Hedgerow appraisal system for lands on Kildalkey Road Trim. Co. Meath

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On behalf : Loughglynn Developments Ltd.

Introduction

Background

Loughglynn Developments appointed Altemar to undertake a standalone hedgerow assessment to inform the preparation of the Ecological Impact Assessment (EcIA) for the proposed development. This report presents the findings of the hedgerow appraisal only and does not constitute an impact assessment.

The hedgerow assessment provides a structured evaluation of hedgerow resources within the study area, focusing on their ecological, historical, landscape, and functional value. It forms part of the baseline ecological information used to support the wider EcIA process and provides a standardised means of identifying hedgerows of varying significance and condition.

This document should be read in conjunction with the accompanying Ecological Impact Assessment (EcIA), where all proposed hedgerow removals, the assessment of potential impacts arising from the development, and the associated mitigation, compensation, and replacement planting measures are fully addressed in the EcIA.

Hedgerows are a key semi-natural habitat within the landscape, contributing to biodiversity, ecological connectivity, and landscape character. As such, their assessment requires specialist ecological input to ensure their value is appropriately identified and integrated into the design and assessment process.

Altemar Ltd.

Since its inception in 2001, Altemar has been delivering ecological and environmental services to a broad range of clients. Operational areas include: residential; infrastructural; renewable; oil & gas; private industry; Local Authorities; EC projects; and State/semi-State Departments. Bryan Deegan, the managing director of Altemar, is an Environmental Scientist and Marine Biologist with 32 years' experience working in Irish terrestrial and aquatic environments, providing services to the State, Semi-State and industry. He is currently contracted to Inland Fisheries Ireland as the sole "External Expert" to environmentally assess internal and external projects. He is also chair of an internal IFI working group on environmental assessment. Bryan Deegan (MCIEEM) holds a MSc in Environmental Science, BSc (Hons.) in Applied Marine Biology, NCEA National Diploma in Applied Aquatic Science and a NCEA National Certificate in Science (Aquaculture).

Planning Policy Context

Meath County Development Plan 2021–2027

The proposed development has been considered in the context of the relevant objectives and policies of the Meath County Development Plan 2021–2027, with particular regard to the protection, management and enhancement of hedgerows and other landscape features.

Policy HER OBJ 60

Policy HER OBJ 60 of the Meath County Development Plan 2021-2027 states:

"To encourage, pursuant to Article 10 of the Habitats Directive (92/43/EEC), the management of features of the landscape, such as traditional field boundaries, important for the ecological coherence of the Natura 2000 network and essential for the migration, dispersal and genetic exchange of wild species."

This objective recognises the importance of hedgerows, treelines, stone walls and other linear landscape features as ecological corridors that facilitate species movement and contribute to wider habitat connectivity throughout the countryside. Such features play an important role in maintaining

biodiversity, supporting ecological resilience and strengthening the coherence of habitats at both local and regional scales.

The Meath County Development Plan further acknowledges that hedgerows are a characteristic feature of the County's landscape and an important habitat resource, providing shelter, foraging opportunities and wildlife corridors within an agricultural landscape. The Plan encourages the retention of hedgerows and seeks to avoid their unnecessary loss or fragmentation where practicable. Where removal is unavoidable, appropriate mitigation and replacement planting measures are required.

In response to the requirements of HER OBJ 60, a detailed hedgerow assessment has been undertaken for the subject site. The assessment evaluates the historical, ecological, structural, connectivity and landscape value of existing hedgerows and identifies those features that contribute most significantly to biodiversity and habitat connectivity. The findings of the assessment have informed the evaluation of potential impacts associated with the proposed development within the accompanying Ecological Impact Assessment (EcIA) and provide the basis for any necessary avoidance, mitigation, management or enhancement measures.

The methodology adopted for the hedgerow assessment is outlined in the section below.

Hedgerow Assessment Methodology

A desk-based review was undertaken as part of the hedgerow assessment methodology to inform and contextualise the field survey findings. This involved examination of available historical mapping, aerial imagery, and relevant online datasets, including Ordnance Survey historical 6-inch maps accessed via GeoHive, to identify potential long-established or historically significant field boundaries. The desk study also provided an overview of the wider landscape context and assisted in identifying continuity of hedgerow features across the site and surrounding area. This information was used to guide the field survey, support the interpretation of hedgerow origin and evolution, and assist in the identification of features of potential ecological or cultural importance.

Following completion of the field survey undertaken on the 2nd of April 2026, each hedgerow was appraised in accordance with the Hedgerow Appraisal System (HAS) framework. The assessment applied a structured, multi-criteria scoring approach to ensure consistency and comparability between hedgerows, with evaluations undertaken across five core value categories: Historical Significance, Species Diversity Significance, Structural Integrity (including construction and associated features), Habitat connectivity Significance, and Landscape Significance. Each category was scored on a calibrated scale from 0 (low/no ecological or cultural value) to 4 (very high value), as defined within the HAS assessment tables. Scores were derived through direct comparison against the benchmark descriptors provided in the HAS methodology, ensuring standardised interpretation of field observations. Aggregate scoring outputs were then used to determine the relative ecological and landscape importance of each hedgerow within the study area. Hedgerows receiving a score of 4 in any individual category or achieving a combined score threshold of ≥6 across the Historical, Species Diversity and Structural categories, or a total cumulative score of ≥16 across all categories, were classified as being of High Significance (Heritage Hedgerows), reflecting elevated ecological and/or cultural value.

In parallel, hedgerow condition was assessed using the HAS condition assessment framework to determine functional integrity and ongoing ecological viability. This component evaluated a suite of structural and compositional attributes, including hedgerow profile, basal density, continuity, gap frequency, boundary features (banks and walls where present), invasive species presence, ground flora diversity, and indicators of physical degradation or management pressure. Each parameter was scored on a scale from 0 (Unfavourable Condition) to 3 (Highly Favourable Condition), with results synthesised to provide an overall condition classification for each hedgerow. The combined significance and condition assessments were used to identify hedgerows of highest ecological value and those requiring

targeted management, restoration, or enhancement measures to improve structural integrity, connectivity function, and long-term ecological resilience.

Figure 1: A map demonstrating the location of the hedgerows evaluated and the survey area 1-6 & 9 (red line denotes survey area)

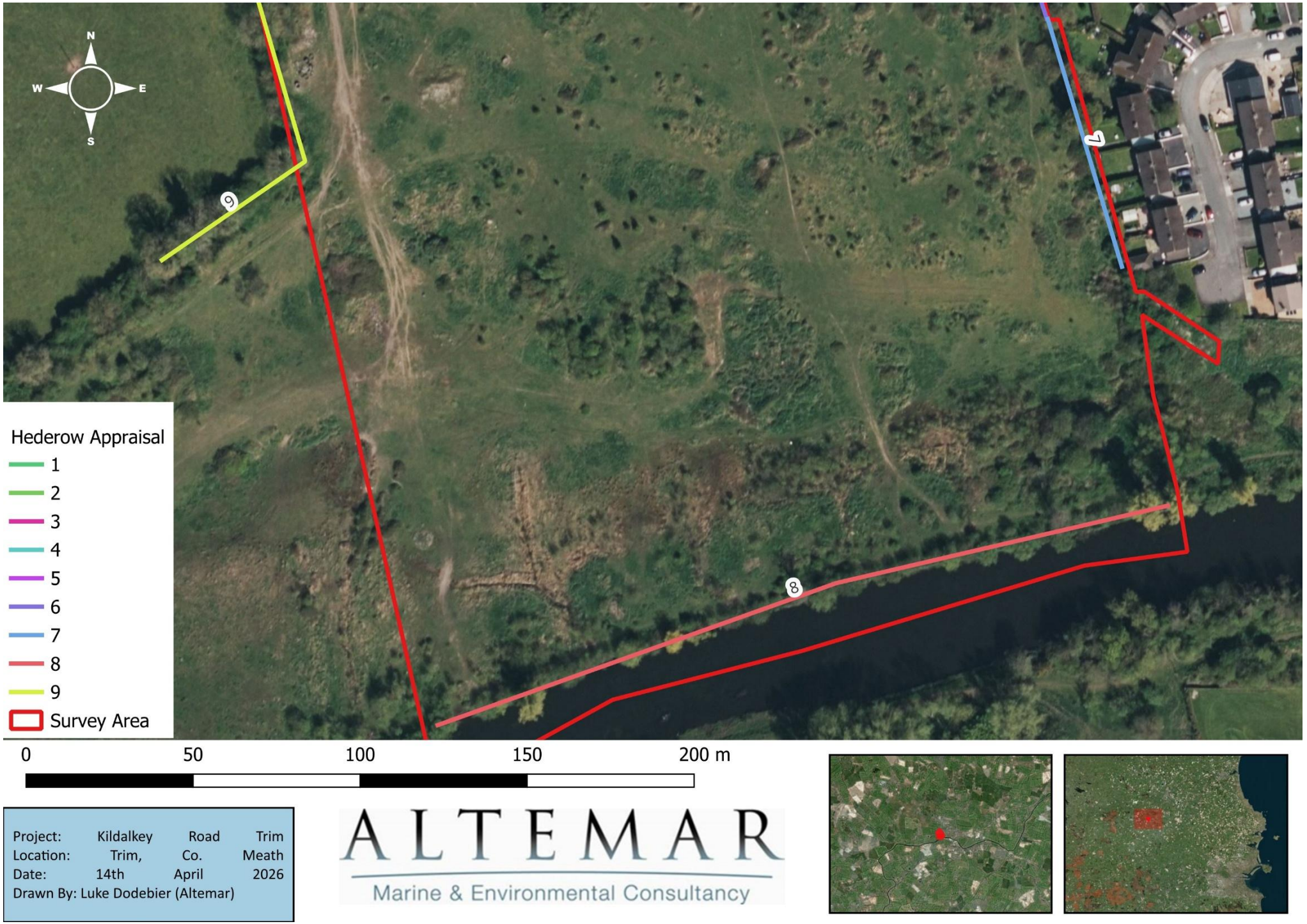

Figure 2: A map demonstrating Hedgerow 7-9 (red line denotes survey area)

Figure 3. Hedgerow 1 (H1)

H1 – High biodiversity value.

H1 is approximately 75 m long and is a developed hedgerow with tree inclusion of which were heavily clad in native ivy. This hedgerow is narrow and resides on a small bank directly adjacent to a busy road. This hedgerow is short at 75m where it completely disappears to the east and stops at the field entrance to the west. The species included in this hedgerow are all native species with elderberry, ash, blackthorn holly, hawthorn, and ivy providing berries into the colder months of the year supporting birds, particularly birds that migrate to Ireland for winter. These shrubs allowed to mature into trees will increase year after year in their biodiversity value. The hedgerow is denoted in the first edition 6 inch maps (Surveyed from 1829 to 1834) on Geohive meaning that this a historical hedgerow. A hedgerow of this age is a structural part of the wider landscape. This is important to wildlife for navigation and habitat connectivity. Bats use hedgerow to navigate their way to hunting ground and mammals use as cover to get from place to place. The ground flora at the foot of the hedgerow provides structural diversity and food for invertebrates, particularly pollinators.

Recommendations

Planting native saplings can be used to thicken the hedgerow, improve its structure and connectivity. Particularly where there is a large gap to the east between H1 and H2. To deter trespassers, thorny species such as hawthorn, blackthorn, rose-hip, spindle, gorse and brambles can be encouraged/planted in the hedgerow. It is important not to use imported specimens of the native species as these pose huge threats to Irelands ecological health by carrying diseases such as ash dieback, fireblight and Dutch elm disease. It is always best to improve a hedgerow reflecting the species present in its locality. Trees should be allowed to mature, gaining higher biodiversity value year after year. Trimming is recommended in early February every 2/3 years as needed to increase the density, structure and ground flora diversity. Buffer zone of .5m should but in place to protect the roots of the hedgerow and allow ground flora to develop.

Figure 4. Hedgerow 2 (H2)

H2 – Low biodiversity value

Hedgerow two (H2) is approximately 28m long comprised of non-native species. This is a low hedge of one species (Boxleaf Honeysuckle (*Lonicera nitida*) while dense providing cover for wildlife throughout the year it has very little value for biodiversity.

Recommendations

Plant native saplings can be used to replace the hedgerow and improve biodiversity. To deter trespassers, thorny species such as hawthorn, blackthorn, rose-hip, spindle, gorse and brambles can be encouraged/planted in the hedgerow. It is important not to use imported specimens of the native species as these pose huge threats to Irelands ecological health by carrying diseases such as ash dieback, fire blight and Dutch elm disease. It is always best to improve a hedgerow reflecting the species present it its locality. Trees should be allowed to mature, gaining higher biodiversity value year after year. Trimming is recommended (Early February) to increase the density, structure and ground flora diversity every 2/3 years as needed. Buffer zone of 0.5m should but in place to protect the roots of the hedgerow and allow ground flora to develop.

Figure 5. Hedgerow 3 (H3)

H3 - low biodiversity value.

Hedgerow three (H3) is approximately 72 m in length and a treeline internal field boundary. The majority of this treeline is mature trees with some ground flora of a native hedgerow. It has no shrub layer with low biodiversity value as there is no bank or ditch to provide different niches for biodiversity and overall diversity is low.

Recommendations

Supplementing the treeline with native species would increase the ecological significance off the hedgerow by providing more food, better shelter and better plant diversity. Supplementing the hedgerow will improve its use as perimeter. To deter trespassers, thorny species such as hawthorn, blackthorn, rose-hip, spindle, gorse and brambles can be encouraged/planted in the hedgerow. It is important not to use imported specimens of the native species as these pose huge threats to Irelands ecological health by carrying diseases such as ash dieback, fireblight and Dutch elm disease. It is always best to improve a hedgerow reflecting the species present it its locality. Trees should be allowed to mature, gaining higher biodiversity value year after year. Trimming is recommended (Early February) to increase the density, structure and ground flora diversity every 2/3 years as needed. Buffer zone of .5m should but in place to protect the roots of the hedgerow and allow ground flora to develop.

Figure 6. Hedgerow 4 (H4)

Figure 7. Hedgerow 4 (H4)

H4 – low biodiversity value

Hedgerow four (H4) is approximately 81m long and has good species diversity in the first section however this becomes patchy towards the east with fencing gaps for the boundary between the field and several gardens. Between each fence gap are further vegetated hedgerows going north into the private gardens.

Recommendations

Trimming should be implemented in early February every 2/3 years as needed with the aim to increase the density of the hedgerow for security and ecologically reasons. Trees should be allowed to mature and gaps in hedgerow should be planted with native species (not imported). Buffer zone of .5m should but in place to protect the roots of the hedgerow and allow ground flora to develop.

Figure 8. Hedgerow 5 (H5)

H5- low biodiversity value

Hedgerow 5 (H5) is approximately 37.7m and is made up of a number of large mature sycamore trees. While this boundary is marked on a historical 6-inch map, this treeline is of low diversity in tree and shrub species, it has a more ground flora likely due to the age of the boundary., while there is a slight banking the understory is underdeveloped.

Recommendations

All species noted in this habitat are native and should be left to mature. The thin understory should be supplemented with native, non-imported hedgerow species hawthorn, blackthorn, rose-hip, spindle, gorse and brambles. These species are thorny and will deter trespassers. Trimming only if necessary.

Figure 9. Hedgerow 6 (H6)

H6 - low biodiversity value.

Hedgerow six (H6) is a large leylandii cypress hedge with brambles as its only hedgerow species. While this boundary is marked on historical maps this hedgerow section is not of historical significance and is of low biodiversity value.

Recommendations

Replant hedgerow with native species would increase the ecological significance off the hedgerow by providing more food, better shelter and better plant diversity. Supplementing the hedgerow will improve its use as perimeter.

Figure 10. Hedgerow 6 (H6)

Figure 11. Hedgerow 6 (H6)

H7 - Medium biodiversity value.

Hedgerow six (H7) is a long low hedgerow which has been routinely heavily trimmed. This hedgerow has gaps and sections where it has been heavily cut back, if allowed to grow back it will become a good quality hedgerow.

Recommendations

Supplementing the hedgerow with native species would increase the ecological significance off the hedgerow by providing more food, better shelter and better plant diversity. Supplementing the hedgerow will improve its use as perimeter. Allow the hedgerow to grow and any trees present to proliferate. Trimming every 2-3 years (avoid trimming tree species).

Figure 13. Hedgerow 8

Figure 13. Hedgerow 8

H8 - high biodiversity value.

Hedgerow six (H6) is a large section of wet immature wet woodland and treeline that runs along the river Boyne to the south of the site. It has a mix of tree species with a diverse understory of wetland species. This river boundary is marked on maps however it is not marked as being highly forested and therefore, is not historical. This habitat is an important buffer to the river system and provides food sources, situatable habitat for a range of species. The riverbank is useful aquatic mammals, and the ground flora species present is beneficial to insects.

Recommendations

A Significant buffer should be provided away from this habitat to allow it to proliferate and become more mature and diverse over time.

Figure 14. Hedgerow 9 (south end)

Figure 14. Hedgerow 9 (middle)

Figure 14. Hedgerow 9 (north)

H9 - high biodiversity value.

Hedgerow 9 is a wide base and tall (2.5m at highest) earthen bank a diverse mix of tree, shrub and ground species at different maturities. This is a historical hedgerow and appears to have marked the entrance to an old home in the historical 6 inch maps the earth bank is useful burrowing mammals, and the ground flora species present is beneficial to insects. The large trees covered in ivy present foraging and sheltering for a range of species, this is the most diverse hedgerow on site.

Recommendations

Supplementing the hedgerow with native species would increase the ecological significance off the hedgerow by providing more food, better shelter and better plant diversity. Supplementing the hedgerow will improve its use as perimeter. Increase the buffer zone if possible to make the habitat wider, lightly cut every 2-3 years in February.

Conclusion

The hedgerow network within the site ranges from low-value, heavily modified boundaries to high-value, species-rich and historically important features. Hedgerows H1, H8 and H9 are of highest ecological significance, providing strong structural diversity, native species composition, and important functional roles in habitat connectivity and, in the case of H8, riparian buffering. H9 is the most valuable feature overall due to its complexity and historical continuity.

In contrast, H2, H5 and H6 are of low ecological value due to limited species diversity and simplified structure, largely dominated by ornamental or single-species planting. H3, H4 and H7 are of low to moderate value but retain potential for ecological enhancement through improved management and native species infill planting.

Overall, the hedgerow network includes several important ecological and historical features that should be prioritised for retention, alongside lower-value hedgerows that present clear opportunities for enhancement through native planting, structural diversification, and appropriate buffering to improve connectivity and long-term ecological function.

Any potential impacts on hedgerows arising from the proposed development are not assessed within this standalone hedgerow appraisal document. Instead, they are fully addressed within the accompanying Ecological Impact Assessment (EcIA), where the significance of effects, potential losses, and changes to hedgerow function are considered in detail. This hedgerow assessment forms part of the baseline ecological information used to inform the EcIA, providing the necessary data on hedgerow extent, condition, and ecological value. In this regard, the findings presented herein directly feed into and underpin the impact assessment process, ensuring that hedgerow-related impacts are evaluated in a robust and evidence-based manner within the wider ecological assessment framework.

Appendix I

Hedge no.	Coordinates	Species	Height	Width	Age	Condition	Comments	Recommendations	Category Grading
1	53.55944400, -6.804138433 53.55994653, -6.803330427 (75m)	Ash (*Fraxinus excelsior*), Elder (*Sambucus nigra*), Hawthorn (*Crataegus monogyna)*, Blackthorn (*Prunus spinosa*), Common ivy (*Hedera helix*), Bramble (*Rubus fruticosus agg*.), Nettle (*Urtica dioica*), Cow parsley (*Anthriscus sylvestris*), Dandelion (*Taraxacum officinale agg*.), Cleavers (*Galium aparine*), Hemlock (*Conium maculatum*), Creeping buttercup (*Ranunculus repens*), Lesser celandine (*Ficaria verna*), Garlic mustard (*Alliaria petiolata*),	3m	1m	50+ YRS	Moderate condition	Hedgerow was on earthen bank. Many of the trees were heavily clade in ivy.	Allow hedgerow to mature. Gaps in hedgerow to be filled with native species (do not use imported specimens) to increase connectivity. Trimming is recommended to maintain its structure and increase ground flora diversity. If fencing is added, should be removed to allow wildlife to pass freely.	Historical Significance-3 Species Diversity-2 Ground flora –1 Structure- 1 Habitat Connectivity- 1 Landscape- 0 Total = 8/24
2	53.56017981-6.802279572 53.55994443-6.802198335 (27m)	*Boxleaf Honeysuckle (Lonicera nitida)*	1.5m	1m	50+ YRS	Moderate condition	Ornamental Hedgerow.	Plant native species (do not use imported specimens) to increase species diversity Trimming is recommended to maintain its structure	Historical Significance-1 Species Diversity-1 Ground flora –0 Structure- 0

Hedge no.	Coordinates	Species	Height	Width	Age	Condition	Comments	Recommendations	Category Grading
								and increase ground flora diversity. If fencing is added, should be removed to allow wildlife to pass freely. Allow for 0.5m buffer zone.	Habitat Connectivity- 1 Landscape- 0 Total = 3/24
3	53.55981759, -6.802134976 53.55929130, -6.80193599 (72m)	Alder (Alnus glutinosa), Ash (Fraxinus excelsior), Sycamore (Acer pseudoplatanus), Holly (Ilex aquifolium), Elder (Sambucus nigra), Silver Birch (*Betula pendula*) Bird Cherry (*Padus avium*) Hybrid Black Poplars (*Populus x canadensis*) Clematis sp. (*Clematis sp.)*, Common ivy (*Hedera helix*) Cow Parsley (*Anthriscus sylvestris*) Dog-violet (Viola spp.), Nettle (Urtica dioica), Bramble (Rubus fruticosus agg.)	5m	2m	50+ YRS	Moderate	Large treeline boundary.	Plant with native species. Allow for 0.5m buffer zone.	Historical Significance-2 Species Diversity-1 Ground flora –3 Structure- 0 Habitat Connectivity- 1 Landscape- 1 Total = 8/24
4	52.336455, -6.492835 52.336358, -6.493317	Goat willow (*Salix caprea*), Elder (*Sambucus nigra*), Privet (*Ligustrum vulgare*), Sycamore (*Acer*	3m (Hedge) 5m (Trees)	2m	50+ YRS	Moderate condition.	Large hedge at bottom of residential homes.	Plant with native species. Allow for 0.5m buffer zone.	Historical Significance-2 Species Diversity-1 Ground flora –3

Hedge no.	Coordinates	Species	Height	Width	Age	Condition	Comments	Recommendations	Category Grading
	(31.6 m)	*pseudoplatanus*), Ash (*Fraxinus excelsior*), Horse chestnut (*Aesculus hippocastanum*), Currant (*Ribes petraeum*), Silver birch (*Betula pendula*), Dogwood (*Cornus sanguinea*), Ivy (*Hedera helix*), Bramble (*Rubus fruticosus agg.*), Nettle (*Urtica dioica*), Garlic mustard (*Alliaria petiolata*), Nipplewort (*Lapsana communis*), Cleavers (*Galium aparine*), Lesser celandine (*Ficaria verna*), Cow parsley (*Anthriscus sylvestris*) rose-bay willowherb (*Chamaenerion angustifolium.* dock s (*Rumex spp.*), tufted vetch *(Vicia cracca*), white clover (*Trifolium repens*),							Structure- 0 Habitat Connectivity- 1 Landscape- 1 Total = 8/24

Hedge no.	Coordinates	Species	Height	Width	Age	Condition	Comments	Recommendations	Category Grading
5	53.55925400 -6.80078991 53.55890672 6.800662121 (37.7m)	Sycamore (*Acer pseudoplatanus*), Early dog-violet (*Viola reichenbachiana*), Pignut (*Conopodium majus*), Garlic mustard (*Alliaria petiolata*), Ground ivy (*Glechoma hederacea*), Common ivy (H*edera helix*), Lesser celandine (*Ficaria verna*), Alexanders (*Smyrnium olusatrum*), Winter heliotrope (*Petasites fragrans*)),	10m	5m	50+ YRS	Good condition	Slightly raised bank, historical boundary with large mature trees.	Supplement understory with native species.	Historical Significance-3 Species Diversity-0 Ground flora –2 Structure- 1 Habitat Connectivity- 1 Landscape- 2 Total = 9/24
6	53.55890672 6.800662121 53.55857709-6.800569 (40m)	Elder (*Sambucus nigra*), Bramble (*Rubus fruticosus agg.*), Common ivy (*Hedera helix*), Leyland cypress (× *Cuprocyparis leylandii*)	4m	3m	25YRS	Poor Condition	Large Leylandii Cyprus hedge with brambles on small bank	Replant entire hedge with native species.	Historical Significance-1 Species Diversity-0 Ground flora –0 Structure- 0 Habitat Connectivity- 1 Landscape- 0 Total = 2/24

Hedge no.	Coordinates	Species	Height	Width	Age	Condition	Comments	Recommendations	Category Grading
7	53.55853445-6.800530391 53.55785510, -6.800185583 (40m)	Elder (*Sambucus nigra*), Bramble (*Rubus fruticosus agg.*), Blackthorn (*Prunus spinosa),* Common ivy (*Hedera helix*), Sycamore (*Acer pseudoplatanus*), Old man's beard / Traveller's joy (*Clematis vitalba*), Hawthorn (*Crataegus monogyna*)	80m	3m	25YRS	Poor Condition	Heavily pruned with many gaps	Replant entire hedge with native species.	Historical Significance-1 Species Diversity-0 Ground flora –0 Structure- 0 Habitat Connectivity- 1 Landscape- 0 Total = 2/24
8	53.55890672 6.800662121 53.55857709-6.800569 (233m)	Crack willow (*Salix fragilis*), Goat willow (*Salix caprea*), Alder (*Alnus glutinosa*), Ash (*Fraxinus excelsior*), Hawthorn (*Crataegus monogyna*), Ivy (*Hedera helix*), Lesser celandine (*Ficaria verna*), Yellow iris (*Iris pseudacorus*), Meadowsweet (*Filipendula ulmaria*), Figwort (*Scrophularia nodosa*), Creeping buttercup (*Ranunculus repens*), Meadow buttercup (*Ranunculus acris*), Soft rush (*Juncus*	2-10m	5-44m	25YRS	Good Condition	Riparian Woodland running along the length of the river.	Avoid any works in this area add substantial buffer..	Historical Significance-3 Species Diversity-1 Ground flora –1 Structure- 4 Habitat Connectivity- 4 Landscape- 4 Total = 17/24

Hedge no.	Coordinates	Species	Height	Width	Age	Condition	Comments	Recommendations	Category Grading
		effusus), Ribwort plantain (*Plantago lanceolata*)							
9	53.55890672 6.800662121 53.55857709-6.800569 (204m)	Apple (*Malus spp.*), Wych elm (*Ulmus glabra*), Ash (*Fraxinus excelsior*), Elder (*Sambucus nigra*), Goat willow (*Salix caprea*), Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*), Dog-rose (*Rosa canina*), Honeysuckle (*Lonicera japonica*), Bramble (*Rubus fruticosus agg.*), Common ivy (*Hedera helix*), Primrose (*Primula vulgaris*), Alexanders (*Smyrnium olusatrum*), Winter heliotrope (*Petasites fragrans*), Garlic mustard (*Alliaria petiolata*), Greater willowherb (*Epilobium hirsutum*) Ground ivy (*Glechoma hederacea*), Lords-and-ladies (*Arum maculatum),* Pignut (*Conopodium majus*), Wild strawberry (*Fragaria vesca*), Dog violet (Viola spp.) Foxglove (Digitalis	4-15m	4m	+50Y RS	Good Condition	Large historical field boundary on raised bank	Add additional native plant species and buffer.	Historical Significance-3 Species Diversity-3 Ground flora –4 Structure- 3 Habitat Connectivity- 2 Landscape- 3 Total = 18/24

Hedge no.	Coordinates	Species	Height	Width	Age	Condition	Comments	Recommendations	Category Grading
		purpurea) Herb-Robert (*Geranium robertianum**)							

References

- Foulkes, N., Fuller, J., Little, D., McCourt, S. and Murphy, P. (2021). Hedgerow Appraisal System: Best Practice Guidance on Hedgerow Surveying, Data Collation and Appraisal. The Heritage Council.