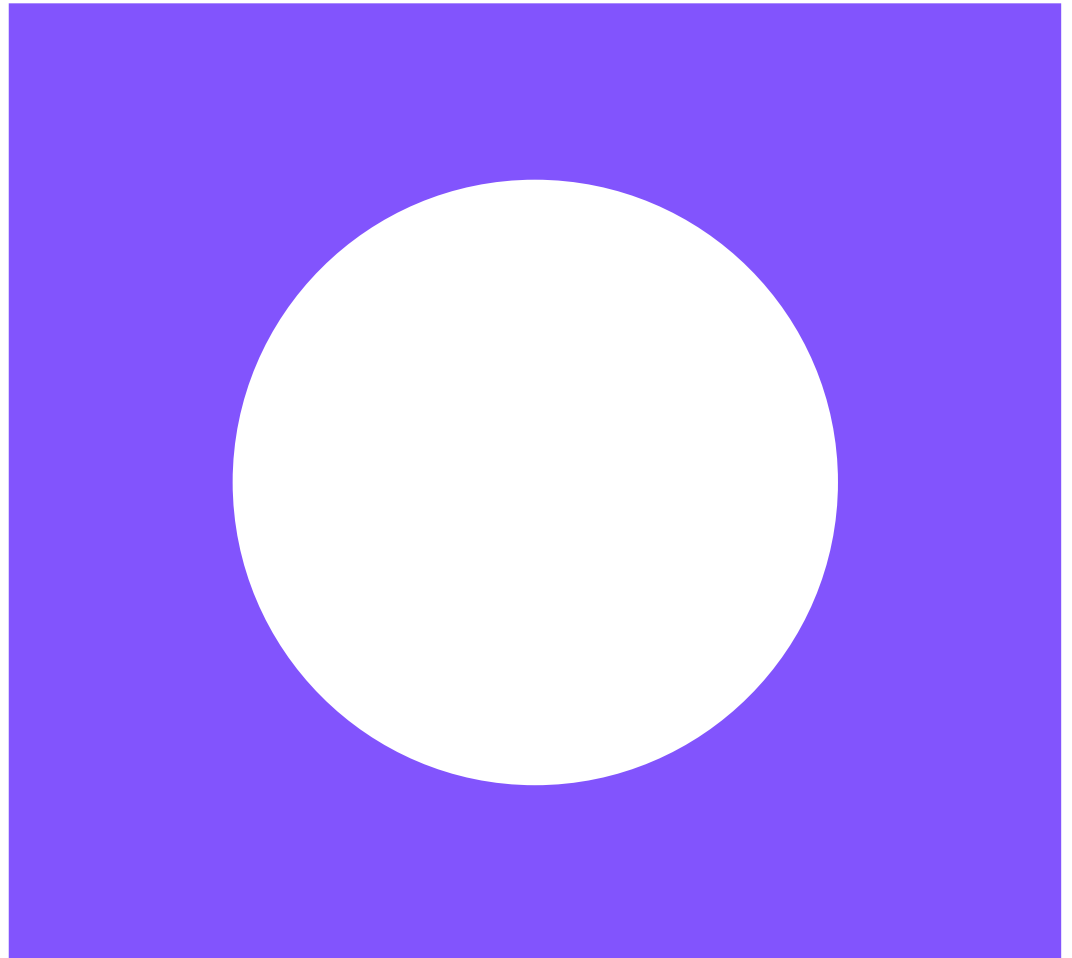




Bassaleg Bridge

Arboricultural Impact Assessment

March 2025

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Bassaleg Bridge

Arboricultural Impact Assessment

March 2025

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Executive summary

Mott MacDonald has been appointed by Newport City Council to undertake an arboricultural survey to support a planning application for works at Old Bassaleg Bridge Easting, Northing: 327846, 187042, NP10 8QY. The bridge is owned by Newport City Council and carries a single carriageway over the Ebbw River. It was constructed circa 1943.

The survey and associated report have been undertaken in accordance with *BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations* which is intended to assist decision making with regard to the existing trees in the context of proposed development.

This survey is not, nor should be taken to be, a full or thorough assessment of the health and safety of trees on or adjacent to the site. Therefore, it is recommended that detailed tree inspections are undertaken on a regular basis with the express purpose of complying with the landowner's duty of care and satisfying health and safety requirements.

Nine individual trees were recorded as part of the survey and the following provides a summary of their quality as assessed in accordance with BS 5837:2012.

- Category A i.e. high quality; one tree.
- Category B i.e. moderate quality; zero trees.
- Category C i.e. low quality; eight individual trees.
- Category U i.e. recommended for removal on arboricultural grounds; zero trees.

Protection barriers in accordance with *BS5837:2012* have been specified to protect one tree on site (Tree 9). Where protection barriers do not encompass the entirety of the rooting area of tree 9, no alternative protection measures will be required. This is due to the fact that the tree is rooted in a narrow island of grass and the surrounding hard standing will be acting as a root barrier.

Newport City Council (NCC) has confirmed via email (04/03/25) that no trees within or adjacent to the Scheme are protected by Tree Preservation Orders (TPOs) and that there are no Conservation Areas (CA) covering or adjacent to the site. However, one tree (tree nine) is owned by NCC and should be treated as if it is protected by a TPO.

1 Introduction

Mott MacDonald have been commissioned by Newport City Council (NCC) to undertake an Arboricultural Impact Assessment (AIA) as part of a suite of surveys and assessments to support the design of a new bridge and associated infrastructure. A separate application is proposed to be submitted in relation to the demolition of the existing structure, with this report to be submitted to support the new structure only.

1.1 Scheme background

In 2021, severe cracking was identified in the structure. Underwater investigations were conducted in June and August 2021 and revealed that a scour hole had developed underneath the western pier which had caused the foundation to detach from the structure, leaving the upstream main longitudinal girders unsupported and only a small width of pier foundation to support the downstream main longitudinal girders. It is suspected that storm events in 2020 initiated or assisted in the progression of the scouring underneath the western pier. Accordingly, severe cracking was present in the main longitudinal girders in the vicinity of the western pier. Emergency repairs were carried out to the pier foundation in September 2021.

Old Bassaleg Bridge was closed by NCC as it could not be confirmed as safe for use, following an initial analysis that examined the effects of scour damage as noted in a scour inspection by Edwards Diving Services (EDS). Alternative vehicular access for emergency vehicles only was provided from the A467; Old Bassaleg Bridge had previously provided the only vehicular access to Forge Mews. An existing footbridge was able to facilitate pedestrian traffic over the A467 bypass. In the spring of 2022, a ratcheting effect was identified in the upstream portion of the structure.

The increase in seasonal temperature caused the crack widths to progressively widen without returning to their original width. An inspection of the structure around this time had also revealed that reinforcement near these cracks in the upstream main longitudinal girders had severed.

A structural assessment was carried out by Mott MacDonald in January 2023, from which it was concluded that it was not feasible to certify a meaningful and safe live load carrying capacity for the structure. The structure was rated as failing 'Dead Load Only' with the governing structural element being the main longitudinal beams due to the identified deficiencies. Emergency interim measures that were put in place include:

- Closure of the bridge to vehicular traffic.
- Closure of the upstream footway (above the beams with the most severe cracking).
- Implementation of a structural monitoring system that records crack and tilt movements against temperature, for which an alert is triggered if expected crack and tilt movements are exceeded.

Upon implementation of the structural monitoring system, the downstream footway was reopened to pedestrians (subject to the progression of the ratcheting effect thereon). Following the structural assessment, Mott MacDonald was then commissioned by Newport City Council to prepare an option selection report for the replacement of Old Bassaleg Bridge. The options explored in the report were:

- Demolition of the existing bridge only (no replacement).
- Online bridge replacement.
- Offline bridge replacement.

- Offline road bridge and online footbridge replacements.
- Acquisition of Forge Mews properties with an online footbridge replacement; and
- Provision of a highway junction to the A467 with an online footbridge replacement.

A workshop was held with Newport City Council on 15th March 2023 to discuss the options and obtain initial feedback. It was later determined that an offline structure was to be progressed, and MM supported the NCC in completing a WeTAG Lite to aid in the application for funding for the new structure.

Figure 1.1: Site Location Plan labelled as Old Bassaleg bridge.



Source: Map data © OpenStreetMap.org contributors

1.2 Purpose of Arboricultural Report

This report is designed to meet the following objectives:

- To satisfy the requirements of the planning application to NCC
- To set out the constraints to development posed by existing tree stock.
- To identify trees or areas of arboricultural significance.
- To support the detailed design stage of this Scheme in relation to minimising or avoiding impact on trees.

1.3 Tree Assessment Methodology

The tree survey was carried out by a chartered Mott MacDonald Arboriculturists on the 18 February 2025 to assess the quality and value of the principal trees within or adjacent to the Scheme footprint.

The survey was undertaken in accordance with the guidelines set out in BS 5837:2012 *Trees in relation to design, demolition, and construction – Recommendations*¹. The tree data contained within the Tree Survey Schedule (**Appendix D**) was recorded by visual survey from ground level and no invasive tree inspection measures were employed.

The survey process categorises the trees on site, selects those appropriate for retention and reviews the options for incorporating these trees within the developed landscape. The categorisation of trees where removal is unavoidable can then be used to assess appropriate mitigation measures.

The full Tree Survey Schedule, categorisation of the trees in their existing context and Root Protection Areas are stated in **Appendix D** (to be read in conjunction with the Key to Tree Survey Schedule, **Appendix B**, and BS 5837:2012 Cascade chart for Tree Quality Assessment, **Appendix C**).

In accordance with BS 5837:2012, the following information was recorded for each tree:

- Sequential reference number (recorded on the Tree Constraints Plan (**Appendix A**)).
- Species listed by common name and scientific name.
- Life stage recorded as per **Error! Reference source not found.**
- Height (metres).
- Crown spread (metres), taken as a minimum at the four cardinal points, to derive an accurate representation of the crown (plotted on the tree drawings contained in **Appendix A**).
- Existing height (metres) above ground level of:
 - First significant branch; and
 - Canopy
- Stem diameter (millimetres) in accordance with Annex C of BS 5837:2012. The stem diameters of single stemmed trees were measured at 1.5 metres above ground level and multi-stemmed trees measured in accordance with Annex C.
- The Root Protection Area (RPA) calculated in accordance with Section 4.6 of BS 5837:2012. The measurement provided is a 'Root Protection Radius (m)' (circle centred on the base of the stem).
- General observations, particularly of structural and/or physiological condition (e.g., the presence of any decay and physical defect), and/or preliminary management recommendations.
- Estimated remaining contribution, in years (<10, 10+, 20+, 40+).
- Retention category recorded as A, B, C or U in accordance with BS 5837:2012 Cascade chart for Tree Quality Assessment (see **Table 1.2** and **Appendix C**) to be recorded on the Tree Constraints Plan and Tree Protection Plan (**Appendix A**). This gives an indication as to each tree's arboricultural, landscape and cultural value and significance as well as its suitability for retention in the context of the proposed development of the site. These sub-categories (1 – Arboricultural values; 2 – Landscape values; and 3 – Cultural values, including conservation)

¹ British Standard (2012) BS 5837:2012 *Trees in Relation to design, demolition and construction – Recommendations*; ISBN 978 0 580 69917 7.

are included where considered necessary to clarify why a tree has been assigned to a particular retention category.

Table 1.1: Life stage categories.

Abbreviation	Life Stage	Description
Y	Young	Trees within 1 st quarter of their life expectancy
SM	Semi-mature	Trees within 2 nd quarter of their life expectancy
EM	Early mature	Trees within 3 rd quarter of their life expectancy
M	Mature	Trees aged within final quarter of their life expectancy
OM	Over Mature	Over-mature – declining or moribund trees of low vigour
V	Veteran	Specimens exhibiting features of biological, cultural, or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned
D	Dead	Entirely dead tree

- Source: Mott MacDonald, 2024.

Table 1.2: BS 5837:2012 Tree quality assessment tree retention categories.

Category	Description
Category A	Trees of high quality and value whose retention is most desirable (suggested minimum contribution 40 years)
Category B	Trees of moderate quality and value whose retention is desirable if practicable (suggested minimum contribution 20 years)
Category C	Trees of low quality and value or limited long-term potential, which could be retained if not in conflict with development proposals or young trees with a stem diameter of less than 150mm (suggested minimum contribution 10 years)
Category U	Trees requiring removal irrespective of any development proposals due to significant structural defects, irreversible decline or with a very short-term life expectancy of less than 10 years

Source: BS 5837:2012 Trees in Relation to design, demolition and construction – Recommendations, 2012.

1.4 Limitations of the survey

This report provides comment on the general quality of the trees on the Site and is not, nor should be taken to be, a full or thorough assessment of the health and safety of trees on or adjacent to the Site. It is recommended that a full tree survey should be undertaken on a regular basis to satisfy health and safety requirements.

Distances were recorded using a standard metric tape measure where appropriate, and stem diameter was recorded using a diameter tape. Tree height was estimated to the nearest metre.

Previous management and/or surveys in relation to the health and safety of trees on this site have not been taken into account as part of this report.

Trees are living organisms whose health, condition and structure can change over time. The contents of this report are valid for a period of one year from the date of issue.

2 Summary of existing trees

2.1 Tree Preservation Orders and Conservation Areas

The primary measures which provide statutory protection to trees are Tree Preservation Orders (TPOs) and Conservation Area (CA) status. Where present, these measures determine that either notification to the Local Planning Authority (LPA) for CA designations or consent from the LPA for TPO designations is required for any works that may affect trees or tree groups.

The Scheme falls within the administrative boundaries of Newport City Council (NCC). NCC has confirmed via email (04/03/25) that no trees within or adjacent to the Scheme are protected by Tree Preservation Orders (TPOs) and that there are no Conservation Areas (CA) covering or adjacent to the site. However, one tree (Tree 9) is owned by NCC and should be treated as if it is protected by a TPO.

2.2 Ancient woodland

Ancient Woodland (AW) is defined as land that is currently wooded and has been continually wooded, at least since 1600 (England and Wales), and is an irreplaceable resource of high nature conservation and landscape value.

Ancient Semi Natural Woodland (ASNW), Plantations on Ancient Woodland Sites (PAWS) and veteran trees are afforded the same protection by means of the planning system, as set out in paragraph 6.4.43 of Planning Policy Wales²:

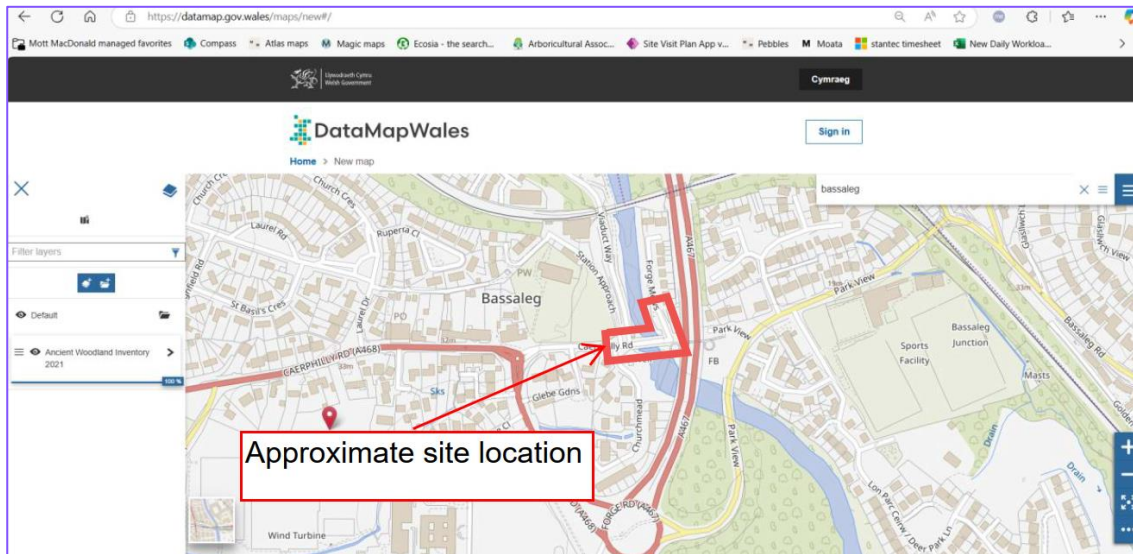
Ancient woodland, semi-natural woodlands, individual ancient, veteran and heritage trees and ancient hedgerows are irreplaceable natural resources, and have significant landscape, biodiversity and cultural value. Such trees, woodlands and hedgerows are to be afforded protection from development which would result in their loss or deterioration unless very exceptionally there are significant and clearly defined public benefits; this protection must prevent potentially damaging operations and their unnecessary loss.

A review of the Data Map Wales³ confirms that there are no areas of ancient woodland within 50m of the survey area.

² Welsh Government (2025) Planning Policy Wales – Edition 12, <https://www.gov.wales/sites/default/files/publications/2024-07/planning-policy-wales-edition-12.pdf> (Accessed 03 March 2025).

³ [Home | DataMapWales \(gov.wales\)](#)

Figure 2.1: Screenshot from Data Map Wales showing no Ancient Woodland

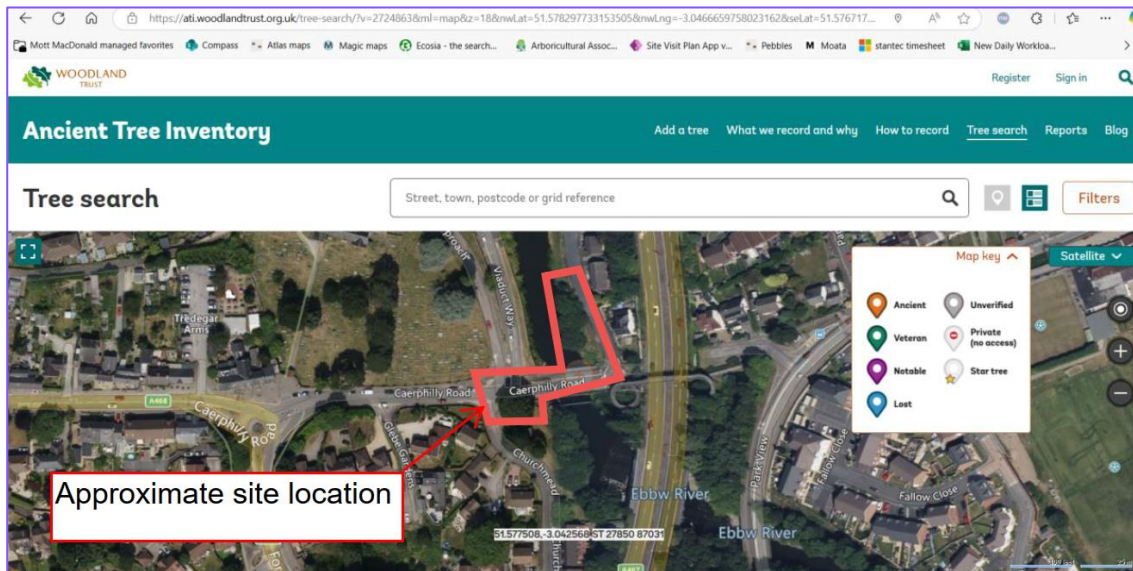


Source: DataMapWales, 2025.

2.3 Ancient, veteran, and notable trees

A check undertaken on 5 March 2025 using the Woodland Trust's Ancient Tree Inventory⁴ has confirmed that there are no ancient, veteran, or notable trees recorded on, or within 50m of, site. Nor were any recorded during the site survey.

Figure 2.3: Screenshot from Woodland Trust Ancient Tree Inventory showing no Ancient Veteran or Notable trees.



Source: Woodland Trust

⁴ Tree Search - Ancient Tree Inventory ([woodlandtrust.org.uk](https://www.woodlandtrust.org.uk))

2.4 Existing tree quality and coverage

A total of nine individual trees were identified on the Site during the survey. Refer to **Table 2.1** for a summary of the assigned BS 5837:2012 categories for the trees identified on Site.

Species present on the Site include silver birch (*Betula pendula*), honey locust (*Gleditsia triacanthos*), sycamore (*Acer pseudoplatanus*) and Rowan (*Sorbus aucuparia*).

The tree coverage on Site can be characterised as amenity, street trees. Trees 1-8 are planted in a small managed grass area and were planted to add amenity value to the area.

Tree 9 is planted in a small, raised planting area surrounded on all sides by hard standing. This tree has long outgrown its available space and has exposed roots and is causing damage to the surrounding paved area.

A full breakdown of tree retention categories and sub-categories in line with the BS 5837:2012 Tree Assessment Quality criteria can be found in **Appendix C**.

Table 2.1: summary of assigned BS 5837:2012 categories.

Tree Category	Description	Total Number surveyed
Category A	Trees or groups of high quality	1 tree
Category B	Trees or groups of moderate quality	0 trees;
Category C	Trees or groups of low quality	8 trees;
Category U	Trees recommended for removal irrespective of the proposed Scheme	0 trees

Source: Mott MacDonald, 2025 / BS 5837:2012 Trees in Relation to design, demolition and construction – Recommendations, 2012.

2.5 Site Photos

Photo 1: Image showing Trees 1 to 8 facing north with the river Ebbw in the background.



Source: Mott MacDonald 2025

Photo 2: Image showing trees 4-8 facing west with the river Ebbw in the background.



Source: Mott MacDonald 2025

Photo 3: Showing Tree 9 facing north east.



Source: Mott MacDonald 2025

Photo 4: Showing Tree 9 and recently trimmed epicormic growth facing east.



Source: Mott MacDonald 2025

3 Risks to trees

3.1 Root Protection Areas – background information

Working anywhere in the vicinity of trees is likely to cause some root damage because in the order of 80% of the roots of any tree will occur within the upper 600mm of the soil. Roots will spread out for a considerable distance from a tree and may be encountered at a distance beyond the canopy spread of a tree.

Where construction activities are proposed within the rooting zone of trees, the potential for significant damage exists. Table 2 of BS 5837:2012 prescribes a methodology for the calculation of an RPA.

The RPA represents the minimum area that should be retained undisturbed around a tree or trees for the avoidance of an unacceptable degree of root disturbance. The required RPA of a tree is calculated, and typically plotted as a circle (or where appropriate as a square of equivalent area) to determine constraints or the location of protection fencing. In certain circumstances the actual shape of this area may then be adjusted to take account of local topography or any existing site features that may serve as restrictions to 'normal' root development.

The RPA dimensions are stated in the Tree Survey Schedule (**Appendix D**).

3.2 Risks to trees from construction activity

Trees can be easily damaged by construction processes, with both the tree roots and the main structure of a tree susceptible to a range of impacts. Root damage can affect the anchorage and stability of the tree, as well as preventing or inhibiting the absorption of water and nutrients. Damage to the trunk and branches leaves the tree more exposed to disease and decay.

Activities that can cause damage to tree roots include:

- Trenches and excavations.
- Alterations in soil level.
- Non-porous surfaces.
- Compaction of soil.
- Changes in soil hydrology.
- Root exposure.
- Soil pollution (i.e. oil spill, incorrect application of herbicide and/or other chemicals); and,
- Fires.

Activities that can cause damage to tree stems and crowns include:

- Pressure from materials stored against trunks.
- Physical impact from plant and equipment.
- Incorrect pruning.
- Exposure of bark or leaves to chemicals.
- Damage to bark from mowers and strimmers.

Any works associated with this Scheme that could affect the existing trees as described above must be discussed and approved by a qualified arboriculturist prior to commencement.

3.3 Trees and wildlife

Trees provide valuable habitat for a wide range of species, and at this site are likely to provide opportunities for bird nesting and foraging, bat foraging and commuting, as well as supporting invertebrates and general vegetated connectivity. Please see 100119581-MMD-XX-XX-RP-EC-0001 (Ecological Impact Assessment) for further information. Careful consideration should be given to the design of this Scheme and the timing of any associated tree works to avoid impacting protected species.

Where there is evidence that bats, birds or other protected species are or may be present, the advice of a suitably qualified ecologist should be sought.

4 Arboricultural Impact Assessment

4.1 The Scheme

The recommended actions (**Section 4.2**) have accounted for access to Site, working room, and the installation of the new components related to the Scheme, as detailed in **Section 1.1**. Any changes to the Scheme design will require updates to this Arboricultural Impact Assessment.

4.2 Recommended actions

Table 4.1: Bassaleg Bridge recommended actions.

Tree Ref.	Species	Life Stage	Retention Category	TPO / CA	Recommended actions
1	Rowan	Semi mature	C2	N/a	Fell – direct conflict with design.
2	Honey locust	Semi mature	C2	N/a	Fell – direct conflict with design.
3	Honey locust	Semi mature	C2	N/a	Fell – direct conflict with design.
4	Honey locust	Semi mature	C2	N/a	Fell – direct conflict with design.
5	Silver birch	Semi mature	C2	N/a	Fell – direct conflict with design.
6	Rowan	Semi mature	C2	N/a	Fell – direct conflict with design.
7	Silver birch	Semi mature	C2	N/a	Fell – direct conflict with design.
8	Silver birch	Semi mature	C2	N/a	Fell – direct conflict with design.
9	Sycamore	Mature	A2	N/a	Retain – Protect with temporary protection barriers (Section 5.1).

Source: Mott MacDonald, 2025.

4.3 Tree removals

To facilitate the proposed design, Trees 1 to 8 will require removal including removal of the stumps. The stumps could be removed during construction by use of an excavator.

Permission would be required by the landowner for all tree removal (trees 1 – 8) in advance of any works being carried out.

4.4 Tree Work – Pruning

No pruning is required to facilitate the proposed works.

4.5 Tree Protection

Protection barriers have been specified to protect retained trees in close proximity to the works (**Tree 9**). Barriers have been aligned on the Tree Protection Plan (**Appendix A.2**) to encompass the maximum extent of the RPA whilst still allowing facilitation of the current design. **Note: where protection barriers do not encompass the entirety of the rooting area of Tree 9, no alternative protection measures will be required. This is due to the fact that the tree is rooted in a narrow island of grass with Caerphilly Road to the north and west, and a pavement running on a southeast to northeast axis in close proximity to the stem; both aspects of hardstanding will be acting as a root barrier.**

Protection barriers should be installed following the recommendations in **Section 5.1**.

5 General Tree Protection Measures

5.1 Temporary Protection Barriers

The protection barriers must be erected in accordance with *BS 5837:2012* and positioned to enclose their respective RPA dimensions (**Appendix D**) and the 'above ground' structure of these trees (refer to **Appendix E** for details of the *BS 5837:2012* default specification for protection barriers). Any other fence or barrier used must be approved by the arboricultural consultant prior to installation.

Protection barriers will ensure that construction can be undertaken without intruding into the RPA, remaining in place until the work has been completed.

The area within the protection barriers i.e. tree side, will be a 'Construction Exclusion Zone' (CEZ) for the duration of the works.

All weather notices should be erected on the barrier with words such as:

"Tree Protection Area — Keep out".

The following prohibitions shall also apply within the area enclosed by the temporary protection barriers:

- No mechanical digging or scraping.
- No storage of plant, equipment, or materials.
- No vehicular or plant access.
- No fire lighting within 10m of tree canopies.
- No handling, discharge, or spillage of any chemical substance, including cement washings and vehicle washings within 10m.
- No action likely to cause localised waterlogging.
- No alteration of ground levels.
- No construction of hard surfaces.
- No attachment of boards, hoarding, cables, or notices or fencing to trees.
- No storage of excavated materials.

Special care is to be taken on sloping ground where spillages could run towards the trees. A collecting channel dug along the outer line of the protection fencing would be one method of avoiding such damage.

If excavators are to be used during construction, at no time is the excavating arm to encroach over the position of the tree protection barriers.

5.2 General recommendations

The following general recommendations must be followed during the construction phase of this Scheme:

- Where roots are encountered, every effort should be made to avoid severance or damage to the root bark.

- Any exposed roots over 25mm in diameter or bundles of several smaller roots must be protected to avoid drying or extremes of temperature. This is best achieved by immediately covering with damp Hessian or similar material.
- Should roots be severed they must be trimmed back using a sharp tool (pruning saw, secateurs or loppers), then protected as above.
- If roots larger than 25mm are identified, and are in direct conflict with construction works, then the advice of the Scheme Arboriculturist should be sought prior to any severance or damage of the root.
- Infill around exposed or severed roots should comprise a clean, moist, sharp sand (not “builder’s” sand) and good quality topsoil. This fill should be gently firmed but must not be compacted. Backfilling should be undertaken as soon as possible.
- Soil levels around the base of retained trees are to be maintained as existing.
- The site agent or manager is to be responsible for the day-to-day prevention and exclusion of all actions and operations near protected trees that are likely to cause damage to retained or protected trees, such as the use of cranes and excavators, transportation of equipment or hot works.

5.3 Supervision

The arboricultural consultant must be contacted **a minimum of 7 days** prior to the date of installation of the tree protection measures to enable monitoring/supervision of the measures.

The Site Agent/Manager shall report back after these measures have taken place.

The Site Agent/Manager will also be responsible for the day-to-day prevention and exclusion of all actions and operations in the vicinity of retained trees that are likely to cause damage to retained or protected trees e.g., fires, use of cranes and excavators, use of hot bitumen etc.

5.4 Sequence of activities

To ensure adequate protection for the trees, the following order of activities should be followed:

- The Site Agent/Manager must be provided with a copy of this arboricultural report and the Tree Protection Plan prior to the commencement of any site clearance or construction works.
- Undertake tree works (as appropriate, and subject to such ownership and LPA consents as may be appropriate).
- Inform the arboricultural consultant of the date that the temporary protection barrier is to be installed.
- Erect tree protection barrier in accordance with this report and directions given by the arboricultural consultant on site.
- Brief all site operatives, visitors, and sub-contractors on the presence of tree protection barrier, and the need to ensure that all operations remain wholly outside the protected areas as part of site induction procedures.
- Implement the main site operations associated with the demolition and construction phase.
- Removal of temporary protection barrier (once all site operations have ceased).

5.5 Arboricultural inspection

An Arboriculturist must inspect the protection barriers following installation and prior to commencement of any construction work.

On completion of the development, an Arboriculturist must look for signs of intolerance to the change in conditions, the effect of the development and any accidental damage to retained trees, to identify the need for further tree works in addition to those originally specified at the outset of the project.

5.6 Responsibilities

It will be the responsibility of the Contractor to ensure that any conditions attached to planning consent are always adhered to and that a monitoring regime regarding tree protection is adopted on site.

The Contractor will be responsible for contacting the arboricultural consultant, and the LPA as appropriate, at any time issues are raised relating to the trees on site.

The Contractor will be responsible for ensuring that protected species are considered during any tree works and the timing of tree works should be carefully considered in consultation with the Project Ecologist.

5.7 Site compounds

The location of the site compound has not been finalised; however the site compound should be located outside the RPA of the retained tree (Tree 9).

5.8 Wildlife environmental law

It should be noted that the Contractor will be responsible under the Wildlife and Countryside Act 1981 (as amended), the Conservation of Habitat Regulations 2017 (as amended), Environment (Wales) Act 2016 and the Countryside Rights of Way Act 2000, to take all reasonable action to identify the presence of protected species and comply fully with the law in relation to impacts associated with any instructed works, and associated required compensation, mitigation and enhancement.

Where there is evidence that bats, birds or other protected species are present, the advice of a suitably qualified ecologist should be sought.

Appendices

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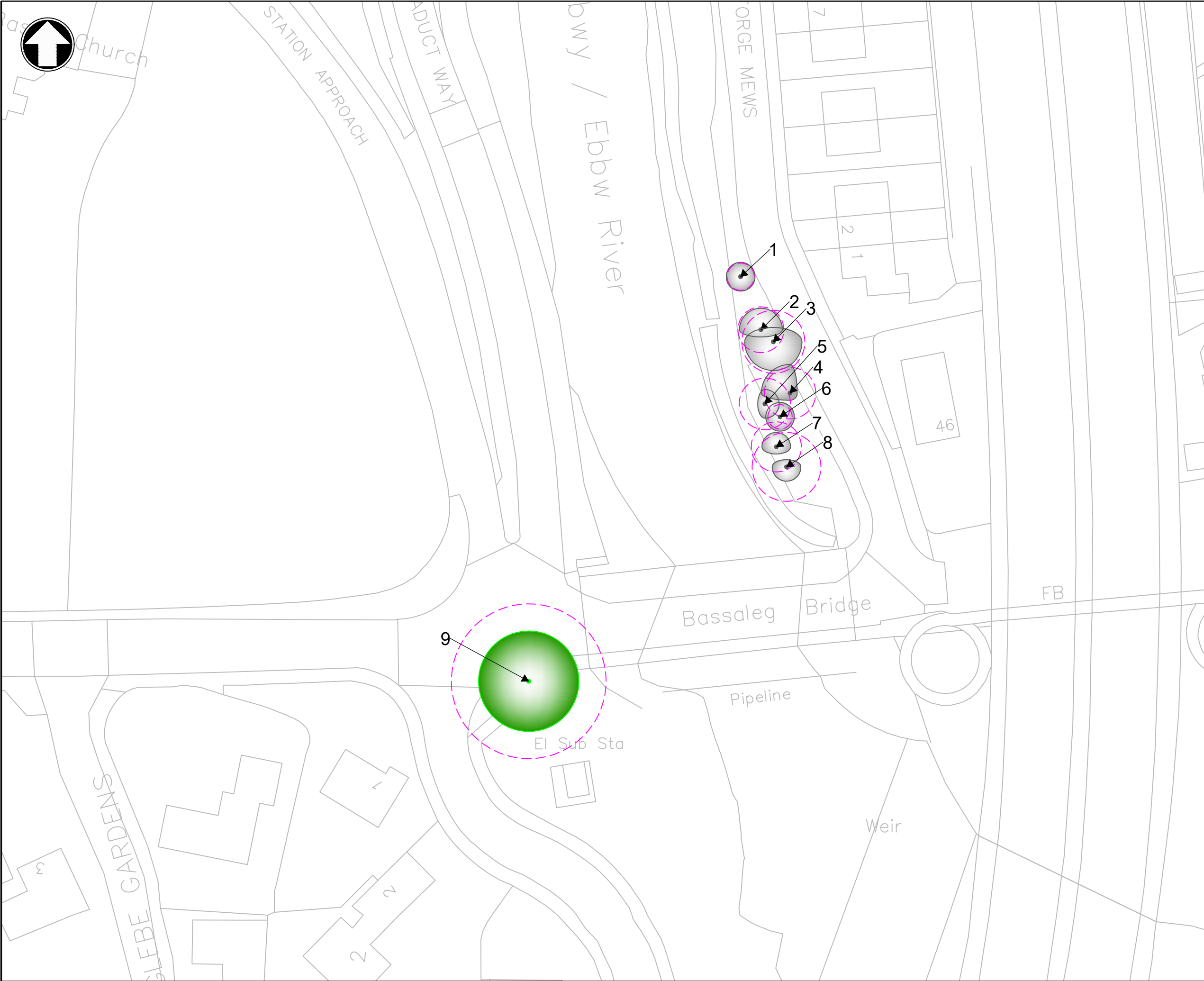
A. Drawings

Tree Constraints Plan

- 100118581-MMD-00-XX-DR-EN-00001

Tree Protection Plan

- 100119581-MMD-00-XX-DR-EN-00002



Notes

1.

All dimensions are in millimetres unless otherwise stated.

2.

Do not scale any items or information from this drawing.

3.

To be read in conjunction with Bassaleg Bridge Arboricultural Impact Assessment ref.100119581-MMD-XX-XX-RP-EN-0001 (March 2025).

Key to symbols

2

Individual Tree Reference

Approximate extent of canopy

Tree Root Protection Area (RPA)

Individual Trees

Category A Trees

Category B Trees

Category C Trees

Category U Trees to be removed for reasons of sound arboricultural management

Tree Groups/Hedge

Category A Trees

Category B Trees

Category C Trees

P1	13/03/2025	DL	Issued for Information	RL	AW
Rev	Date	Drawn	Description	Ch'k'd	App'd

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CYMROR LLINAW
CASNEWYDD

Title

Bassaleg Bridge

Tree Constraints Plan

Designed	J Collett	JC	Eng check	-	-
Drawn	D Lee	DL	Coordination	J Collett	JC
Dwg check	R Lennon	RL	Approved	A Wilson	AW

Scale at A1

Status

Rev

Security

1:200

INF

P1

STD

Drawing Number

100118581-MMD-00-XX-DR-EN-0001

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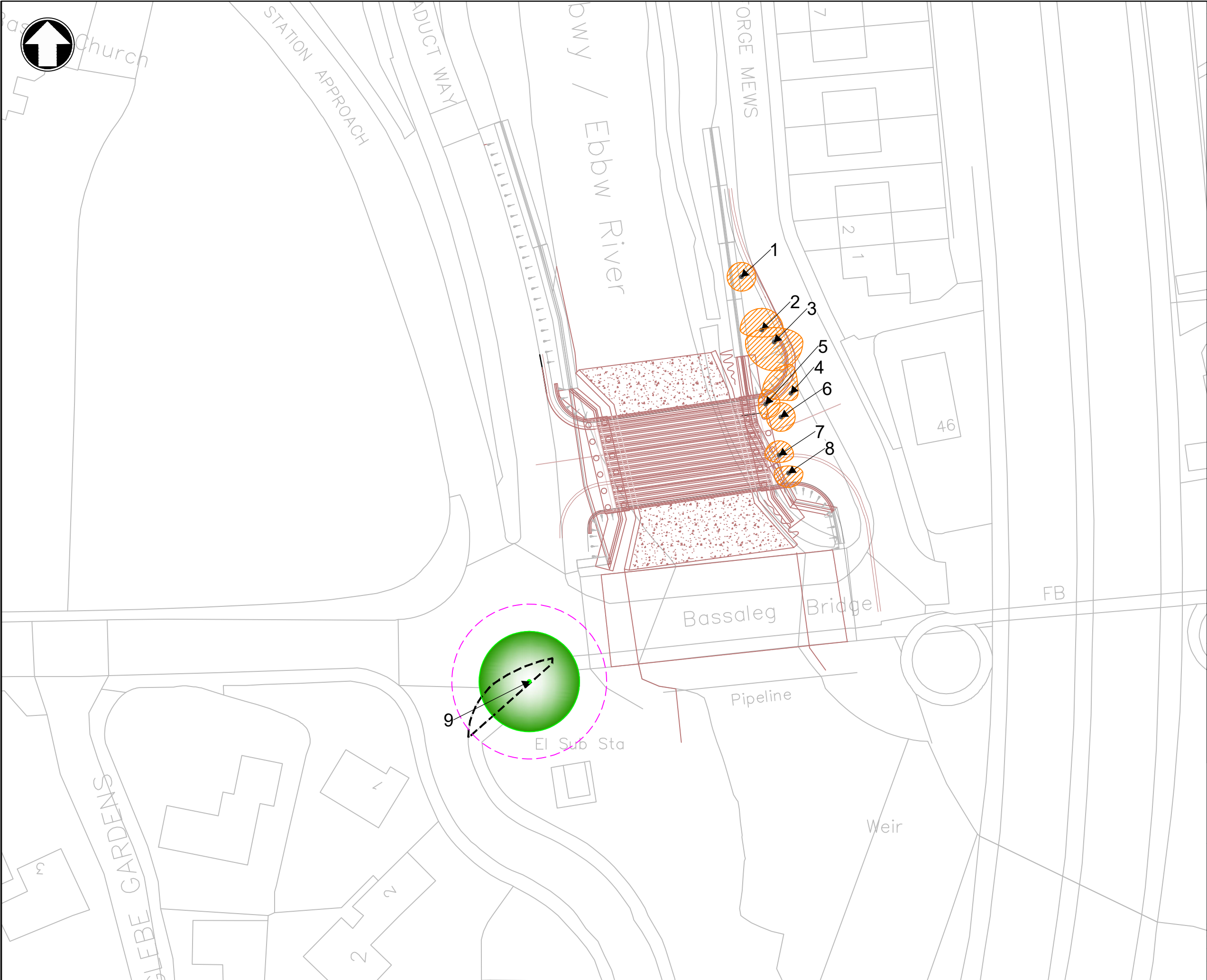
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Mar 13, 2025

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Notes

- All dimensions are in millimetres unless otherwise stated.
- Do not scale any items or information from this drawing.
- To be read in conjunction with Bassaleg Bridge Replacement Arboricultural Impact Assessment ref.100119581-MMD-XX-XX-RP-EN-0001 (March 2025).

Key to symbols

2 Individual Tree Reference

○ Approximate extent of canopy

○ Tree Root Protection Area (RPA)

○ Tree/Tree Group to be removed

— Temporary Protection Barrier

Individual Trees

● Category A Trees

● Category B Trees

● Category C Trees

● Category U Trees to be removed for reasons of sound arboricultural management

Tree Groups/Hedge

▨ Category A Trees

▨ Category B Trees

▨ Category C Trees

— Proposed Design

P1	07/03/2025	DL	Issued for Information	RL	AW
Rev	Date	Drawn	Description	Ch'k'd	App'd

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Title

Bassaleg Bridge Replacement
Tree Protection Plan

Designed	J Collett	JC	Eng check	-	-
Drawn	D Lee	DL	Coordination	J Collett	JC
Dwg check	R Lennon	RL	Approved	A Wilson	AW

Scale at A1
1:200

Status
INF

Rev
P1

Security
STD

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B. Key to Tree Survey Schedule

Table B.1: Key to Tree Survey Schedule.

Tree Referencing	Individual Trees: Number Grouped Trees: G (+number) Hedgerows: H (+number) Woodlands: W (+number)	
Species	Botanical Name: conforming to the <u>International Code of Nomenclature for algae, fungi, and plants</u> (ICN). For universal plant recognition. Common Name: commonly used names usually on a local and national scale.	
Life Stage	Young Usually <15 years old. Semi-mature Significant growth expected, approximately one third of life expectancy complete. Early mature Full height achieved with further significant growth possible, up to two thirds of life expectancy complete. Mature Full height has been achieved with possible spreading of the canopy, usually past two thirds of overall life expectancy. Over-mature A tree declining due to age as indicated by deterioration in the health and condition of its crown and trunk. Veteran Usually a tree of significant age with characteristics that give additional cultural, landscape and conservation benefits, Dead Entirely dead tree	
Tree Height	The vertical distance between the base of the tree (where soil and buttress meet) and the tip of the highest branch on the tree.	
Crown Spread	Measurements taken from all four cardinal points (north, south, east, west) in metres.	
Crown Height	Measured from ground level to the height at which the first branch can be found and where the main crown begins.	
No. of Stems	The number of stems within a tree or group of trees used to calculate its Root Protection Area (RPA).	
Stem Diameter	Stem diameter is measured in mm at 1.5m above ground level, in accordance with <i>Annex C of BS 5837:2012</i> .	
Root Protection Area (RPA)	Layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority (as defined by <i>BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations</i>).	
Crown, Stem and Basal Condition	Good Usually healthy with no symptoms of poor health or disease. Fair Exhibiting signs of poor health or minor disease infections that are not considered to be hazardous. Poor Disease present in considerable quantities or with very poor physiological vigour. Very Poor Tree is in a moribund state in extremely poor condition, usually with little chance of recovery.	
General Physical Condition	Good A tree with no significant structural defects. Fair Minor defects may have been observed but are not considered to be immediately hazardous. Poor Significant defects found. Tree requires monitoring or remedial works. Very Poor Major defects that require immediate remedial work or the removal of the tree.	
Retention Category	Please refer to Appendix C - Cascade Chart for Tree Quality Assessment.	
Life Expectancy	The estimated number of years before the tree may require removal should no unexpected mechanical or environmental impacts occur to the tree.	
Comments	Notes are made to inform of any possible defects, peculiarities or points of interest that may relate to the trees position, physiology, safety and possible effects on developments.	

source: Mott MacDonald, 2025.

C. BS 5837:2012 Cascade Chart for Tree Quality Assessment

Table C.1: BS 5837:2012 Cascade chart for Tree Quality Assessment.

Category and definition	Criteria (including subcategories where appropriate)		
Trees unsuitable for retention (see note)			
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.	1. Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning). 2. Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline. 3. Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low-quality trees suppressing adjacent trees of better quality. 4. Note: Where trees would otherwise be categorized as U, but have identifiable conservation, heritage or landscape value, even though only for the short term, they may be upgraded, although they might be suitable for retention only where issues concerning their safety can be appropriately managed.		
	1. Mainly arboricultural reason.	2. Mainly landscape qualities	3. Mainly cultural values, Including conservation
Trees to be considered for retention:			
Category A Trees of a high quality, with an estimated life of expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features.	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture).
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality.	Trees with material conservation or other cultural value.
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits.	Trees with no material conservation or other cultural value.

Source: BS 5837:2012 - Trees in Relation to Design, Demolition and Construction to Construction – Recommendations, 2012.

D. Tree Survey Schedule

Table D.1: Bassaleg Bridge Tree Survey Schedule.

Notes for Table D.1:

SD – Stem diameter

~ - Estimated number of stems or trees; estimated stem diameter due to access issues.

Obsc. – View obscured, unable to survey.

Tree Ref.	Species	Life Stage	Height (m)	Crown Spread (m)				Crown Height (m)					No. Stems or Trees	Stem Diameter (mm)	RPA (m)	Condition				Retention Category	Life expectancy (years)	Comments
				N	E	S	W	1st branch (m)	N	E	S	W				Crown	Stem	Basal Area	General Physical			
1	Rowan	Semi mature	7	2	2	2	2	3	3	3	3	3	1	160	1.9	Good	Good	Good	Good	C2	40+	Minor exposed roots at base/ mechanical damage to lower stem on south side. Located 2m from curb edge. lamppost conflicting with southeast canopy.
2	Honey locust	Semi mature	12	3	3	1	3	3	3	3	3	3	1	270	3.2	Good	Good	Good	Good	C2	40+	Exposed roots on west side, canopy constrained by the tree to the south and telephone pole to north. Located 3m from curb.
3	Honey locust	Semi mature	12	2	4	4	4	3	3	3	3	3	1	365	4.4	Good	Good	Good	Good	C2	40+	0.5m from hardstanding to south and east. Trees canopy constrained by the adjacent tree to the north.
4	Honey locust	Semi mature	12	4	1	1	4	3	3	3	3	3	1	300	3.6	Good	Good	Good	Good	C2	40+	Located 2m from a concrete wall to the west of the tree and 0.5m from hardstanding to NE. The canopy is one sided due to the presence of adjacent trees. The tree has dense ivy covering the stem therefore tree is tagged at the base.
5	Silver birch	Semi mature	11	2	2	2	1	1.5	1.5	1.5	1.5	1.5	1	300	3.6	Good	Good	Good	Good	C2	40+	Located 0.5m from hardstanding to north and east.
6	Rowan	Semi mature	7	2	2	2	2	3	3	3	3	3	1	140	1.7	Good	Good	Fair	Good	C2	40+	Located 3.5m from pavement to east.
7	Silver birch	Semi mature	13	2	2	1	2	2	2	2	2	2	1	290	3.5	Good	Good	Good	Good	C2	40+	This tree has a 10 degree lean east. Located 0.5m from concrete wall to the west. The south side of the canopy is constrained by neighbouring tree. There are minor exposed roots within the grassed area.
8	Silver birch	Semi mature	13	1	2	2	2	1	1	1	1	1	1	400	4.8	Good	Good	Good	Good	C2	40+	Located 0.5m from concrete wall to the west. There are minor exposed roots within the surrounding grassed area. The north canopy constrained by adjacent tree.
9	Sycamore	Mature	17	7	7	7	7	4	4	4	4	4	1	900	10.8	Good	Good	Good	Good	A2	40+	This tree is located within a grass island surrounded by hard standing on all sides. The tree's roots have become exposed and gnarled due to constrained location. There is reactive epicormic growth at base which has been recently pruned. The crown is displaying excellent strong vitality.

Source: Mott MacDonald, 2025.

