

N

PHASE 5 START: CH.4623m

THE CONNECTOR SHALL CONNECT TO THE CAPPED SLIM FLANGE AT CH.4623m INSTALLED IN PHASE 2.

DETAILED DESIGN OF PHASE 5
TBC. PROPOSED ROUTE
INTENDED TO BE OFFSET 2m
FROM EXISTING RISING MAIN.

0005

0005

AV

OFFSET IS GREATER THAN 2m IN
THESE AREAS (APPROX.14m MAX)
TO AVOID KINK IN NEW RISING
MAIN.

0005

0005

5740

PHASE 5 END: CH.5740m

PROPOSED MAIN TO TIE IN WITH EXISTING MAIN AT THE TEMPORARY OVERLAND CONNECTION POINT. THIS IS INTENDED TO PREVENT FUTURE CONTAMINATION OF THE SSSI AND ALLOW FLEXIBILITY IN ROUTE FOR FUTURE PHASE 6.

0004
WO
AV
HV
HV
HV
HV
4400

4200

WO

AV

4000

WO
AV
WO
3800

AV

3600

WO

AV

LEGEND:

- EXISTING HV (33kV) OVERHEAD CABLE
- EXISTING FOUL SEWER
- EXISTING MARLAS SPS RISING MAIN
- EXISTING AIR VALVE
- EXISTING WASHOUT
- PROPOSED RISING MAIN
- PROPOSED AIR VALVE
- PROPOSED WASHOUT
- NRW SSSI SITE
- MARKER POST / TRACE WIRE

REV.	ORIGINAL ISSUE		13/05/20		JF			
	DESCRIPTION		DATE	DRW	CHK	APP		

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL ENGINEERS DRAWINGS AND SPECIFICATIONS.
2. DO NOT SCALE FROM THIS DRAWING, ANY AMBIGUITIES, OMISSIONS AND ERRORS ON DRAWINGS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION IMMEDIATELY. ALL DIMENSIONS MUST BE CHECKED AND VERIFIED ON SITE.
3. ALL DIMENSIONS ARE IN MILLIMETRES AND ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM (AOD) UNLESS OTHERWISE NOTED.
4. MAXIMUM WORKING PRESSURE = 5.8 BAR
5. TEST PRESSURE = 10.8 BAR
6. ALL PIPEWORK TO BE SDR11.
7. ALL FITTINGS TO BE PN16 RATED.
8. FOR AIR VALVE DETAILS, REFER TO DRAWING:
P17979-121316-01-BG-DR-CA-CI0551.
9. FOR WASHOUT DETAILS, REFER TO DRAWING:
P17979-121316-01-BG-DR-CA-CI0553.
10. FOR DESIGNERS RISK ASSESSMENT, REFER TO DOCUMENT:
P17979-121316-01-BG-RG-CA-CI1001.
11. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE FOLLOWING SPECIFICATIONS:
 - 11.1. THE CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY REVISION 8 (CESWI 8)
 - 11.2. SEWERS FOR ADOPTION EIGHTH EDITION (SFA 8).
12. ALL AFFECTED AREAS TO BE REINSTATED TO MATCH SURROUNDING AREA AND SURFACES.
13. THIS DRAWING NEEDS TO BE READ IN CONJUNCTION WITH THE UTILITY INFORMATION GATHERED FROM UTILITY SEARCHES, GPR SURVEYS AND TRIAL PITS.
14. EXISTING MAINS MATERIAL MAY NOT BE MARKED OR MARKED INCORRECTLY TO WHAT IS INDICATED. IT IS THEREFORE ADVISABLE THAT THE POSSIBLE PRESENCE OF ASBESTOS (AC) OR PITCH FIBRE (PF) BE ANTICIPATED AND INCLUDED IN RAMS.
15. ALL TESTING OF POLYETHYLENE PRESSURE PIPELINES SHALL BE CARRIED OUT IN ACCORDANCE WITH THE PROCEDURES IN IGW 4-01-03 'GUIDE TO PRESSURE TESTING OF PRESSURE PIPES AND FITTINGS FOR USE BY PUBLIC WATER SUPPLIERS'.
16. ALL WELD TESTS SHALL BE CARRIED OUT IN ACCORDANCE WITH S4 4-32-08.

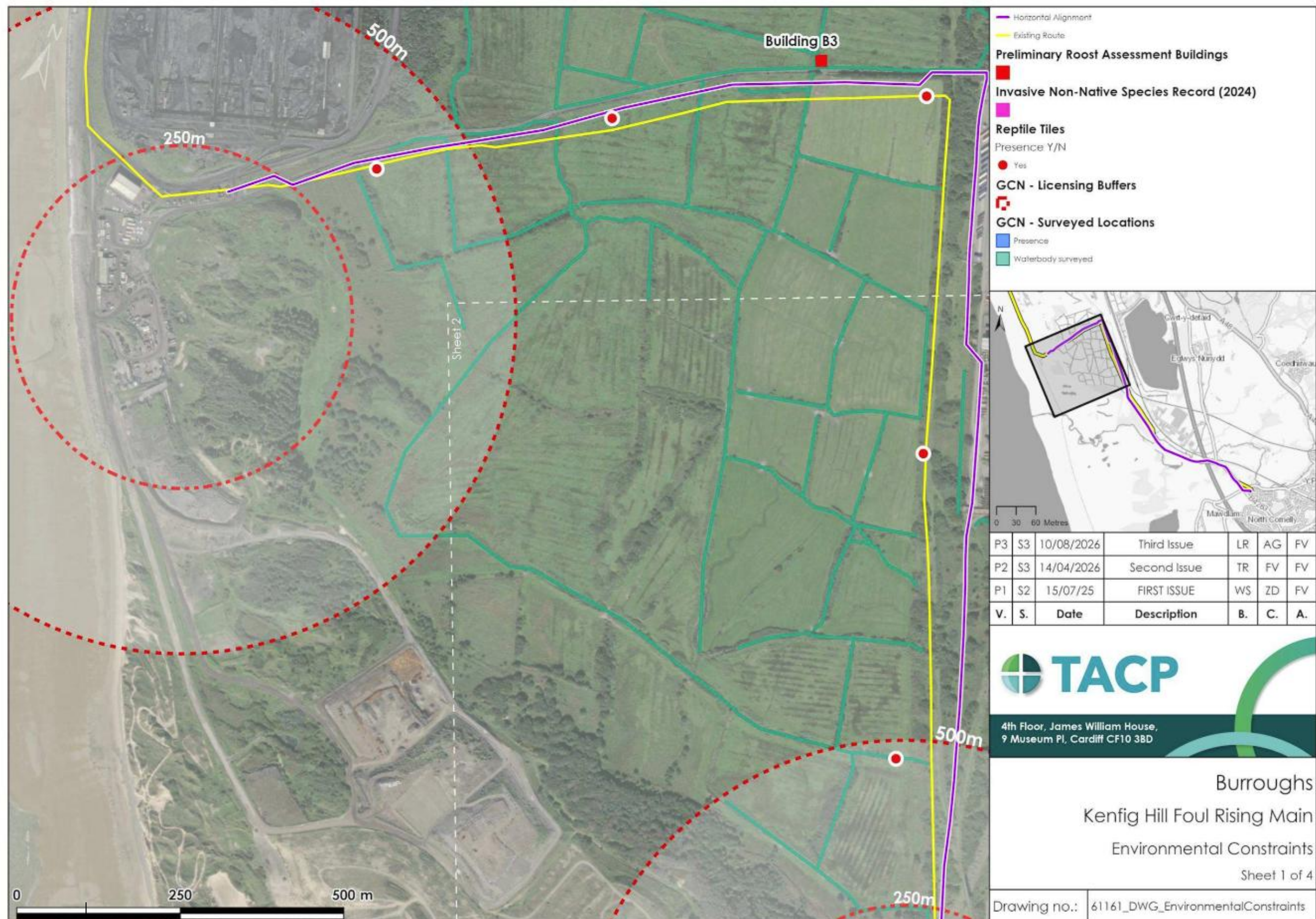
SERIES 500
PHASE 5 GENERAL ARRANGEMENT
(CH.4623m - CH.5740m)

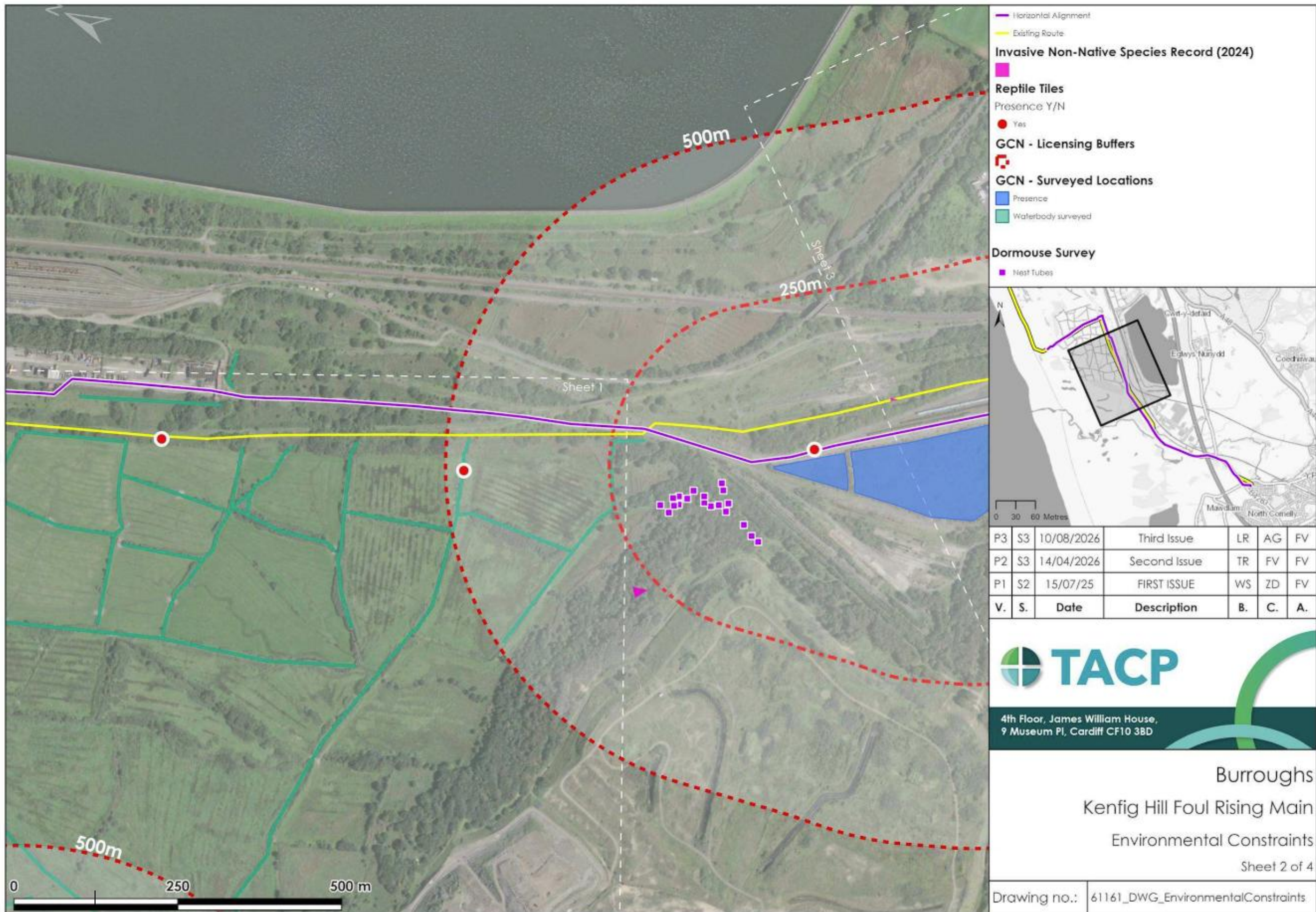
Drawing Number:	
P17979-121316-01-BG-DR-CA-CI0529	
Status:	Status Description:
S0	WORK IN PROGRESS
Revision:	Revision Description:
P1.0	ORIGINAL ISSUE

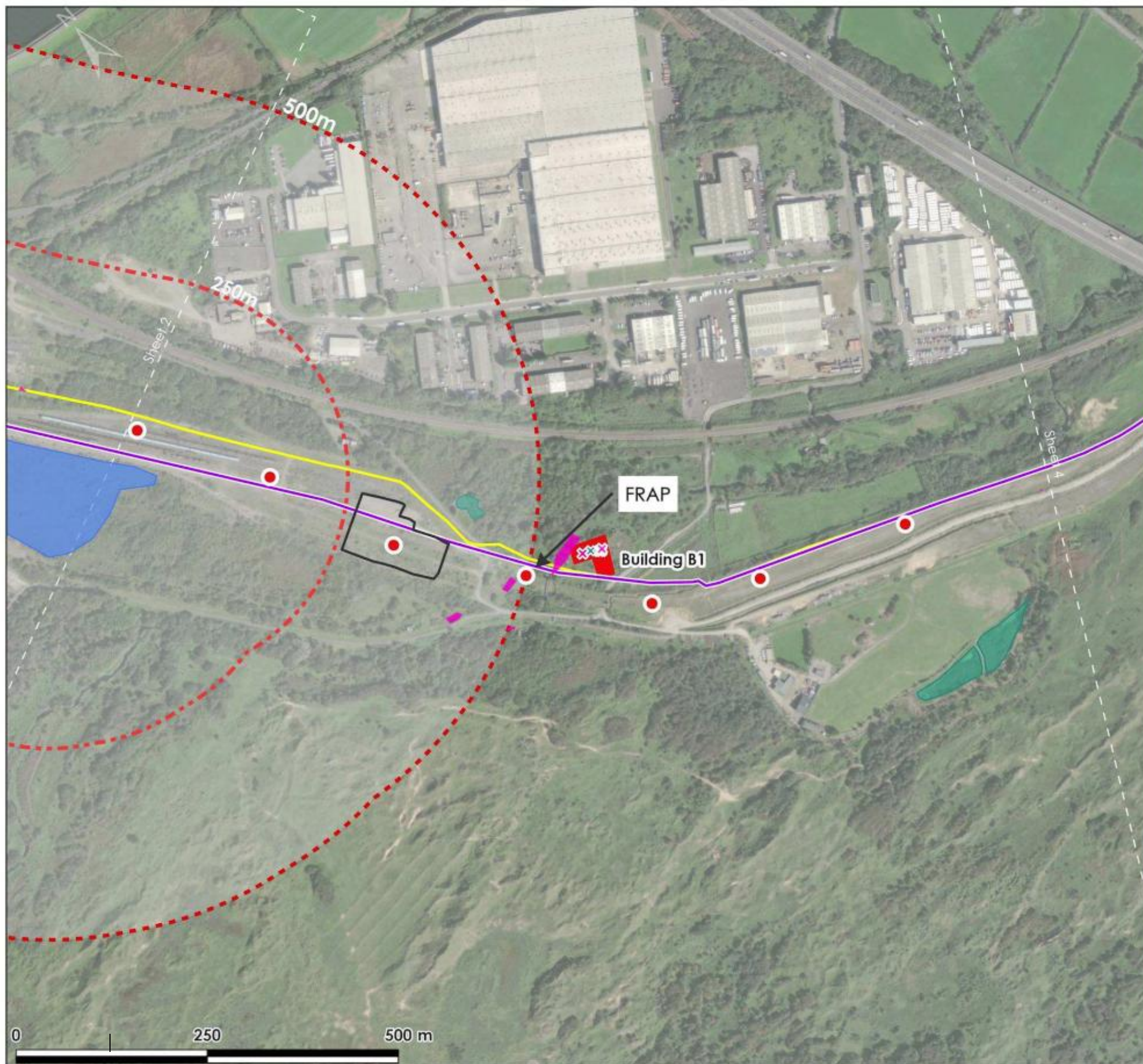
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Appendix B

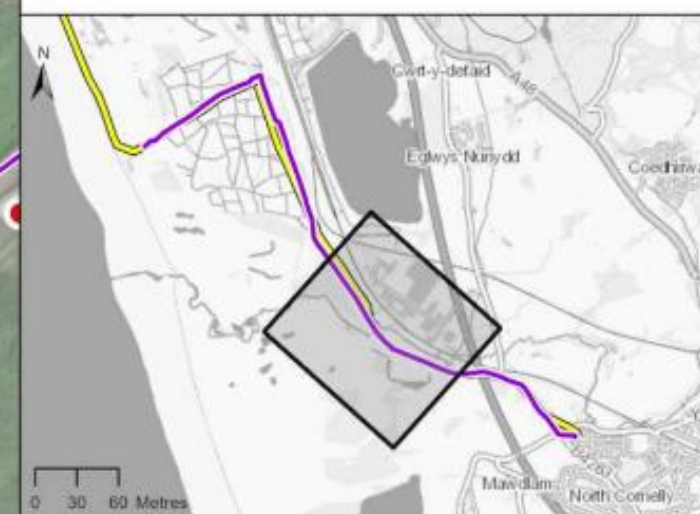
Ecological Constraints Map







- Horizontal Alignment
- Existing Route
- Proposed Compound Location
- Preliminary Roost Assessment Buildings
- Invasive Non-Native Species Record (2024)
- Reptile Tiles
- Presence Y/N
- GCN - Licensing Buffers
- GCN - Surveyed Locations
- Lesser Horseshoe Bat Roosts
- Hibernation
- Maternity



P3	S3	10/08/2026	Third Issue	LR	AG	FV
P2	S3	14/04/2026	Second Issue	TR	FV	FV
P1	S2	15/07/25	FIRST ISSUE	WS	ZD	FV
V.	S.	Date	Description	B.	C.	A.

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Burroughs
Kenfig Hill Foul Rising Main
Environmental Constraints
Sheet 3 of 4

Drawing no.: 61161_DWG_EnvironmentalConstraints



Horizontal Alignment

Existing Route

Invasive Non-Native Species Record (2024)

Reptile Tiles

Presence Y/N

No

Yes

GCN - Licensing Buffers

GCN - Surveyed Locations

Presence

Waterbody surveyed

Dormouse Survey

Nest Tubes



P3	S3	10/08/2026	Third Issue	LR	AG	FV
P2	S3	14/04/2026	Second Issue	TR	FV	FV
P1	S2	15/07/25	FIRST ISSUE	WS	ZD	FV
V.	S.	Date	Description	B.	C.	A.

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Kenfig Hill Foul Rising Main

Environmental Constraints

Sheet 4 of 4

Drawing no.:

61161_DWG_EnvironmentalConstraints

Appendix C
Phase 1 Habitat Map
Margam Moors SSSI



Horizontal Alignment
Horizontal Alignment
Existing route
Existing route

Target Notes
Target Note
Anacamptis pyramidalis (Pyramidal orchid); Ophrys apifera (Bee Orchid); Epipactis palustris (Marsh helleborine)
Dactylorhiza sp. (Marsh-orchid (indeterminate))
Euphorbia portlandica (Portland spruce)
Matthiola sinuate (Sea stock)

Ground Investigation
Ground Investigation

Phase 1 Linear Habitats
G.1 (Standing Water - Including Rhynes)
G.2 (Running Water - Rivers)

Phase 1 Habitats
A.1.1.1 (Semi-natural broad-leaved woodland)
A.2.1 (Dense/continuous scrub)
A.2.2 (Scattered scrub)
B.2.1 (Unimproved neutral grassland)
B.2.2 (Semi-improved neutral grassland)
B.5 (Marsh/marshy grassland)
F.1 (Swamp)
G.1 (Standing water)
H.1.1 (Intertidal mud/sand)
H.1.2 (Intertidal shingles/cobbles)
H.4 (Boulders/rocks above high tide mark)
H.6.5 (Dune grassland)
I.2.2 (Spoil)
J.1.3 (Ephemeral/short perennial)
J.3.6 (Buildings)
J.4 (Bare ground)



P2	S3	10/08/2026	Second Issue	LR	JC	AG
P1	S3	11/10/2024	First issue	TR	JC	FV
V.	S.	Date	Description	B.	C.	A.

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Burroughs
Kenfig Hill Foul Rising Main
Phase 1 Habitats
Sheet 1 of 4

Drawing no.: 61161_DWG_Phase1Habitats



Horizontal Alignment

Horizontal Alignment

Existing route

Existing route

Target Notes

- Target Note
- Anacamptis pyramidalis (Pyramidal orchid)
- Anacamptis pyramidalis (Pyramidal orchid); Ophrys apifera (Bee Orchid); Epipactis palustris (Marsh helleborine)
- Dactylorhiza sp. (Marsh-orchid (indeterminate))
- Pyrola rotundifolia (Round leaved wintergreen)

Ground Investigation

- Ground Investigation

Phase 1 Linear Habitats

- G.1 (Standing Water - Including Rhynes)

Phase 1 Habitats

- A.1.1.1 (Semi-natural broad-leaved woodland)
- A.2.1 (Dense/continuous scrub)
- A.2.2 (Scattered scrub)
- B.2.1 (Unimproved neutral grassland)
- B.2.2 (Semi-improved neutral grassland)
- B.5 (Marsh/marshy grassland)
- F.1 (Swamp)
- H.6.5 (Dune grassland)
- H.6.8 (Open dune)
- I.2.2 (Spoil)
- J.1.3 (Ephemeral/short perennial)
- J.4 (Bare ground)

G.2 (Running Water - Rivers)

P2	S3	10/08/2026	Second Issue	LR	JC	AG
P1	S3	11/10/2024	First issue	TR	JC	FV
V.	S.	Date	Description	B.	C.	A.

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Burroughs
Kenfig Hill Foul Rising Main
Phase 1 Habitats
Sheet 2 of 4

Drawing no.:

61161_DWG_Phase1Habitats



Horizontal Alignment
Horizontal Alignment

Existing route
Existing route

Target Notes
Target Note

Ground Investigation
Ground Investigation

Phase 1 Linear Habitats
G.1 (Standing Water - Including Rhynes)
G.2 (Running Water - Rivers)

Phase 1 Habitats
A.1.1.1 (Semi-natural broad-leaved woodland)

A.2.1 (Dense/continuous scrub)

A.2.2 (Scattered scrub)

B.2.2 (Semi-improved neutral grassland)

B.4 (Improved grassland)

B.6 (Poor semi-improved grassland)

C.1.1 (Continuous bracken)

C.3.1 (Tall ruderal)

F.1 (Swamp)

H.6.4 (Dune slack)

H.6.5 (Dune grassland)

J.1.2 (Amenity grassland)

J.3.6 (Buildings)

J.4 (Bare ground)



P2	S3	10/08/2026	Second Issue	LR	JC	AG
P1	S3	11/10/2024	First issue	TR	JC	FV
V.	S.	Date	Description	B.	C.	A.

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Burroughs
Kenfig Hill Foul Rising Main
Phase 1 Habitats
Sheet 4 of 4

Drawing no.: 61161_DWG_Phase1Habitats

Appendix D

Legislation

Group	Species	Relevant legislation
Plants	Fen orchid <i>Liparis loeselii</i> Bee orchid <i>Ophrys apifera</i> Bluebell <i>Hyacinthoides non-scripta</i>- One record 19/05/2022 Tubular water-dropwort <i>Oenanthe fistulosa</i>- Two records between 15/07/2019-19/07/2019 Sea stock <i>Matthiola sinuate</i>- 1 record 08/08/2022 Prickly saltwort <i>Kali turgida</i>- Two records between 08/08/2022-16/06/2023 Oxtongue Broomrape <i>Orobancha picridis</i>- Three records between 07/06/2021 08/06/2021	Fen orchids are a European Protected Species, and are listed on Schedule 5 of the Conservation of Habitats and Species Regulations 2017: Under the Habitats Regulations, it is an offence if you deliberately pick, collect, cut, uproot or destroy a wild plant of a European protected species. Bee orchids are protected, as are all wild flowers, under Section 13 of the Wildlife and Countryside Act (1981). This section prohibits unauthorised and intentional uprooting of any wild plant. The bluebell is protected under the Wildlife and Countryside Act (1981). This means digging up the plant or bulb in the countryside is prohibited and landowners are prohibited from removing bluebells from their land to sell. The species was also listed on Schedule 8 of the Act in 1998, which makes trading in wild bluebell bulbs and seeds an offence. Tubular Water-dropwort is classed as Vulnerable in the UK and protected as a 41/42 Priority Species in both Wales and England. Sea stock is a nationally rare, native species of coastal sand dunes, cliffs and shingle (Rich, 1991). It is a UK Biodiversity Action Plan (BAP) species, a vulnerable Red Data Book species and is also included in the Schedule 42 list of vascular plants (Welsh Assembly Government, 2008); i.e. plants prioritised for biodiversity action in Wales. Prickly saltwort is a section 7 species of principal importance are designated under a law called the Environment Wales (2016) Act. Oxtongue Broomrape is protected under Schedule 8 of the Wildlife and Countryside Act, 1981.
Lichen	Blue blister lichen <i>Toninia sedifolia</i>- Two records from 2022	Blue blister lichen is a section 7 species of principal importance are designated under a law called the Environment Wales (2016) Act.
Invertebrates	Brown-banded carder bee <i>Bombus humilis</i> – 55 records from 2013 Large carder bee <i>Bombus muscorum</i> – 5 records 2013 Red-tailed carder bee <i>Bombus ruderarius</i> – 13 records 2013 Shrill carder bee <i>Bombus sylvarum</i> – 49 records 2013	Priority Species Wales under Section 42 of the Natural Environment and Rural Communities Act 2012 (WBP, 2012).

Group	Species	Relevant legislation
Amphibians	Great crested newt <i>Triturus cristatus</i>- Four record in 2019 Common toad <i>Bufo bufo</i>- One record 23/05/2023 Smooth newt <i>Lissotriton vulgaris</i> – One record 21/03/2022	All of the UK native amphibians are protected by law. The common species of amphibians in this locality are common frog, common toad, smooth newt and palmate newt. It is illegal to intentionally kill or injure these species under Section 9 (1) of the Wildlife and Countryside Act 1981 (as amended). The common toad is considered of 'principle importance' under Section 7 of the Environment (Wales) Act 2016. This places a duty on every public authority, in exercising its functions, to have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity. Under the National Planning Policy Framework (NPPF April 2012), the presence of any Protected Species (which includes the Common Toad) are a material planning consideration. The ODPM 06/2005: Biodiversity and Geological Conservation – Statutory Obligations and Their Impact within the Planning System, provide additional advice and support the NPPF. Great crested newts are a European protected species. The animals and their eggs, breeding sites and resting places are protected by law. The species is protected under the Wildlife and Countryside Act, 1981 and under the Conservation of Habitats and Species Regulations 2017 The law prohibits: - capturing, killing, disturbing or injuring great crested newts deliberately - damaging or destroying a breeding or resting place - obstructing access to their resting or sheltering places (deliberately or by not taking enough care) - possessing, selling, controlling or transporting live or dead newts, or parts of them - taking great crested newt eggs

Group	Species	Relevant legislation
Reptiles	Adder <i>Vipera berus</i> - Two records in 2019 Common lizard <i>Zootoca vivipara</i> – 34 records between 2019-2023 Slow worm <i>Anguis fragilis</i> – Two records in 2022	All of the UK native reptiles are protected by law. The common species of reptiles found in this locality are common lizard, slow-worm, adder and grass snake. It is illegal to intentionally kill or injure these species under Section 9 (1) of the Wildlife and Countryside Act 1981 (as amended). All native UK reptiles are considered of 'principle importance' under Section 7 of the Environment (Wales) Act 2016. This places a duty on every public authority, in exercising its functions, to have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity. Under the National Planning Policy Framework (NPPF April 2012), the presence of any Protected Species (which includes all reptiles species) are a material planning consideration. The ODPM 06/2005: Biodiversity and Geological Conservation – Statutory Obligations and Their Impact within the Planning System, provide additional advice and support the NPPF.
Bird species	Birds	All species of bird are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended). Protection was extended by the Countryside and Rights of Way (CROW) Act 2000. Under the above legislation it is an offence to intentionally: - kill, injure or take any wild bird; - take, damage or destroy the nest of any wild bird while that nest is in use or being built; or - take or destroy an egg of any wild bird. Certain species are listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) and receive protection under Sections 1 (4) and 1 (5). The protection was extended by the Countryside and Rights of Way (CROW) Act 2000. There are special penalties where the offences listed above are committed for any Schedule 1 species and it is also an offence to intentionally or recklessly: - disturb any such bird when it is building its nest or while it is in or near a nest containing dependant young; or - disturb the dependant young of any such bird.

Group	Species	Relevant legislation
Hazel dormouse	<i>Muscardinus avellanarius</i>	The hazel dormouse is a European Protected Species (EPS). It is against the law to damage or destroy a dormouse breeding site or resting place (summer or hibernation nest), or deliberately to capture, kill, injure or disturb a dormouse. The Conservation of Habitats and Species Regulations 2017 (regulation 42) fully protects dormice, making it an offence to: Intentionally or deliberately capture, injure or kill a dormouse. Damage or destroy a breeding or resting place of a dormouse, or intentionally or recklessly damage or destroy any structure or place used for shelter or protection Intentionally or recklessly disturb a dormouse in a place used for shelter or protection, or deliberately disturb dormouse in such a way as to be likely significantly to affect (i) the ability to survive, breed, rear or nurture their young, and includes in the case of animals of a hibernating or migratory species, to hibernate or migrate or (ii) the local distribution or abundance. Intentionally or recklessly obstruct access to a place used for shelter or protection. Possess a dormouse (alive or dead), or any part of a dormouse Schedule 5 of the Wildlife and Countryside Act 1981 (as amended by the CROW [Countryside Rights of Way] Act 2000) fully protects dormice, making it an offence to:- Intentionally or recklessly disturb any dormouse while it is occupying a structure or place which it uses for shelter or protection Intentionally or recklessly obstructs access to any structure or place used by a dormouse for shelter or protection Sell, offer or expose for sale any dormouse Dormice are also protected by: Natural Environment and Rural Communities Act 2006 (England) and the Environment (Wales) Act 2016. Annex II Habitats Directive (protection through Special Areas of Conservation) UK Biodiversity Action Plan Priority Species and Species of Principal Importance in Wales.

Group	Species	Relevant legislation
Bats	Noctule, <i>Nyctalus noctule</i> - One record 07/06/2019	Bats are protected by the following pieces of legislation: Schedule 5 and 6 of the Wildlife and Countryside Act 1981 (as amended by the CROW [Countryside Rights of Way] Act 2000)
	Common Pipistrelle, <i>Pipistrellus pipistrellus</i> - One record 20/05/2019	The Environmental Damage (Prevention & Remediation) Regulations 2009 – A protected species and its habitat is protected under this legislation as well as others.
	Soprano Pipistrelle, <i>pipistrellus pygmaeus</i> - One record 18/05/2021	The Conservation of Habitats and Species Regulations 2017 (regulation 42) fully protects all bats and their roosts, making it an offence to deliberately kill, injure or capture (take) bats; to deliberately disturb bats; damage or destroy bat roosts or resting places (this is considered an “Absolute Offence” as damage and destruction may detrimentally effect the Continuous Ecological Functionality of that roost / resting place); possess or transport a bat or any part of a bat; sell (or offer for sale) or exchange bats or parts of bats.
	Lesser horseshoe <i>Rhinolophus hipposideros</i> – One record 03/08/2021	For any disturbance to occur a derogation or EPS licence must be gained from Natural Resources Wales. To gain an EPS Licence from Natural Resources Wales (NRW), NRW must be satisfied that;
	Long-eared bat species – One record 02/08/2021	i. the licence would not be detrimental to the Favourable Conservation Status (fcs) of the populations of species concerned within its natural range. ii. the derogation (licence) is in the public interest of Health and Safety or for other reasons of over-riding public interest, including those of a socioeconomic nature or will have a benefit of primary importance to the environment. iii. there is no satisfactory alternative to the derogation which would allow the described development to proceed but which would avoid or reduce the need for any adverse impact to the species. Bats are also protected by; Appendix III of the Bern ConventionAppendix II of the Bonn Convention (including the Convention's Agreement on the conservation of Bats in Europe) Natural Environment and Rural Communities Act 2006 and now the Environment (Wales) Act 2016. All bats are listed in Annex IV of the EC Habitats Directive and the British species listed in Schedule 2 of the Habitats Regulations 1994 (as amended) and are therefore designated as European Protected Species. These protected species are afforded enhanced protection and more stringent licensing provisions than those protected by the Wildlife and Countryside Act (WACA) alone.

Group	Species	Relevant legislation
Otter	<i>Lutra lutra</i> - 82 records between 2007-2023.	Otters are fully protected by the following pieces of legislation: The Conservation of Habitats and Species Regulations 2017 (regulation 42) fully protects otters, making it an offence to:- Intentionally or deliberately capture, injure or kill an Otter. Damage or destroy a breeding or resting place of an Otter, or intentionally or recklessly damage or destroy any structure or place used for shelter or protection Intentionally or recklessly disturb an Otter in a place used for shelter or protection, or deliberately disturb Otters in such a way as to be likely significantly to affect (i) the ability of any significant group of Otters to survive, breed, rear or nurture their young, or (ii) the local distribution or abundance. Intentionally or recklessly obstruct access to a place used for shelter or protection. Possess an Otter (alive or dead), or any part of an Otter Schedule 5 of the Wildlife and Countryside Act 1981 (as amended by the CROW [Countryside Rights of Way] Act 2000) fully protects otters, making it an offence to:- Intentionally or recklessly disturb any otter while it is occupying a structure or place which it uses for shelter or protection Intentionally or recklessly obstructs access to any structure or place used by an otter for shelter or protection Sell, offer or expose for sale any otter Otters are also protected by; Natural Environment and Rural Communities Act 2006 and now the Environment (Wales) Act 2016. Annex II Habitats Directive (protection through Special Areas of Conservation) UK Biodiversity Action Plan Priority Species and Species of Principal Importance in Wales
Badger	<i>Meles meles</i> – One record 08/05/2023	The protection of Badgers Act 1992 makes it illegal to kill, injure or take a badger, or interfere with a sett. In addition, they are listed on Schedule 6 of the Wildlife & Countryside Act 1981, which prohibits certain methods of killing and capture.

Group	Species	Relevant legislation
Water vole	<i>Arvicola amphibius</i>	Water voles are listed under Schedule 5 of the Wildlife & Countryside Act 1981, receiving full protection since 2008. The Wildlife & Countryside Act 1981 (as amended), lists the following offences:- Intentionally kill, injure or take water voles (Section 9 (1)). Possess or control live or dead water voles or derivatives (Section 9 (2)). Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection (Section 9 (4) (a & c)). Intentionally or recklessly disturb water voles whilst occupying a structure or place used for that purpose (Section 9 (4) (b)). Sell water voles or offer or expose for sale or transport for sale (Section 9 (5)). Publish or cause to be published any advertisement which conveys the buying or selling of water voles (Section 9 (5)).
Polecat	<i>Mustela putorius</i> - One record 04/07/2023	The Wildlife and Countryside Act 1981 (as amended) lists the polecat on Schedule 6. This prohibits certain methods of killing or taking animals, which are specified in Section 11. These include using the following: Any trap or snare, electrical device or poisonous / stupefying substances, Any net, Any automatic or semi-automatic weapon, Any device for illuminating a target / sighting device, Any dazzling device, Any gas or smoke, Any sound recording as a decoy, Any mechanically propelled vehicle
West European hedgehog	<i>Erinaceus europaeus</i> - three records between 2019-2022	Listed in 2007 as a Biodiversity Action Plan 'priority species'. Partially protected under Schedule 6 of the Wildlife and Countryside Act (1981) and the Wild Mammals Protection Act (1996). Listed as a 'Species of Principal Importance' under the Natural Environment and Rural Communities Act (2006).

Appendix E

TACP HRA (2024)

Kenfig Hill Foul Rising Main Habitat Regulations Assessment

Burroughs
61161
August 2024



Kenfig Hill Foul Rising Main Habitat Regulations Assessment

Burroughs

August 2024

TACP (UK) Ltd
4th Floor James William House 9
Museum Place
CARDIFF
CF10 3BD

Project Number: **61161**

Version: **P1**

Status: **S3**

Version	Status	Completed by	Checked by	Approved by	Date of version
P1	S3	VN	FV	FV	05/09/2024

This report will be deemed to be accepted by the client as final if no comments are received within two weeks of issue.

S0 – Work in progress

S3 – For review and comment

S1 – For coordination

S4 – For approval

S2 – For information

FI – Final

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1.2	PROPOSED WORKS	1
1.3	PURPOSE OF THIS REPORT	1
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List of Abbreviations

Abbreviation	Full Description
SAC	Special Area of Conservation
SSSI	Site of Special Scientific Interest
SPA	Special Protection Area
AA	Appropriate Assessment
HRA	Habitat Regulations Assessment
sHRA	Shadow Habitat Regulations Assessment
DCWW	Dŵr Cymru Welsh Water
SPS	Sewage Pumping Station

1 INTRODUCTION

1.1 Project Background

- 1.1.1 TACP (UK) Ltd (TACP) was commissioned by Burroughs to carry out ecological surveys and assessments on behalf of their client, Alun Griffiths (Contractors) Ltd (Griffiths). Griffiths have been commissioned by Dŵr Cymru Welsh Water (DCWW) to replace the Kenfig Foul Rising Main ("the Scheme"). The Scheme area is located near Kenfig Hill, with the approximate central OS grid reference of the linear route being SS 79296 83460.

1.2 Proposed Works

- 1.2.1 The Kenfig Hill foul rising main, which transfers waste from Marlas Sewage Pumping Station (SPS) to Afan Wastewater Treatment Works, is known to be in poor condition with several bursts having occurred in recent years. As a result it is proposed that a new, replacement, foul rising main is installed which will be able to manage the current, and future flows, more appropriately. The replacement main will run parallel to the existing main for an initial section of approximately 2657 metres, after which three possible route options (c.5000-5800m in length) are being considered which are detailed in the "Kenfig Hill Rising Main Option Routes Report" (Revision S2-P1.0, 08 March 2024) produced by Burroughs. Route 1 is the favoured option.
- 1.2.2 Installation of the replacement main will utilise directional drilling approximately every 300m along the agreed route. This will require the excavation of launch pits at each point, however the use of directional drilling will avoid the need for a trench along the length of the route. Ground investigation works will also be required in advance of works, to identify any potential contaminants. However, it has been suggested that this can be combined with the excavations for the launch pits.
- 1.2.3 The current Main, and the proposed replacement route, passes alongside part of the Kenfig/Cynffig Special Area of Conservation (SAC) and, as such, proposed works may have the potential to negatively impact the SAC.

1.3 Purpose of this Report

- 1.3.1 The purpose of this report is to screen the proposed works for potential impacts (or Likely Significant Effects, LSEs) against the Kenfig SAC, and any other SACs that might fall within the zone of influence of the works. This follows Stage 1 of the Habitats Regulations Assessment (HRA) process.
- 1.3.2 It is the aim of this report to draw conclusions on the potential for any LSEs and would provide information to allow the relevant competent authority, granting consent for the Scheme, to identify whether Stage 2 (an Appropriate Assessment) is required.

1.4 Site Description

- 1.4.1 The area through which the proposed routes pass consists of a range of habitats as identified during the Preliminary Ecological appraisal (Phase 1 Habitat Assessment methodology). These are:
- A.1.1.1 Semi-natural broad-leaved woodland

- A.2.1 Dense/continuous scrub
- B.2.2 Semi-improved neutral grassland
- B.4 Improved grassland
- B.5 Marsh/marshy grassland
- C.1.1 Continuous Bracken
- C.3.1 Tall ruderal
- F.1 Swamp
- H.6.5 Dune grassland
- H.6.4 Dune slack
- H.1 Intertidal mud/sand
- H.4 Boulders/rocks above high tide mark
- J.1.3 Ephemeral/short perennial
- J.3.6 Buildings
- J.4 Bare ground
- I.2.2 Spoil

1.4.2 At a wider level, much of the Scheme lies within the Kenfig SSSI (Site of Special Scientific Interest), which falls within the Kenfig SAC, and extends out from the SSSI to the east for 270m. To the north, the Site extends into the Margam Moors SSSI, and to the west it reaches just above the littoral line of Margam Sands. The M4 crosses the southern extent of the Scheme area and then runs parallel to the current foul rising main.

1.5 Habitat Regulations Assessment

- 1.5.1 The Conservation of Habitats and Species Regulations 2017 ("the Habitats Regulations") originally transposed the land and marine aspects of the EU Habitats Directive (Council Directive 92/43/EEC) and certain elements of the EU Wild Birds Directive (Directive 2009/147/EC)(known as the Nature Directives) into UK law. Following the UK's exit from the EU, the Habitat Regulations were amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 to allow them to remain operable from 1st January 2021.
- 1.5.2 Under the Habitat Regulations it is a requirement to create and maintain a national site network within the UK territory comprising those protected sites already designated under the Nature Directives (Special Areas of Conservation – SACs – and Special Protection Areas – SPAs), and any further sites designated under the Habitat Regulations (as well as potential SPAs and proposed SACs).
- 1.5.3 In addition to SACs and SPAs, Ramsar sites (both listed and proposed) are considered equivalent under the Habitats Regulations.
- 1.5.4 SACs and SPAs are high-quality conservation sites that make a significant contribution to conserving the habitats and species identified in Annexes I and II of the Habitats Directive. The listed habitat types and species are those considered to be most in need of conservation at a European level (excluding birds). Ramsar sites are wetlands of international importance that have been designated under the criteria of the Ramsar Convention on Wetlands. Within the UK, the boundaries of Ramsar sites typically overlap those of SACs and/or SPAs.
- 1.5.5 It is a requirement under Regulation 63 of the Habitats Regulations that where a Plan or Project has the potential to impact on an SAC, SPA or Ramsar site an assessment should be carried out to identify the likelihood of a significant effect. Specifically, Regulation 63 states that:

- a) A competent authority, before deciding to undertake, or give any consent, permission, or other authorisation for, a plan or project which—
- is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and
 - is not directly connected with or necessary to the management of that site,

must make an appropriate assessment of the implications of the plan or project for that site in view of that site's Conservation Objectives.

1.5.6 For the purposes of the Regulations, a 'competent authority' is an organisation or individual responsible for granting consent for a plan or project e.g. a Statutory Nature Conservation Organisation, local planning authorities, the devolved governments, or the Secretary for State.

1.5.7 The HRA process can be broadly broken down into four stages with the requirement for any one stage determined by the findings of the previous stage. The four stages can be summarised as:

- b) **Stage 1 – Screening:** This stage has two parts. The first identifies whether the plan or project is necessary for the management of any SACs, SPAs and Ramsar sites. Where this is confirmed as not the case, the second part then tests for a likely significant effect on the relevant sites by the proposed plan or project (either alone or in combination with other projects or plans). Where a likely significant effect is identified further assessment is then required during Stage 2 Appropriate Assessment.
- c) **Stage 2 – Appropriate Assessment:** Where a likely significant effect has been identified during Stage 1, a detailed assessment of impact likelihood and severity on the sites is undertaken. This incorporates a detailed review of the proposal in relation to the structure and function of the European Sites along with their Conservation Objectives to identify whether the integrity of the site(s) will be impacted. Consideration of mitigation is included during this Stage.
- d) **Stage 3 – Assessment of alternative solutions:** Where Stage 2 cannot show that significant effects on the integrity of the protected site(s) can be avoided, Stage 3 identifies and examines alternative ways of achieving the objectives of the plan or project that avoids these adverse effects.
- e) **Stage 4 – Assessment where no alternative solutions exist and where adverse effects remain:** Where significant adverse effects remain after Stage 3, Stage 4 seeks to present the case for Imperative Reasons of Overriding Public Interest (IROPI). Where IROPI applies, Stage 4 also seeks to identify and present appropriate compensatory measures needed to maintain the overall coherence of the protected site(s) across the region.

1.5.8 In regard to Stage 1, under the Habitats Regulations a significant effect is considered likely, if:

- a) It cannot be excluded, in that it is capable of having an effect, on the basis of objective information; and
- b) It is likely to undermine the site's Conservation Objectives

- 1.5.9 That is, at the Screening Stage, the question “Will there be a likely significant effect?” is interpreted to mean “Could there be a possibility that the conservation objectives of the Site are undermined”.
- 1.5.10 During the HRA process the precautionary principle applies. That is, where the likelihood of significant effects is deemed uncertain, the Conservation Objectives of the site(s) take precedence and an impact on the site must be assumed. In addition, an appropriate assessment must be specific to the qualifying features of the site(s).

1.6 Report Author

- 1.6.1 This report has been produced by Victoria Nicholls BSc (Hons), MSc, MRSB, MCIEEM, Senior Ecologist for TACP and a professional ecologist with more than 18 years' experience in both the private and public sectors, including carrying out Habitat Regulations Assessments for a variety of projects. In the preparation of this report reference has been made to the Habitats Regulations Assessment Handbook produced by DTA Publications.

2 SCREENING FOR LIKELY SIGNIFICANT EFFECTS

2.1 Designated Sites within the Zone of Influence

2.1.1 For the purposes of identifying the potential for a likely significant effect (LSE) on designated sites, the likely zone of influence for the Scheme works has been identified with consideration of the following:

- Designated sites within c.2.5km as identified through the desk study carried out for the Preliminary Ecological Appraisal for the Scheme.
- Marine sites that share a hydrological/functional connection to the coastline immediately adjacent to the Scheme.
- Designated sites with bats as a qualifying feature within 10km of the Scheme, which may use the local habitat (functional connectivity).

2.1.2 Following this, the sites were reviewed against the Scheme proposal to identify whether there were any potential Impact Pathways.

2.1.3 Identified sites and potential Impact Pathways are detailed in Table 1. Referring to this, those sites where potential impact pathways may exist are:

- Kenfig/Cynffig SAC
- Severn Estuary SAC
- Severn Estuary SPA
- Severn Estuary Ramsar
- Carmarthen Bay and Estuaries SAC
- Carmarthen Bay SPA

2.1.4 No Sites with bats as a qualifying feature are present within 10km of the Scheme. 30km is often considered a threshold distance for bat Sites with large infrastructure projects and the eastern end of the Limestone Cliffs of South of West Wales SAC lies within 30km of the Scheme (with greater horseshoe bats as a qualifying feature). Consideration was therefore given to whether a 30km limit should also be applied to this Scheme rather than 10km. However, the Limestone Cliffs of West Wales SAC is designated for hibernating greater horseshoe bats which are associated with the Pembrokeshire Bat Sites and Bosherton Lakes SAC breeding roosts further west. It is not, therefore, considered reasonable to include the Limestone Cliffs of South West Wales SAC, as there is likely to be a low to negligible possibility of coastal movement of greater horseshoe bats east, away from their breeding sites. This is particularly considering the distance in combination with coastal industrial/urban/street lit areas acting as barrier to movement.

2.1.5 No potential Impact Pathways have been identified for Cefn Cribwr Grasslands SAC therefore this site is screened out at this point from further consideration.

Table 1: Summary of Designated Sites Within the Zone of Influence of the Scheme

Site	Qualifying Features	Relationship to Scheme	Potential Impact Pathways
Kenfig/Cynffig SAC	Annex I habitats that are a primary reason for selection of this site - Fixed coastal dunes with herbaceous vegetation ("grey dunes") - Dunes with <i>Salix repens</i> ssp. <i>argentea</i> (Salicion arenariae) - Humid dune slacks - Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp, Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site - Atlantic salt meadows (Glauco-Puccinellietalisa maritima) Annex II species that are a primary reason for selection of this site - Petalwort <i>Petalophyllum ralfsii</i> - Fen orchid <i>Liparis loeselii</i> Annex II species present as a qualifying feature, but not a primary reason for selection of this site - Not applicable	The boundary of the Kenfig SAC lies <100m from the proposed works	Loss of qualifying habitats and/or species as a result of excavation works. Pollution impacts on qualifying species and habitats from machinery fuel/oil/chemical spills Pollution impacts as a result of sewerage leaks from the new pipeline.
Cefn Cribwr Grasslands SAC/ Glaswellfiroedd Cefn Cribwr	Annex I habitats that are a primary reason for selection of this site Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	Within 2.5km of the Scheme	None identified. Screened out of further consideration.

Site	Qualifying Features	Relationship to Scheme	Potential Impact Pathways
	Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site - Not Applicable Annex II species that are a primary reason for selection of this site - Not applicable Annex II species present as a qualifying feature, but not a primary reason for selection of this site - Marsh fritillary butterfly <i>Euphydryas</i> (Eurodryas, Hypodryas) <i>aurina</i>		
Severn Estuary/Hafren Môr SAC	Annex I habitats that are a primary reason for selection of this site - Estuaries - Mudflats and sandflats not covered by seawater at low tide - Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site - Sandbanks which are slightly covered by sea water all the time - Reefs Annex II species that are a primary reason for selection of this site - Sea lamprey <i>Petromyzon marinus</i>	c.48km east of the Scheme area. Direct hydrological connection to the sea immediately adjacent to the coastline through which the western section of the new pipeline passes. Habitat adjacent to the Scheme may provide functionally linked habitat for qualifying SAC species.	Pollution impacts on qualifying species from machinery fuel/oil/chemical spills entering the marine environment.

Site	Qualifying Features	Relationship to Scheme	Potential Impact Pathways
	- River lamprey <i>Lampetra fluviatilis</i> - Twaite shad <i>Alosa fallax</i> Annex II species present as a qualifying feature, but not a primary reason for selection of this site - Not applicable		
Severn Estuary SPA	Regularly supporting an internationally important wintering population of Bewick's swan <i>Cygnus columbianus bewickii</i>, an Annex 1 species. Regularly supporting over 20,000 wintering waterfowl Regularly supporting internationally important populations of 5 species of migratory waterfowl: - European white-fronted goose - Shelduck - Gadwall - Dunlin - Redshank Supports nationally important wintering populations of: - Wigeon - Teal - Pintail - Pochard - Tufted duck - Ringed plover - Grey plover - Curlew - Whimbrel	c.48km east of the Scheme area. Scheme area may provide functionally linked habitat for SPA qualifying species (e.g. foraging)	Potential for loss of functionally linked foraging habitat. Disturbance of qualifying bird species/populations due to noise/lighting during work

Site	Qualifying Features	Relationship to Scheme	Potential Impact Pathways
	- Spotted redshank Supports nationally important migratory populations of: - Ringed plover - Dunlin - Whimbrel - Redshank Supports nationally important breeding population of lesser black backed gulls.		
Severn Estuary Ramsar	Qualifies under Criterion 1 of the Ramsar Convention: - The large tidal range affecting the physical environment and biological communities. Qualifies under Criterion 2b of the Ramsar Convention - Estuarine communities Qualifies under Criterion 2c of the Ramsar Convention - Its important numbers of migratory fish including salmon, sea trout, sea lamprey, river lamprey, allis shad, twaite shad and eel. - Its important numbers of migratory bird populations including ringed plover, dunlin, whimbrel, and redshank Qualifies under Criterion 3a of the Ramsar Convention - Regularly supporting over 20,000 over wintering waterfowl. Qualifies under Criterion 3c of the Ramsar Convention: - Regularly supporting international important wintering populations of European white	c.48km east of the Scheme area. Direct hydrological connection to the sea immediately adjacent to the coastline through which the western section of the new pipeline passes. Habitat through which the Scheme runs may provide functionally linked habitat for qualifying bird species (e.g. foraging).	Potential for loss of functionally linked foraging habitat. Disturbance of qualifying bird species populations due to noise/lighting during work

Site	Qualifying Features	Relationship to Scheme	Potential Impact Pathways
	fronted geese, shelduck, gadwall, dunlin, and redshank		
Carmarthen Bay and Estuaries/Bae Caerfyrddin ac Aberoedd SAC	Annex I habitats that are a primary reason for selection of this site - Sandbanks which are slightly covered by sea water at all times. - Estuaries - Mudflats and sandflats not covered by seawater at low tide - Large shallow inlets and bays - Salicornia and other annuals colonizing mud and sand - Atlantic salt meadows (<i>Glaucopuccinellietalia maritima</i>) Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site - Not applicable Annex II species that are a primary reason for selection of this site - Twaite shad <i>Alosa fallax</i> Annex II species present as a qualifying feature, but not a primary reason for selection of this site - Sea lamprey <i>Petromyzon marinus</i> - River lamprey <i>Lampetra fluviatilis</i> - Allis Shad <i>Alosa alosa</i>	c.28km West of the Scheme area. Direct hydrological connection to the sea immediately adjacent to the coastline through which the western section of the new pipeline passes. Habitat adjacent to the Scheme may provide functionally linked habitat for qualifying SAC species.	Pollution impacts on qualifying species from machinery fuel/oil/chemical spills entering the marine environment.

Site	Qualifying Features	Relationship to Scheme	Potential Impact Pathways
	• Otter <i>Lutra lutra</i>		
Carmarthen Bay SPA	A fully marine SPA designated for its migratory and over-wintering population of common scoter (<i>Melanitta nigra</i>). Peak numbers of 17,000-22,000.	c.38km West, overlaps with Carmarthen Bay SAC. Coastal habitat adjacent to the Scheme may provide functionally linked habitat for qualifying SAC species.	Pollution impacts on qualifying species from machinery fuel/oil/chemical spills entering the marine environment.

2.2 Test for Likely Significant Effects

- 2.2.1 The proposed Scheme is not necessary for the management or maintenance of any of the identified sites therefore it must be tested for any Likely Significant Effects.
- 2.2.2 To identify whether there is a Likely Significant Effect on any of the identified sites, it is necessary to ask whether any of the potential Impact Pathways identified in Table 1 may undermine the conservation objectives of those sites.

Kenfig SAC

- 2.2.3 The Conservation Objectives for the Kenfig SAC are:

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;

- *The extent and distribution of qualifying natural habitats and habitats of qualifying species*
- *The structure and function (including typical species) of qualifying natural habitats*
- *The structure and function of the habitats of qualifying species*
- *The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely*
- *The populations of qualifying species, and,*
- *The distribution of qualifying species within the site*

- 2.2.4 The conservation objectives for the SAC, and how the qualifying features can be maintained or restored, are expanded on in the Kenfig/Cynffig SAC Core Management Plan (produced by CCW, now NRW, in April 2008, minor edits 2013) which also considers the SSSIs which form the SAC. The SAC exists in two parts, an eastern section (Merthyr Mawr SSSI) and a western section (Kenfig SSSI), with Porthcawl separating the two. Within the management plan the Kenfig SSSI is split into 9 management units with the SAC covered by units 1, 2 and 5-9. The Scheme borders Unit 2.

- 2.2.5 The Management plan states the following in relation to Unit 2:

Kenfig northern dunes. In SAC and Cynffig/Kenfig SSSI, and in NNR managed by Bridgend CBC. Unit boundary follows fence, erected in Spring 2006 to permit cattle grazing. This compartment was grazed by cattle in summer 2006 for the first time for many years. Previous regime of sheep grazing now ended. Very few rabbits. Scrub control ongoing. Unit includes grey dunes, humid dune slacks, dunes with creeping willow and petalwort. Fen orchid was present in 1990s.

- 2.2.6 This indicates that Unit 2 includes the qualifying features listed in Table 1. The condition of the qualifying feature at the time of the production of the management plan is also referenced in Table 2.

Table 2: Condition of Kenfig SAC Qualifying Feature

Qualifying feature in Unit 2	Condition at time of Management Plan
Fixed coastal dunes with herbaceous vegetation ("grey dunes")	Unfavourable declining
Dunes with <i>Salix repens</i> ssp. <i>argentea</i> (<i>Salicion arenariae</i>)	Unfavourable declining
Humid dune slacks	Unfavourable declining
Petalwort	Unfavourable declining

2.2.7 As detailed in section 1.2, works will involve directional drilling to install a new sewage pipeline. The potential Impact Pathways identified in Table 1 for the Kenfig SAC are.

- Loss of qualifying habitats and/or species as a result of excavation works.
- Pollution impacts on qualifying species and habitats from machinery fuel/oil/chemical spills.
- Pollution impacts as a result of sewerage leaks from the new pipeline.

2.2.8 The favoured route of the new sewerage pipeline falls within the Kenfig SSSI but outside of the boundary of the SAC. The purpose of a HRA is to assess impacts on SAC sites only. With that in mind, as proposed works fall outside of the SAC, there will be no loss of qualifying habitats and/or species as a result of excavation works.

2.2.9 Pollution impacts as a result of spills from machinery used during construction works (e.g. during maintenance, refuelling, or as a result of damage to the machines) were identified as a potential Impact Pathway. Spills from machinery used along the preferred route could soak into the ground and, as a result, spread across into the adjacent SAC, resulting in damage to the biological functions that maintain the qualifying habitats. Alternatively, there could be direct harm to petalwort as a qualifying species. As the present qualifying features have been identified as having an unfavourable declining condition, further negative impacts would undermine the conservation objectives of the SAC.

2.2.10 However, standard pollution prevention and control measures employed across construction sites and detailed in any Construction Environmental Management Plan produced for the Scheme would ensure both appropriate avoidance measures, and an appropriate response in the event of a spill, to ensure no pollution would enter the SAC and impact qualifying features.

2.2.11 To note, standard pollution prevention measures will be an inherent part of the proposal and are not in place to specifically avoid impacts on the SAC. As such, they can be considered during the Screening Stage as they are not specifically intended to avoid harmful effects on the SAC. This is as per the 2018 People Over Wind & Sweetman v Coillte ruling.

2.2.12 With consideration of the risk of sewerage leaks, it should be noted that the current pipeline runs along approximately the same route and its replacement is required due to increasing risk of containment failure. The replacement pipeline will have a significantly lower (negligible) risk of failure and will result in an improvement to current baseline risks.

2.2.13 Taking the above into account, it is concluded that the proposed works will not have a Likely Significant Effect on the SAC.

Severn Estuary SAC

2.2.14 The Conservation Objectives for the Severn SAC are:

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;

- *The extent and distribution of qualifying natural habitats and habitats of qualifying species*
- *The structure and function (including typical species) of qualifying natural habitats*
- *The structure and function of the habitats of qualifying species*
- *The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely*
- *The populations of qualifying species, and,*
- *The distribution of qualifying species within the site*

2.2.15 The potential Impact Pathways identified in Table 1 for the Severn Estuary SAC are:

- Pollution impacts on qualifying species from machinery fuel/oil/chemical spills entering the marine environment.

2.2.16 This was identified as a potential Impact Pathway as machinery used at the western end of the Scheme (along Morfa Beach) during works may pose a risk to the marine environment if spills occurred during maintenance, refuelling or as a result of damage to the machines. Specifically, impacts on qualifying Annex 2 species that may be passing through the adjacent coastal waters (sea lamprey, river lamprey, twaite shad).

2.2.17 However, all works are being carried out above the mean High Water Mark and, due to this, in the event of a spill it is considered highly unlikely that pollutants would reach the water. Further, as covered in paragraph 2.2.10, standard pollution prevention and control measures employed across construction sites and detailed in any Construction Environmental Management Plan produced for the Scheme would ensure both appropriate avoidance measures, and an appropriate response in the event of a spill, to ensure no pollution would enter the marine environment.

2.2.18 Finally, the quantity of the pollutants that may be lost from the machinery would be so small in relation to the volume of water in the adjacent marine environment, that even in the improbable situation that a pollution event was to occur, the impacts would be at the local level and negligible overall. Therefore, it could not be reasonably argued that it would impact the qualifying species and undermine the SAC's conservation objectives.

2.2.19 Taking the above into account the threshold for a Likely Significant Effect is not met.

Severn Estuary SPA/Ramsar

2.2.20 The Conservation Objectives of the Severn Estuary SPA are:

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- *The extent and distribution of the habitats of the qualifying features*
- *The structure and function of the habitats of the qualifying features*
- *The supporting processes on which the habitats of the qualifying features rely*
- *The population of each of the qualifying features, and,*
- *The distribution of the qualifying features within the site.*

2.2.21 Ramsar sites do not have specific Conservation Objectives, however for the purposes of this report, it can be assumed that the SPA Conservation Objectives would be applicable.

2.2.22 The Severn Estuary SPA and Ramsar overlap in area and therefore are considered in combination. The potential Impact Pathways identified in Table 1 are the same for both sites:

- Potential for loss of functionally linked foraging habitat.
- Disturbance of qualifying bird species/populations due to noise/lighting during work

2.2.23 With reference to the Preliminary Ecological Appraisal report for the Scheme (TACP (2024) Kenfig Hill Foul Rising Main: Preliminary Ecological Appraisal 61161_REP_KenfigHillPEA_P1_S3) and the Wintering Bird Survey report (TACP (2024) Kenfig Hill Foul Rising Main: Wintering Bird Survey Report 61161_REP_KenfigHillWinteringBird_P1_S3) there are no records of the qualifying bird species for the SPA or Ramsar site occurring across the Scheme area in numbers that would indicate regular or significant use. Therefore the potential for loss of functionally linked foraging habitat, or disturbance to qualifying species, is considered negligible and the conservation objectives of the SPA/Ramsar are not undermined. There is no Likely Significant Effect.

Carmarthen Bay and Estuaries SAC

2.2.24 The Conservation Objectives of the Carmarthen Bay and Estuaries SAC are:

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;

- *The extent and distribution of qualifying natural habitats and habitats of qualifying species*
- *The structure and function (including typical species) of qualifying natural habitats*
- *The structure and function of the habitats of qualifying species*
- *The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely*
- *The populations of qualifying species, and,*
- *The distribution of qualifying species within the site*

2.2.25 The potential Impact Pathways identified in Table 1 for the Carmarthen Bay and Estuaries SAC are:

- Pollution impacts on qualifying species from machinery fuel/oil/chemical spills

entering the marine environment.

- 2.2.26 However, reviewing available information it is concluded that spills from machinery will not have a Likely Significant Effect on the SAC.
- 2.2.27 The reasoning is equivalent to that for the Severn Estuary SAC and detailed in paragraphs 2.2.14-2.2.16. That is, when considering the area of construction, the likelihood of pollutants entering the water and the total quantity of potential pollutants relative to the diluting effects of the adjacent coastal waters, it cannot be objectively state that a significant effect on relevant qualifying Annex 2 species that may be present (twait shad and sea lamprey).

Carmarthen Bay SPA

- 2.2.28 The Conservation Objectives of the Carmarthen Bay SPA are:

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- *The extent and distribution of the habitats of the qualifying features*
- *The structure and function of the habitats of the qualifying features*
- *The supporting processes on which the habitats of the qualifying features rely*
- *The population of each of the qualifying features, and,*
- *The distribution of the qualifying features within the site.*

- 2.2.29 The potential impact pathways identified in Table 1 for the Carmarthen Bay SPA are:

- Pollution impacts on qualifying species from machinery fuel/oil/chemical spills entering the marine environment.

- 2.2.30 The qualifying species is the common scoter, a sea duck that is typically present in rafts offshore, and can be vulnerable to oil spills. Individuals may occur off the coast around Kenfig. However, as for the Carmarthen Bay and Estuaries SAC and the Severn Estuary SAC, the likelihood of pollutants entering the water from machinery spills is negligible-low, and the quantity that could enter the water in such an improbable event would not be of a quantity that could negatively impact individual ducks (refer to paragraphs 2.2.14-2.2.16).

- 2.2.31 It can therefore be concluded that the potential Impact Pathway identified would result in a Likely Significant Effect.

In-Combination Effects

- 2.2.32 The Habitats Regulations require that a Likely Significant Effect be considered both with the plan/project in isolation, and in-combination with other plans/projects that may be occurring locally. That is, where a project has a low/negligible effect on an SAC on its own, it may result in an LSE when considered alongside low/negligible effects of another, nearby project.

- 2.2.33 The current proposal is isolated in scope and no potential for an LSE on any SAC has been identified. Further, a review of current planning applications, and those granted within the past 5 years, within 2.5km of the proposed pipeline route (referring to the planning portals of the relevant planning authorities) did not identify any projects that would result in an in-combination effect on any of the SACs referenced here.

2.3 Screening Conclusions

2.3.1 The proposed Scheme will not result in a Likely Significant Effect on the following SACs, along or in-combination with other plans or projects:

- Kenfig/Cynffig SAC
- Severn Estuary SAC
- Severn Estuary SPA
- Severn Estuary Ramsar
- Carmarthen Bay and Estuaries SAC
- Carmarthen Bay SPA

2.3.2 It is therefore concluded that it is not necessary for Stage 2 of Habitat Regulations Assessment (Appropriate Assessment) to be carried out.

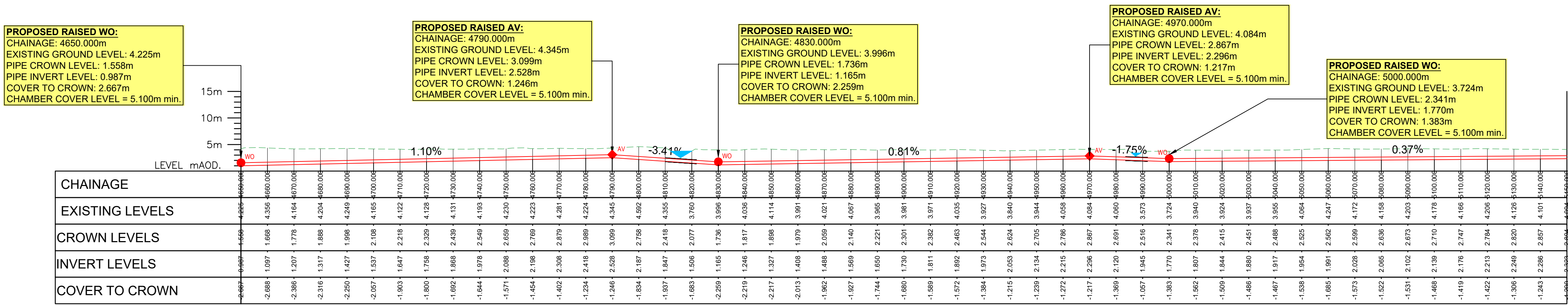
3 REFERENCES

- 3.1.1 TACP (2024) Kenfig Hill Foul Rising Main: Preliminary Ecological Appraisal (61161_REP_KenfigHillPEA_P1_S3)
- 3.1.2 TACP (2024) Kenfig Hill Foul Rising Main: Wintering Bird Survey Report (61161_REP_KenfigHillWinteringBird_P1_S3)
- 3.1.3 Tyldesley, D. and Chapman, C. (2013). The Habitats Regulations Assessment Handbook (April) (2024) Edition UK: DTA Publications Ltd

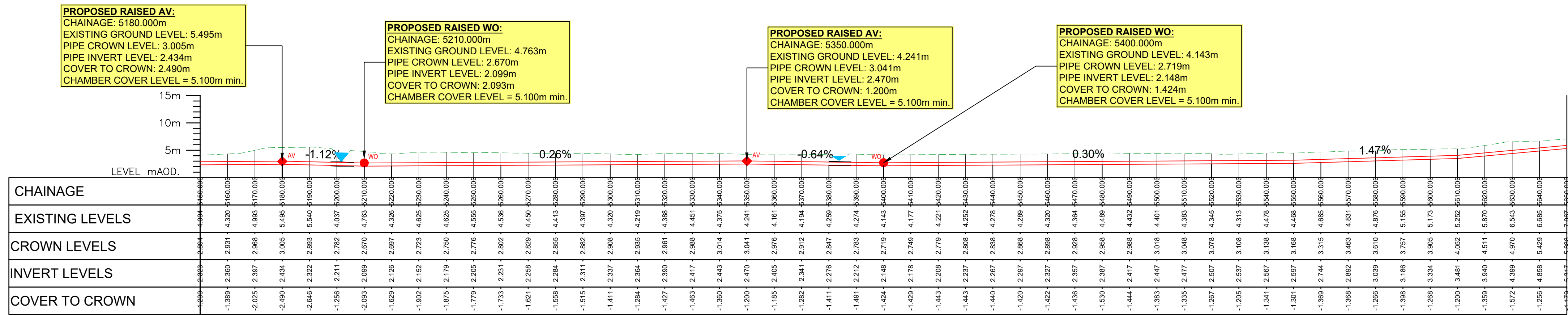
Appendix F

Ditch Levels

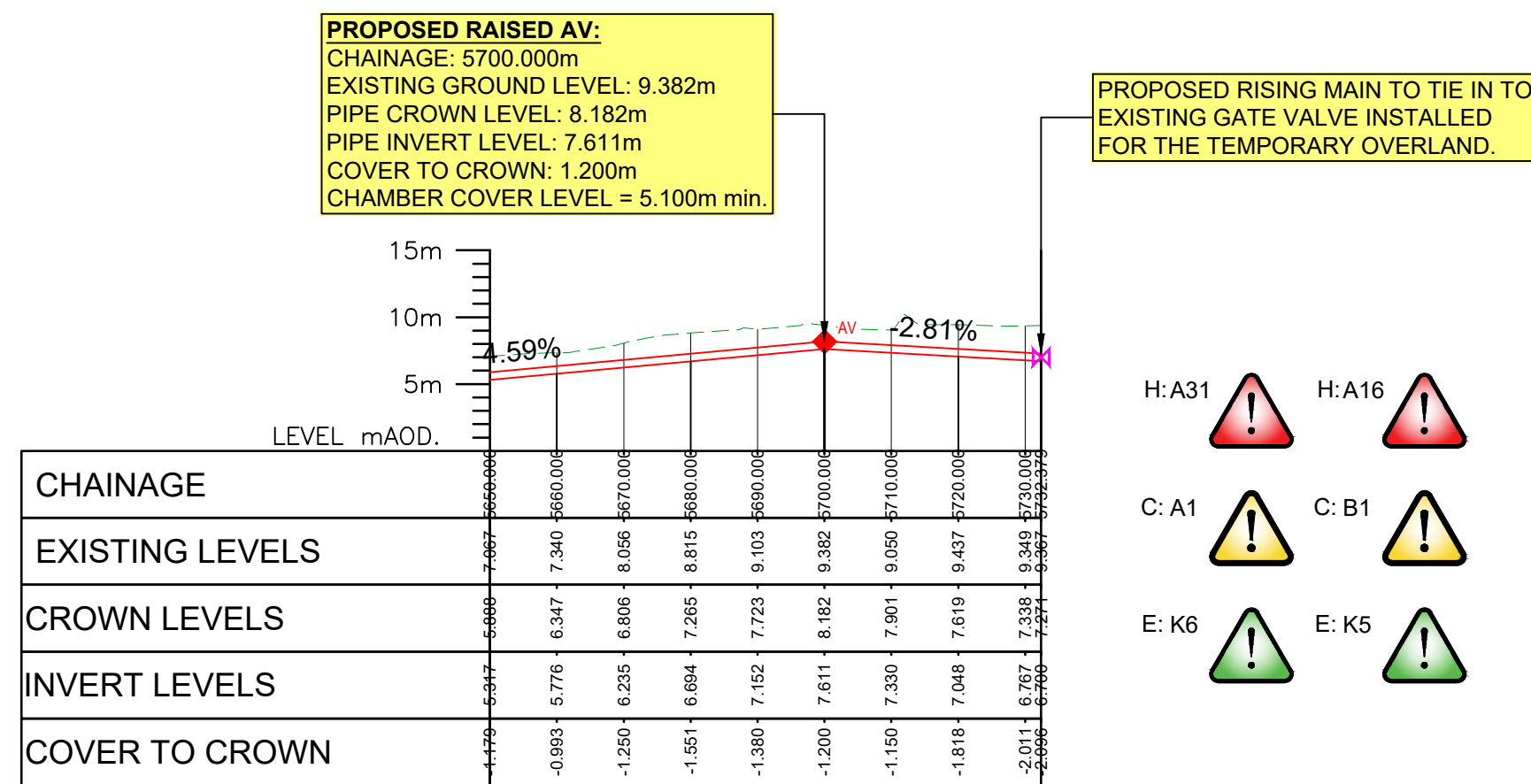
N:\50757-00 KENFIG HILL FOUL RISING MAIN REPLACEMENT\01 DRIDETAILED DESIGN DRAWINGS\P17979-121316-01-BG-DR-CA-CI0530_PHASE5LONGSECTION.DWG



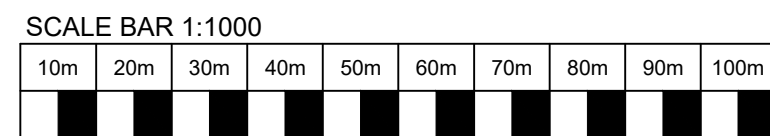
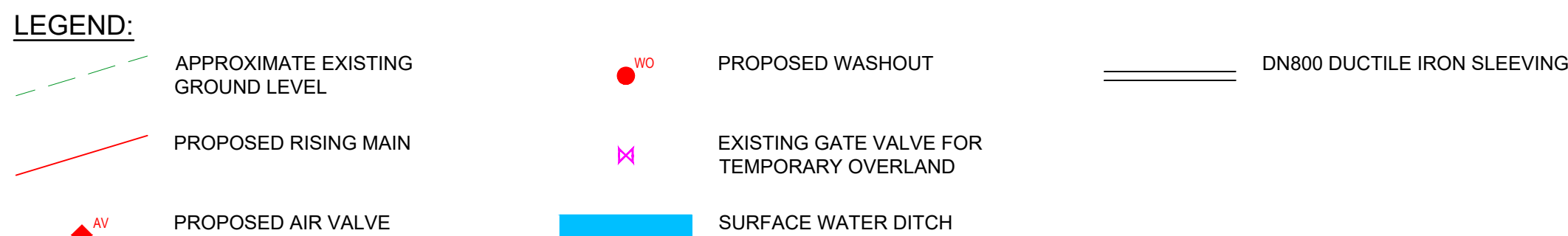
PHASE 5 – LONGSECTION (CH.4650 – CH.5160)
SCALE: H 1:1000,V 1:500.



PHASE 5 – LONGSECTION (CH.5160 – CH.5650)
SCALE: H 1:1000,V 1:500.



PHASE 5 – LONGSECTION (CH.5650 – CH.5732)
SCALE: H 1:1000,V 1:500.



HAZARDS TO BE CONSIDERED DURING CONSTRUCTION PROCESS	
FOR DETAILS OF SITE-WIDE AND GENERAL RISKS, TO BE READ IN CONJUNCTION WITH THESE NOTES, SEE CAF408 FILE "P17979-121316-01-BG-RG-CA-CI1001"	
REFERENCE	DESCRIPTIONS
H:A31	WATER / WASTEWATER SERVICES
C: B1	GENERAL EXCAVATION
C: A1	EXISTING GROUND LEVELS
E: K6	GROUNDWATER
H:A16	WORKING NEAR WATER
E: K5	SSSI SITE

SAFETY HEALTH AND ENVIRONMENTAL INFORMATION	
TO BE READ IN CONJUNCTION WITH DESIGNERS SUMMARY OF SIGNIFICANT HAZARDS AND RISKS AND HEALTH & SAFETY HAZARDS IDENTIFICATION CHECK LIST	
THE DESIGN TEAM HAVE HIGHLIGHTED ONLY WHAT MAY NOT BE OBVIOUS TO A COMPETENT CONTRACTOR. THEY ASSIST WITH RISK REDUCTION ONLY AND ARE NOT NECESSARILY COMPREHENSIVE. EVERYDAY OR LOW RISK HAZARDS HAVE NOT BEEN IDENTIFIED.	
IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING TO AN APPROVED METHOD STATEMENT. SHOULD ANY ADDITIONAL HAZARDS BE IDENTIFIED, THE CONTRACTOR SHALL NOTIFY THE RELEVANT SCHEME TEAM MEMBERS.	
IN ADDITION TO THE RISKS ASSOCIATED WITH THE TYPES OF WORKS DETAILED ON THE DRAWING, NOTE THE FOLLOWING SIGNIFICANT RISKS AND INFORMATION.	
HAZARD	HEALTH AND SAFETY RISK, REFER TO ACCOMPANYING DOCUMENTATION
HAZARD	CONSTRUCTION/BUILDABILITY RISK, REFER TO ACCOMPANYING DOCUMENTATION
HAZARD	ENVIRONMENTAL RISK, REFER TO ACCOMPANYING DOCUMENTATION

Project No.: 50757-00	Scale: AS SHOWN	Original Paper Size: A1
Drawing Number: P17979-121316-01-BG-DR-CA-CI0530		
Status: S0	Status Description: WORK IN PROGRESS	
Revision: P2.0	Revision Description: UPDATED TO INCLUDE DITCH LEVELS	
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Project:

MARLAS SPS RISING MAIN

Drawing Title:

SERIES 500 PHASE 5 LONG SECTION (CH.4623m - CH.5727m)