



Land at Pyramid Park, Bury

Habitat Management and Monitoring Plan

Prepared For: Campbell Reith

Document Reference: 9302.02.010

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Version 1.0

TEP
401 Faraday Street
Birchwood Park
Warrington
WA3 6GA
Tel: 01925 844004
Email: tep@tep.uk.com
Offices in Warrington, Market Harborough, Gateshead, London and Cornwall

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Author	Imogen Graham
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Checked	Sorrel Bruce
Approved	Gwynn Davies

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The conclusions and recommendations contained in this document are based upon information gathered by TEP and provided by third parties. Information provided by third parties and referred to herein has not been independently verified by TEP, unless otherwise expressly stated in the document.

Nothing in this report constitutes legal opinion. If legal opinion is required, the advice of a qualified legal professional should be secured.

Site Overview

Site name and address	Land at Pyramid Park, Market Street, Bury, BL9 0BG
Central OS grid reference	SD 80511 10312
Central w3w	///lots.buyers.became
Project type	Land remediation works, construction of vehicular access road and footway with associated infrastructure and structural works
Landowner / Organisation for habitat creation	Bury Council
Land Manager/Management Company responsible for long term management	Bury Council will appoint a management company to maintain the habitats associated with BNG as described in this HMMP, until the point in which the land is handed over to a developer. After which, the developer will be responsible for managing both the habitats outlined in this HMMP and any further habitats created as part of future works.
Author organisation	The Environment Partnership (TEP) Ltd
Planning authority	Bury Council
National Landscape Character Area	54 – Manchester Pennine Fringe
BNG Metric reference	TEP ref: x9302.02.002 v4.0
Irreplaceable habitats	None present.

Summary of Habitat Management Plan

Habitats to be Retained, Created and Enhanced	Modified grassland – retained and created; Bramble scrub – retained and enhanced; Other woodland, broadleaved – retained and enhanced; Urban tree – retained; and Fens (upland and lowland) – enhanced.
Timescales for Actions	Establishment period estimated 0-5 years HMMP Plan period minimum 30 years
BNG Monitoring Requirements	Habitat condition will be monitored against UK Habitat criteria in years 1, 3, 5, 10, 15, 18, 20, 25, 30
HMMP update requirements	The HMMP will be informally reviewed on an annual basis to ensure management prescriptions are appropriate to the habitats on site particularly during the establishment period. The HMMP will undergo a formal review every 5 years to ensure the plan is meeting the changing needs of the site.
Required Consents and Licences	N/A
Funding	Bury Council to fund until the land is transferred to a developer
Legal Agreement	Discussions with the LPA are taking place with the intention of securing the forecasted shortfall in biodiversity units through the purchase of biodiversity credits, either directly through the LPA or through a Habitat Bank.

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Drawing 2: Biodiversity Enhancement Planting Plan (TEP ref: D9302.02.001A)

Drawing 3: Baseline UK Habitats (TEP ref: G9302.02.007)

Drawing 4: Proposed UK Habitats (TEP ref: G9302.02.010A)

Drawing 5: Site Hydrology Figure (TEP ref: G9302.02.014)

1.0 Introduction

Purpose of the Management Plan

- 1.1 This Habitat Management and Monitoring Plan (HMMP) has been produced by The Environment Partnership (TEP) Limited on behalf of Campbell Reith. The HMMP provides a framework for supporting the delivery of Biodiversity Net Gain (BNG) at the Land at Pyramid Park, Market Street, Bury (hereby referred to as 'the Site').

Scope of the Management Plan

- 1.2 This HMMP covers all areas of open space within the Site, specifically the habitats associated with BNG. This HMMP does not specifically assess hydrological features such as ground or surface water provision, however it does provide a high-level review of hydrological features to inform long-term management and safeguard habitats which require water provision.
- 1.3 It is recommended that a Sustainable urban Drainage System (SuDS) Assessment is undertaken to inform future drainage and to safeguard habitats that require water provision.
- 1.4 This HMMP sets out a coordinated, overarching approach to the management of the habitats, open space and landscaping within the Site. At a strategic level, the HMMP will be used to guide decision making and management interventions, as well as monitoring mechanisms to ensure the successful establishment of each habitat across a 30-year period. At an operational level, the HMMP will be used to inform the day-to-day practical landscape maintenance operations.
- 1.5 This HMMP has been informed by the design proposals and ecological baseline and should be read in conjunction with the following documents:
- General Arrangement (Campbell Reith ref: 14111-CRH-ZZ-XX-DR-Civil-5002 Rev P01);
 - Biodiversity Enhancement Planting Plan (TEP ref: D9302.02.001A);
 - Ecological Impact Assessment (TEP ref: 9302.02.005); and
 - BNG Assessment (TEP ref: 9302.02.006 V2.0).
- 1.6 This HMMP has been informed by British Standard 8683:2021 Process for Designing and Implementing BNG and BNG Good Practice Principles for Development, A Practical Guide¹.

¹ [Biodiversity net gain. Good practice principles for development. A practical guide \(cieem.net\)](https://www.cieem.net/biodiversity-net-gain-good-practice-principles-for-development-a-practical-guide/)

Structure of the Management Plan

- Chapter 2.0 provides an overview of the sites baseline landscape and ecological features;
- Chapter 3.0 provides details of the sites planning, development and Biodiversity Net Gain (BNG) rationale and commitment;
- Chapter 4.0 includes roles and responsibilities for the long-term management of the Site;
- Chapter 5.0 details capital works associated with the development and enhancement of habitats on the Site;
- Chapter 6.0 details the management intentions and maintenance operations associated with the delivery of BNG; and
- Chapter 7.0 sets out how the success of the HMMP will be monitored, reviewed and updated over time.

1.7 The following appendices are included and support this HMMP:

- Appendix A provides a table of maintenance operations;
- Appendix B summarises relevant legislation; and
- Appendix C is the BNG monitoring schedule and summary of the BNG commitment for the Site.

1.8 The following drawings are included and support this HMMP:

- General Arrangement (Campbell Reith ref: 14111-CRH-ZZ-XX-DR-Civil-5002 Rev P01);
- Biodiversity Enhancement Planting Plan (TEP ref: D9302.02.001A);
- Baseline UK Habitats (TEP ref: G9302.02.007);
- Proposed UK Habitats (TEP ref: G9302.02.010A); and
- Site Hydrology Figure (TEP ref: G9302.02.014).

2.0 Overview of Baseline Site

Site Location

- 2.1 The Site lies approximately 0.5 km south of Bury town centre. The Site is bound by Bury College to the north, a residential area associated with Towns Fields Close to the east, and railway lines to the south and west. The Site is intersected in the east by Market Street (B6218).

Land use summary

- 2.2 Table 1 summarises the wider baseline environmental information for the Site and HMMP.

Table 1: Summary of baseline environmental information

Baseline Feature	Feature description relevant to HMMP
Baseline Habitat Survey	Baseline habitats are illustrated in the Baseline UK Habitats (TEP ref: G9302.02.007). Baseline habitats comprise of modified grassland, bramble scrub, fens, broadleaved woodland and individual trees. Areas of hardstanding are also present across the Site.
Ecological Surveys	■ Ecological Desk Study (TEP, March 2022); ■ Extended Phase 1 Habitat Survey (TEP, March 2022, May 2024); ■ Preliminary Ecological Assessment (TEP, October 2023); ■ PRA Bat Assessment (TEP, September 2024); ■ Bat Activity Surveys (TEP, April 2024); and ■ National Vegetation Classification (NVC) Survey and Assessment (TEP, April 2024).
Environmental designations	There is one statutory designated site of international importance within 10km of the Scheme: Rochdale Canal Special Area of Conservation (SAC), located 8km east. There are no sites of national importance within 5km of the Site. There are two sites of regional/local importance within 2km of the Site:

Baseline Feature	Feature description relevant to HMMP																						
	■ Chesham Woods Local Nature Reserve (LNR), located 1.8km northeast; and ■ Hollins Vale LNR, located 1.9km southeast. There are ten non-statutory wildlife sites within 2km of the Site. Further details can be found in the Ecological Desk Study (TEP ref: 9302.001). Of most relevance is Townside Site of Biological Interest (SBI) which is located within the Site boundary, designated for its swamp and marsh habitats and exceptional population of smooth newts.																						
Landscape Character Designations	The site is within the Landscape Character Area 54 – Manchester Pennine Fringe.																						
Protected and notable species	N/A																						
Protected and notable habitats	A section of the Site is a designated SBI for its swamp and marsh habitats. The habitats were assessed within the extended Phase 1 habitat survey (TEP ref: G9302.02.006A) and NVC survey and assessment (TEP ref: 9302.02.003). The surveys found that although some areas, classified as swamp and tall-herb fen, were particularly diverse, the match to recognised swamp NVC communities was 'very poor'. Further details can be found in the NVC survey report (TEP ref: 9302.02.003).																						
Invasive Species	Japanese knotweed was recorded within marshy grassland immediately west of Market Street. This should be removed using methods outlined in the Technical Note (TEP ref: 10760.001)																						
Climate	<table> <tr> <td>Days of rain per year</td><td>170.25 days</td></tr> <tr> <td>Average annual rainfall</td><td>1197.22 mm</td></tr> <tr> <td>Wettest month</td><td>December (138.88 mm)</td></tr> <tr> <td>Driest month</td><td>May (65.67 mm)</td></tr> <tr> <td>Average annual temperature</td><td>9.61°C</td></tr> <tr> <td>Warmest month</td><td>July (12–20°C average)</td></tr> <tr> <td>Coldest month</td><td>January (1-7°C average)</td></tr> <tr> <td>Average annual hours of sunshine</td><td>1265.48 hrs</td></tr> <tr> <td>Sunniest month and average hours</td><td>May 175.45 hrs</td></tr> <tr> <td>Prevailing winds</td><td>West</td></tr> <tr> <td>Average number of days with air frost</td><td>44.73</td></tr> </table>	Days of rain per year	170.25 days	Average annual rainfall	1197.22 mm	Wettest month	December (138.88 mm)	Driest month	May (65.67 mm)	Average annual temperature	9.61°C	Warmest month	July (12–20°C average)	Coldest month	January (1-7°C average)	Average annual hours of sunshine	1265.48 hrs	Sunniest month and average hours	May 175.45 hrs	Prevailing winds	West	Average number of days with air frost	44.73
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Baseline Feature	Feature description relevant to HMMP
	Frostiest month and number of days January 10.16 (Data source: Met Office Rochdale Weather Station 1991-2020)
Geology and Topography	Bedrock geology comprises Pennine Lower Coal Measures Formation – Mudstone, siltstone and sandstone. Superficial deposits comprise Devensian Till – Diamicton. The elevation central to the HMMP is 90.6m.
Agricultural Land Status	Urban
Soils and Substrates	The site is located within Soilscape 6 - “freely draining slightly acid loamy soils”.
Contaminated Land	N/A
Hydrology and Drainage	The central and eastern sections of the Site comprise marshland.
Flood Risk Zones	Flood Zone 1
Historic Environment and Land Use	Marshy areas of the Site are located on a historical pond.

Protected Species or habitats of Importance

Birds

- 2.3 Several protected bird species records were returned within 2km of the Site (TEP ref: 9302.001).
- 2.4 Woodland, dense scrub and grassland on the Site provide suitable habitat for nesting and foraging common bird species. Sections of woodland, dense scrub and grassland will be retained and/or enhanced in the proposed scheme and will continue to provide suitable habitat for birds.
- 2.5 All UK wild birds are protected while at the nest under the Wildlife and Countryside Act (1981). Effectively, this means that if removal of habitats (which can include buildings, trees, hedges, scrub and grassland) cannot be timed to avoid the bird breeding season (March to August inclusive), then a survey by a suitably experienced ecologist will be required to ensure no nesting birds will be affected. There is generally no process to gain a licence to disturb nesting birds; therefore, if active

nests are present works will need to avoid the area of the nest until the young have fledged.

Bats

- 2.6 Several bat records were returned within 2km of the Site (TEP ref: 9302.001).
- 2.7 Archways under Market Street provide high potential for roosting bats; however, no evidence of roosting bats were noted during ground-based assessments (TEP ref: 9302.02.004). In addition, one tree on the Site (T1) has low potential for roosting bats, and scrub and woodland habitats provide suitable foraging habitat for bats. The archways under Market Street and tree T1 will be retained, and sections of woodland and dense scrub will be retained and/or enhanced in the proposed scheme, to continue to provide suitable habitat for bats.
- 2.8 Bats and their roosts are protected under Schedule 5 of the Wildlife and Countryside Act (1981) as amended and the Conservation of Habitats and Species Regulations 2017 (as amended).

Badger

- 2.9 Evidence of foraging and commuting badgers were observed in extended Phase 1 habitat surveys undertaken in 2022 and 2023. However, during the 2024 survey no signs of badger were recorded on the Site (TEP ref: 9302.02.005).
- 2.10 Scrub and grassland on the Site provide suitable habitat for badger foraging, commuting and sett building. There are also connective corridors from the Site to other suitable habitats in the area. Sections of dense scrub and grassland will be retained and/or enhanced in the proposed scheme and will continue to provide suitable habitat for badgers.
- 2.11 Badgers and their setts are safeguarded under the Protection of Badgers Act (1991). Under this legislation it is illegal to interfere, damage or destroy a sett, obstruct access to a sett, or disturb a badger whilst it is occupying a sett.

Invertebrates

- 2.12 Three records of invertebrate species protected under Section 41 (S41) of the Natural Environment and Rural Communities Act (2006) were returned within 2km of the Site including Cinnabar moth, White-letter hairstreak and Moth species (unidentified).
- 2.13 Standing and fallen deadwood in woodlands, sections of marshy grassland and dense scrub could support a varied invertebrate population including protected S41 species. Sections of woodland, dense scrub and grassland will be retained and/or enhanced in the proposed scheme and will continue to provide suitable habitat for invertebrates.

3.0 Planning, Development and BNG Rationale

- 3.1 A Full planning application was submitted to Bury Council in July 2024 (planning application ref: 70903) for land remediation works, construction of vehicular access road and footway from Market Street with associated infrastructure and structural works at the Site. The planning application was subsequently approved, subject to conditions in December 2024.
- 3.2 This HMMP has been written to inform the long-term management of the site for at least 30-years in line with BNG requirements.
- 3.3 In addition, this HMMP provides a high-level review of hydrological features to inform long-term management and safeguard habitats which require water provision such as fen habitats. The HMMP also addresses comments made by the Greater Manchester Ecology Unit (GMEU).

Biodiversity Net Gain (BNG)

- 3.4 Developers are required to deliver a BNG minimum of 10% to ensure the natural environment is in a measurably better condition than it was pre-development.
- 3.5 The National Planning Policy Framework (NPPF) (December 2024), paragraph 187 states that:

"Planning policies and decisions should contribute to and enhance the natural and local environment by:

d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures".

- 3.6 BNG is measured in biodiversity units (BU). BU are allocated to each existing habitat present on a site based on their condition, distinctiveness, and strategic significance.
- 3.7 The Department for Environment Food & Rural Affairs' (DEFRA) Statutory Biodiversity Metric Calculation Tool is used to:
 - Quantify and score the baseline BUs on site for each habitat;
 - Identify and score the BU's to be lost due to the proposed development; and
 - Identify and score the BU's to be retained, enhanced and created.

Baseline Calculation

- 3.8 A baseline biodiversity calculation of the Site was undertaken (TEP, 2024) in line with UK Habitat Classification User Manual (2020) and the Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017).

- 3.9 The BNG commitment has been calculated using DEFRA's Statutory Biodiversity Metric Calculation Tool (TEP ref: x9302.02.002 V4.0).

Securing BNG

- 3.10 Whilst the Site itself does not deliver a net gain of BU's, discussions with the LPA are taking place with the intention of securing the forecasted shortfall in BU through the purchase of biodiversity credits, either directly through the LPA or through a Habitat Bank.
- 3.11 The BU within the Site will be delivered as follows:
- Habitat enhancement: Bramble scrub, fens and broadleaved woodland habitats will be enhanced through targeted management interventions. The target condition for each habitat is defined in Chapter 5.0 alongside specific management activities to achieve this e.g. implementing a deadwood strategy and additional whip/shrub planting.
 - Habitat creation: New modified grassland will be created in the centre of the Site. The new grassland habitat has a target condition that should be achieved within the lifetime of this HMMP.
- 3.12 Some habitats reach their target condition quickly, others take considerably longer.
- 3.13 The BUs committed to as part of the planning process will be managed for at least 30 years to deliver the BU and ensure a net gain.
- 3.14 This HMMP is a key part of the delivery of the intended BU's. A monitoring and review strategy is included in Chapter 7.0, and BNG auditing schedule is in Appendix C. It requires a competent person to certify that:
- Newly created habitats are on course to meet their target condition;
 - Existing habitats are improving in line with commitments relating to target condition; and
 - Any remedial measures are in place to address shortfalls in target condition.

4.0 Roles and Responsibilities

Defects Period

- 4.1 During the defect's liability period, landscape maintenance and replacement of failed planting will be completed by the landscape contractor who implemented the scheme.

Practical Completion

- 4.2 BNG Good Practice Principles for Development, A Practical Guide². recommends that a site audit is completed by a competent landscape/ecological professional to review the condition of all habitats which contribute to achieving BNG. The audit should be completed as part of practical completion and prior to the transfer of land to the managing organisation for long-term management.

Long-Term Management

- 4.3 Following the defects liability period, the landowner will employ a managing organisation who will be responsible for operational management and maintenance of the habitats and landscape within the Site.
- 4.4 The managing organisation will require the necessary experience and certificates of competence to undertake landscape management operations on site. Where practical, contractors with experience in biodiversity management will be sought. The managing organisation will ensure that management complies with the guidelines set out in this Plan.

Mechanism to Secure Delivery

- 4.5 The appointed managing organisation will have a contractual responsibility to ensure the Site is maintained appropriately to deliver the BU's committed to as part of the development.
- 4.6 The appointed managing organisation will liaise with the Local Planning Authority during the lifetime of this HMMP (30 years), to ensure that any amendments or changes to management and maintenance are agreed to in writing.

Health and Safety

- 4.7 Management of the Site must be in line with all legislation relating to health and safety and the environment. A review of the relevant legislation affecting site management is in Appendix B.

² [Biodiversity net gain. Good practice principles for development. A practical guide \(cieem.net\)](https://www.cieem.net/biodiversity-net-gain-good-practice-principles-for-development-a-practical-guide)

- 4.8 Bury Council will retain ultimate responsibility for the health and safety of the Site until such time as the open space and landscaping associated is transferred to a managing organisation. The Site will be subject to informal inspections and a formal annual inspection. Whenever the Site is visited, any deficiencies in safety provision will be noted and acted upon.
- 4.9 The appointed managing organisation is responsible for complying with the provisions of the Health and Safety at Work Act 1974. All machinery and apparatus brought onto the Site shall be safe and maintained to a standard that will not breach provisions within the Health and Safety at Work Act 1974 or any other statutory obligations.
- 4.10 The managing organisation shall be adequately trained and sufficiently competent to carry out maintenance operations without causing a Health and Safety risk to themselves or other uses of the Site.
- 4.11 All works shall be undertaken in accordance with the relevant codes of practice. Appropriate machinery shall be used inclusive of adequate personal protective equipment to avoid harm to themselves or any other persons.

Biosecurity

- 4.12 Invasive Non-Native Species (INNS) Japanese knotweed was recorded in marshy grassland immediately west of the Market Street overpass. A technical note has been produced for the removal of Japanese knotweed (TEP ref: 10760.001). Invasive species will continue to be monitored, and control works will be carried out in accordance with the best practice guidance and legislation.
- 4.13 The management company should have a sufficient awareness of new and ongoing biosecurity threats, and the necessary precautions to avoid their spread should be undertaken on sites where they are known or suspected.
- 4.14 New findings of suspected non-indigenous plant pests and diseases should be reported to the Plant Health and Seeds Inspectorate or Forestry Commission - Forest Research Tree Health Diagnostic and Advisory Service or both.

Management Plan Reviews

Informal Review

- 4.15 Bury Council will undertake an informal review of the maintenance operations annually to ensure that the maintenance operations are meeting the original management objectives and responding to the developing needs of the Site.

Informal Review

- 4.16 Bury Council will undertake an informal review of the maintenance operations annually to ensure that the maintenance operations are meeting the original management objectives and responding to the developing needs of the Site.
- 4.17 Informal reviews will identify the need for additional maintenance operations and inform future management decisions. This can be achieved by:
- Quarterly formal site inspections by Bury Council to assess the appointed contractor's quality standards and deliverables in line with this HMMP;
 - An annual site meeting with Bury Council and stakeholders and the appointed contractor to assess quality standards and deliverables in line with this HMMP; and
 - Ad hoc unannounced inspections by Bury Council to review quality of maintenance work and any potential Health and Safety issues.

Formal Review

- 4.18 A formal review will be undertaken at the end of the first 5-year period following the first year's establishment period and the transition into long-term management. Subsequent formal reviews will be completed every 5 years unless there is the requirement to increase the monitoring frequency following the review process.
- 4.19 The formal review will include the key measures achieved, habitat condition assessments in line with the BNG audit program and will refer to any ecological reporting undertaken.
- 4.20 The formal review will also consider if any adaptations to existing landscape and habitat management activities are required to ensure habitats are on course to meet expected target conditions.
- 4.21 It is also recommended a cash-flow forecast as part of the formal review process to ensure sufficient funds are in place to deliver long term management of the Site.

BNG Monitoring

- 4.22 The management intentions and operations at Chapter 6.0 include target conditions for each habitat and the appropriate management operations required to achieve the expected target condition. Monitoring relating to specific BNG commitments should be undertaken in line with Chapter 7.0 and Appendix C.

5.0 Capital Works to Habitats

- 5.1 This Chapter details capital works required for the enhancement of broadleaved woodland, scrub and fen habitats, and creation of modified grassland habitat on the Site.
- 5.2 Capital works will be undertaken to create the desired habitat, or enhancement to the desired habitat condition. The required 30-year management period for these habitats will begin after capital works have been undertaken. Long term management operations for all landscape elements are detailed in Chapter 6.

Enhanced Other Woodland, Broadleaved

- 5.3 The understory of woodland compartments will be planted with new whips to increase the provision and species diversity.

Whip Planting

- 5.4 Whips will be planted at 1.5m centres in single species groups of 5-25nr.
- 5.5 To reduce excessive competition, each plant should have an 800x800mm individual mulch mat installed with minimum 5 pegs per mat.
- 5.6 The table below provides a list of tree species and quantities to be planted. Further details can be found in the Biodiversity Enhancement Planting Plan (TEP ref: D9302.02.001A).

Table 2: Native Tree Species for Woodland Planting

Latin Name and Quantity	Common Name
Corylus avellana, 45nr	Common hazel
Crataegus monogyna, 67nr	Common hawthorn
Ilex aquifolium, 7nr	Common holly
Prunus padus, 15nr	Bird cherry
Salix caprea, 15nr	Goat willow

Wildflower Seeding

- 5.7 Native wildflower seeding will be undertaken in between mulch mats and will comprise EM1F Wildflowers for Woodland supplied by Emorsgate Seeds. Seeding will be undertaken between March and May, or August to October, at a sowing rate of 1.5g/m².

Enhanced Mixed Scrub

- 5.8 Scrub to be enhanced will be planted with new plants to increase species diversity.

Additional Planting

- 5.9 Plants will be planted at 1.5m centres in single species groups of 5-25nr.
- 5.10 To reduce excessive competition, each plant should have an 800x800mm individual mulch mat installed with minimum 5 pegs per mat.
- 5.11 The table below provides a list of species and quantities to be included within scrub planting. Further details can be found in the Biodiversity Enhancement Planting Plan (TEP ref: D9302.02.001A).

Table 3: Native Species for Scrub Planting

Whip	
Latin Name	Common Name
Corylus avellana, 190nr	Common hazel
Crataegus monogyna, 204nr	Common hawthorn
Ilex aquifolium, 23 nr	Common holly
Prunus spinosa, 69nr	Blackthorn

Enhanced Fen

- 5.12 The fen habitat in the east of the Site will be enhanced through scrub and tree clearance works, translocation of fen from the centre of the Site (which will be lost in the proposals), additional plug planting and wildflower seeding.

Vegetation Clearance

- 5.13 Prior to enhancement works, excess scrub and tree growth, and undesirable habitat parcels will be removed from the fen.
- 5.14 Scrub growth will be cut using brush cutters, arisings will be chipped and used sustainably on site for mulching.
- 5.15 Scrub and tree removal will be scheduled at a time when there is no risk of disturbing breeding or nesting birds or mammals (e.g. between December and early February).
- 5.16 Areas of poor-quality fen habitat – those containing several undesirable species (bramble, silver birch, rough meadow grass, willowherb etc.) and/or less than 2 indicative fen species per m² - will be removed along with its substrate using an

excavator and turf cutting bucket³ and disposed of appropriately. Excavation should be to a depth of at least 100mm, with 150mm+ depth preferable where possible.

Horsetail

- 5.17 The extended Phase 1 habitat survey (TEP ref: G9302.02.006) found field horsetail in both fen areas in the Site. Horsetail is a native deep-rooted, perennial weed which is highly invasive, outcompeting other plants within a habitat.
- 5.18 Horsetail is a native species and therefore is not included within Schedule 9 of the Wildlife and Countryside Act 1981. There is no legal obligation to prevent the spread of the species, however, due to its invasive nature, further spread could have significant impacts upon the habitats proposed within the Site.
- 5.19 It is recommended that any areas of fen earmarked for translocation containing horsetail should be disposed of offsite to avoid contamination of the enhanced fen habitat. In addition, enhanced fen areas currently containing horsetail should be excavated and replaced with good quality fen habitat from the donor area in the west. This will ensure no further spread through the Site.

Fen Translocation

- 5.20 Sections of good quality fen habitat (those containing a diverse species composition including species such as common cotton grass) within the centre of the Site will be the donor site from which good quality, clean fen habitat material translocated into the enhanced fen during September, when plants are actively growing.
- 5.21 The vegetation to be translocated will be removed along with its substrate using an excavator and turf cutting bucket. Excavation should be to a depth of at least 100mm, with 150mm+ depth preferable where possible. This material will be transported to the enhanced fen and inserted into vacant areas created by removal of poor-quality fen habitat.

Plug Planting

- 5.22 The fen habitat will be plug planted in gaps created from vegetation clearance, and in areas of low species diversity. Plants will be planted in single species groups of 5-25nr.
- 5.23 The table below provides a list of species and quantities to be included within fen plug planting. Further details can be found in the Biodiversity Enhancement Planting Plan (TEP ref: D9302.02.001A).

³ [New Turf Cutting Buckets | Landmarc](#)

Table 4: Native Species for Fen Plug Planting

Plug	
Latin Name	Common Name
Carex acutiformis, 1478nr	Lesser pond sedge
Carex paniculata, 1478nr	Greater tussock sedge
Eriophorum angustifolium, 1478nr	Common cotton grass
Potentilla palustris, 1478nr	Marsh cinquefoil
Schoenoplectus lacustris, 1478nr	Common club-rush

Wildflower Seeding

- 5.24 Wildflower seeding will be undertaken on the fen between March and May, or August and October. The seed mix will comprise EM8F Wildflowers for Wetlands mix supplied by Emorsgate Seeds and sown at a sowing rate of 1.5g/m².

Hydrological Works

- 5.25 Any changes in the water table can affect the extent and quality of fens. This can occur as a result of both direct drainage and changes to infiltration and runoff patterns.
- 5.26 SCALGO modelling (see Drawing 5) illustrates that proposed works to the west of the Site, including cut and fill earthworks, will influence the flow of water through the Site. Currently, the enhanced fen habitats are supplied by water draining from both the west and the east of the Site. The earthworks will reduce the supply of water into the fen from the west of the Site; however, the enhanced fen will still receive an adequate water supply from the east of the Site which should be sufficient to maintain the water table at, or near the surface as required to preserve the fen habitat.
- 5.27 Additional hydrological works should be implemented within future site works to enhance water supply to the fen. This could include the creation of a SuDS in the west of the Site to collect and redirect water into the enhanced fen.

Proposed Modified Grassland

- 5.28 Capital works will be required to assist in developing the grassland sward.

Ground Preparation

- 5.29 During the summer, weed control will be undertaken across the habitat and will remove all unwanted perennial weeds including docks and other injurious weeds such as ragwort.

- 5.30 Weed control where feasible should be undertaken by hand pulling, however in certain instances herbicide may be the most effective measure to remove unwanted species. Where herbicide application is undertaken this should be in small, controlled areas and should only target the undesirable species. Herbicides should comply with the Control of Pesticides Regulations as amended (1997) and be on the current list of approved products.
- 5.31 Before seeding, the ground will be harrowed and scarified in Autumn to provide the opportunity for herbs and forbs to develop within perennial grasses.

Overseeding

- 5.32 After harrowing in autumn, the area will be overseeded with a grass mix immediately. The grass mix will comprise EG22 Strong Lawn Grass Mixture supplied by Emorsgate Seeds, sown at a sowing rate of 25g/m².

6.0 Management Intentions and Operations

Management Objectives

- 6.1 The long-term management objectives of this plan are:
- To maximise the BU's delivered by enhancing habitats on Site;
 - To safeguard and enhance the biological and integrity of the Site;
 - To ensure the fen habitat within this Site is successfully translocated to the east of the site and that the fen continues to establish successfully;
 - To ensure the scheme is successfully maintained;
 - To comply with legal obligations and constraints.

Landscape Elements

- 6.2 The Site will comprise the following landscape elements as shown on the Proposed UK Habitats drawing (TEP ref: G9302.02.010) and Biodiversity Enhancement Planting Plan (TEP ref: D9302.02.001A):

Habitats associated with BNG:

- Retained other woodland; broadleaved;
- Enhanced other woodland; broadleaved;
- Retained urban trees;
- Retained bramble scrub;
- Enhanced mixed scrub;
- Retained modified grassland;
- Proposed modified grassland; and
- Enhanced fen.

Landscape features associated with site wide management:

- Hard surfacing and proposed crushed stone with timber edging.

- 6.3 This chapter details management intentions for each element listed above.
- 6.4 The current habitat condition and target condition of habitats associated with BNG are included alongside key issues which require addressing to achieve the target condition. These are indicative only and based on site assessment and landscape drawings and will be re-evaluated based on As Built Drawings at completion of the landscape scheme.
- 6.5 The condition of each habitat will be reviewed during the audit process to ensure they are on track to achieve the anticipated target condition. Ongoing monitoring will

ensure adaptive management can be undertaken in good time if required. BNG monitoring requirements are included in Chapter 7 and a monitoring schedule is included in Appendix C.

General Management Principals

Site Inspections

- 6.6 Regular inspections will ensure any health and safety hazards are identified and made safe. Site inspections will be undertaken monthly to identify any health and safety hazards and arrange for them to be made safe as far as is practicable.
- 6.7 Results from the monthly site inspections will be compiled and presented within the annual report which will be used in the review of the Plan as detailed in Chapter 7.0.

Tree Risk Management Strategy

- 6.8 This HMMP does not prescribe how tree risk management must be delivered. The responsibility of tree risk lies with the landowner on which trees are located unless it is transferred to another party by agreement.
- 6.9 By virtue of their location and/or size some trees have an inherently greater capacity to cause injury than others. Prior to transfer of public open space land into stewardship of the appointed management company a qualified arboriculturist should carry out an inspection of mature trees within or adjacent to areas of public access to check for damage and disease and to maintain appropriate height clearances for safe pedestrian access. This tree risk management strategy will be undertaken every 3 years or after a storm.
- 6.10 Following the inspection a tree risk management strategy should be developed by a qualified arboriculturist which will differentiate between frequency of inspection and thresholds of tolerable risk proposed by tree stock.

Site Cleansing

- 6.11 A litter pick of the Site will be carried out monthly. All litter will be removed and disposed of in an authorised manner.
- 6.12 Graffiti removal will be carried out as required.

Chemical Use and Weeding

- 6.13 It should be recognised that plants considered as weeds can provide suitable habitat for invertebrates.

- 6.14 Ragwort and thistles are important food sources pollinators, provide seeds for birds and habitat for a range of invertebrates. Weeding should be an adaptive process. Monitoring of habitats will identify occurrence of problem species and if any species is becoming over-dominant or problematic appropriate action should then be taken.
- 6.15 Weed control where feasible should be undertaken by hand pulling, however in certain instances herbicide may be the most effective measure to remove unwanted species. Where herbicide application is undertaken this should be in small, controlled areas and should only target the undesirable species. Herbicides should comply with the Control of Pesticides Regulations as amended (1997) and be on the current list of approved products.
- 6.16 Consideration would need to be given to the fact that chemicals can prevent growth of grasses and woody species in landscape schemes.

Retained Other Woodland; Broadleaved

Management Intentions

- 6.17 Broadleaved woodland in the southwestern corner of the Site will be retained. The woodland will provide a valuable habitat for a range of wildlife, including birds and bats. Management of the woodland should fulfil the following key measures:
- Monitor for presence of INNS;
 - Undertake cyclical programme of thinning and coppicing; and
 - Ensure one species does not form a monoculture.
- 6.18 An arboriculturist will be consulted prior to undertaking any major tree works within the Site.
- 6.19 The current condition of retained broadleaved woodland is Moderate (as detailed within the Statutory Biodiversity Metric Calculator (TEP ref: 9302.02.002 V4.0)). The woodland will be maintained in its current condition.

Maintenance Operations

Thinning and Cutting Understorey Vegetation

- 6.20 Trees for thinning will be cut to a level stump height of 150 mm for treatment with stump killer. A minimum of 50% of the stump surface will be scored over and treated to stop re-growth. Future growth of stumps will be monitored, and additional cuts and applications of stump killer will be made (or an appropriate herbicide application such as eco plugs) over the following two or three years as required.
- 6.21 Thinning and cutting understorey vegetation will be undertaken on an annual cyclical programme (5 – 10 year cycle) and will be carried out outside of bird nesting season

(March to August inclusive). If works are required to any trees with bat roosting potential, advice must be sought from a licensed bat ecologist prior to any works commencing.

Coppicing

- 6.22 Trees for coppicing will be cut back to 50mm above ground level. Where several stems are coppiced on one plant, cut faces are to slope away from the centre. Care will be taken to ensure that coppicing, thinning and pruning operations do not cause damage to desirable plants, or rutting of the ground in wet conditions.
- 6.23 Wood under 250 mm diameter collected from maintenance works will, wherever possible, be chipped and used sustainably on site.
- 6.24 Wood greater than 250 mm diameter will be logged and used to create deadwood piles. Care will be taken to ensure that thinning/pruning operations do not cause damage to desirable plants or rutting of the ground in wet conditions.
- 6.25 Coppicing will be undertaken on a cyclical programme (5 - 10-year cycle) and will be undertaken outside of bird nesting season (March to August inclusive). If works are required to any trees with bat roosting potential, advice must be sought from a licensed bat ecologist prior to any works commencing.

Deadwood Strategy

- 6.26 Deadwood management will be low intervention, this means that any deadwood found will be left in situ. If leaving deadwood in situ represents a health and safety risk or hinders management access, it will be moved and stacked elsewhere in appropriate locations onsite to retain shelter and forage opportunities for wildlife.

Enhanced Other Woodland; Broadleaved

Management Intentions

- 6.27 Broadleaved woodland in the southeastern corner of the Site will be enhanced to achieve a target condition of Good. The woodland will provide a valuable habitat for a range of wildlife, including birds and bats. The woodland will also provide a partial screen between the Site and the neighbouring residential area.
- 6.28 An arboriculturist will be consulted prior to undertaking any major tree works within the Site.
- 6.29 The woodland to be enhanced has been given a score between 1 and 3 for each of the 13 condition assessment criteria as follows:
 - Poor = 1 point;
 - Moderate = 2 points; and

- Good = 3 points.

6.30 The points for each criterion are added together to determine the woodland's overall condition:

- Good condition = More than 32+ points
- Moderate condition = 26-32 points; and
- Poor condition = Less than 26 points.

6.31 The current condition of enhanced woodland, and proposed enhancements is detailed within the Statutory Biodiversity Metric Calculator (TEP ref: 9302.02.002 V4.0). The table below summarises the condition change and timeframe to achieve the target condition.

Table 5: Baseline and Target BNG Condition Criteria for Enhanced Woodland

Woodland UKHab Community: Other woodland, broadleaved		Current Condition: Moderate	Target Condition: Good	Time to achieve target condition: 10 years
Condition Assessment Criteria		Baseline	Proposed	Management Intentions
A	Age distribution of trees	2	3	Develop at least three age classes through whip planting.
B	Wild, domestic, and feral herbivore damage	3	3	Review damage where relevant and implement appropriate management interventions where applicable i.e. protective fencing, etc. Replacement of failed planting as required if damage is extensive.
C	Invasive plant species	3	3	Management will monitor the presence of INNS species to ensure control and removal as necessary.
D	Number of native tree species	3	3	Management will review species composition so that no one species form a monoculture.
E	Cover of native tree and shrub species	3	3	Management will review species composition so that no one species form a monoculture.

Woodland UKHab Community: Other woodland, broadleaved		Current Condition: Moderate	Target Condition: Good	Time to achieve target condition: 10 years
F	Open space within woodland	3	3	Review of woodland density will inform appropriate management interventions i.e. thinning of woodland.
G	Woodland regeneration	3	3	Ensure that regeneration includes all three classes present in woodland. Trees 4-7cm diameter at breast height (dbh), saplings are present and good amount of coppiced growth is managed on a rotation.
H	Tree health	3	3	Remove any diseased trees, particularly of note is the management of ash dieback in woodland 3 and 4. Monitor woodland to ensure tree mortality is <10% with no pests disease or crown die back.
I	Vegetation and ground flora	1	2	Native wildflower seeding will be undertaken between whip planting to increase cover of ground flora.
J	Woodland vertical structure	2	2	Thinning and coppicing existing trees and allow natural regeneration.
K	Veteran trees	1	1	N/A
L	Amount of deadwood	1	2	Promote deadwood habitat and facilitate approximately 25-50% in all compartments through habitat piles, standing deadwood and retaining dead branches and stumps.
M	Woodland disturbance	3	3	Implement appropriate intervention where required to ensure viable tree health, could include protective fencing as required.

6.32 Woodland habitat will achieve a good condition within the Site by targeting criteria A, I, J, K, I and M and achieving an overall score of 34.

Maintenance Operations

Thinning and Cutting Understorey Vegetation

- 6.33 Trees for thinning will be cut to a level stump height of 150 mm for treatment with stump killer. A minimum of 50% of the stump surface will be scored over and treated to stop re-growth. Future growth of stumps will be monitored, and additional cuts and applications of stump killer will be made (or an appropriate herbicide application such as eco plugs) over the following two or three years as required.
- 6.34 Thinning and cutting understorey vegetation will be undertaken on an annual cyclical programme (5 - 10-year cycle) and will be carried out outside of bird nesting season (March to August inclusive). If works are required to any trees with bat roosting potential, advice must be sought from a licensed bat ecologist prior to any works commencing.

Coppicing

- 6.35 Trees for coppicing will be cut back to 50mm above ground level. Where several stems are coppiced on one plant, cut faces are to slope away from the centre. Care will be taken to ensure that coppicing, thinning and pruning operations do not cause damage to desirable plants, or rutting of the ground in wet conditions.
- 6.36 Wood under 250 mm diameter collected from maintenance works will, wherever possible, be chipped and used sustainably on site.
- 6.37 Wood greater than 250 mm diameter will be logged and used to create deadwood piles. Care will be taken to ensure that thinning/pruning operations do not cause damage to desirable plants or rutting of the ground in wet conditions.
- 6.38 Coppicing will be undertaken on a cyclical programme (5 - 10-year cycle) and will be undertaken outside of bird nesting season (March to August inclusive). If works are required to any trees with bat roosting potential, advice must be sought from a licensed bat ecologist prior to any works commencing.

Deadwood Strategy

- 6.39 Deadwood is an important component of healthy woodland ecosystems. It provides niche habitats, particularly for invertebrates, as well as supporting a wide range of bird life, fungi and flora.
- 6.40 Deadwood should include a variety of aerial and terrestrial material, a range of sizes and species, and material at varied stages of decay.
- 6.41 The retention of standing and aerial deadwood habitats within areas of tree retention will be preserved where this does not present a safety risk.

6.42 Efforts should be made to preserve some degree of deadwood on the ground. This could be achieved via a combination of:

- Leaving fallen deadwood in-situ;
- Designating no-forage areas of woodland; and
- Designating no-forage wood piles.

Whip Planting Maintenance Operations

Removal of Mulch Mats

6.43 Once trees have established successfully in Year 5 onwards, the maintenance of a weed free base can be discontinued.

Re-firming

6.44 Newly planted trees will require re-firming as required.

Stakes and Ties

6.45 Where trees are staked, the stakes and ties will be checked quarterly, and it is anticipated that they will need adjusting at least twice annually. Any broken or damaged stakes will be replaced and ties re-fixed at a slightly lower position, allowing for growth since planting.

6.46 Remove stakes as necessary, when the tree is suitably established, approximately in Year 5.

Rabbit guards

6.47 Rabbit proof tree guards should be installed around all whips.

6.48 Guards will be checked quarterly, and any broken or damaged guards will be replaced as required.

6.49 Remove guards as necessary, when the plant is suitably established, approximately in Year 5.

Formative Pruning

6.50 Young trees will require formative pruning until a height of 3m is attained to maintain a desirable shape as well as to maintain health and vigour. Pruning and thinning of trees will be in accordance with BS 7370-4:1993 Recommendations for Maintenance of Soft Landscape (Other Than Amenity Turf).

6.51 Once trees are established crown pruning is desirable and any dead or severely damaged trees will be felled and replaced accordingly.

Replacement of Failed Planting

- 6.52 Failed planting will be removed and replaced with the same species between November and March for deciduous species and between September and April for evergreen species.
- 6.53 If there is a continuous failure of a certain species, this will be reviewed and, if appropriate, an alternate appropriate species will be planted instead.

Watering

- 6.54 Watering may be required during periods of drought in the first couple of years following planting. Water should be applied to the base of the tree and should not be more than 20 litres every other day, as required, between April and September.

Fertiliser

- 6.55 Apply slow-release multi-purpose plant food and soil improver in Autumn during the first 5 years after planting.
- 6.56 Mulch mats should be carefully lifted and fertiliser applied directly to the top layer of soil at the manufacturers recommended rate.

Post Establishment Maintenance

- 6.57 Following establishment, whip planting should be managed as prescribed for Enhanced Other Woodland; Broadleaved.

Retained Urban Trees

Management Intentions

- 6.58 Urban trees in the south and along the northern boundary of the Site will be retained (except for two trees to be removed to facilitate construction of an access road). Retained trees will provide opportunities for foraging and refuge for birds and bats. Management of retained trees should fulfil the following key measures:
- Ensure trees remain in good health;
 - Undertake tree works as prescribed by an arboriculturist; and
 - Maintain vegetation cover underneath tree canopies.
- 6.59 An arboriculturist will be consulted prior to undertaking any major tree works within the Site.
- 6.60 The current condition of retained urban trees is Good (as detailed within the Statutory Biodiversity Metric Calculator (TEP ref: 9302.02.002 V4.0)). The trees will be maintained in their current condition.

Maintenance Operations

Tree Works

- 6.61 Tree works will be undertaken at the discretion of a qualified arboriculturist and form part of Tree Risk Management (sections 6.8 - 6.10).
- 6.62 Tree and branch failures will be removed where they present an obstruction or hazard.

Weed Control

- 6.63 Mowing and strimming of the modified grassland adjacent to tree planting will be undertaken with care to avoid damage to buttresses, bark and surface roots.

Retained Bramble Scrub

Management Intentions

- 6.64 Bramble scrub habitat in the northwest, southeast and a small pocket of the south of the Site will be retained. The bramble scrub provides suitable habitat for birds, bats, badgers and invertebrates. Management of retained bramble scrub should fulfil the following key measures:
- Monitor for presence of INNS; and
 - Cut back scrub to stop encroachment onto neighbouring habitats.
- 6.65 Bramble scrub habitat does not require condition assessment.

Maintenance Operations

Assessment of Scrub Encroachment

- 6.66 Scrub provides an array of habitat opportunities and as such it may be appropriate to allow weed species to develop within the scrub. Weeds provide a vital source of food for pollinators and intern foraging opportunities for birds and mammals.
- 6.67 An annual visual inspection in September will determine whether weeds are becoming too dominant, or scrub is encroaching onto neighbouring grassland.

Reduction of Scrub

- 6.68 Where reduction of coverage is required, scrub growth will be controlled along its advancing face using brush cutters, arisings will be chipped and used sustainably on site for mulching. If required dominant weed species will be hand pulled.

- 6.69 Scrub cutting will be scheduled at a time when there is no risk of disturbing breeding or nesting birds or mammals and to enable berry-bearing scrub species to fruit for the benefit of foraging wildlife (e.g. between December and early February).
- 6.70 In the long term, consideration will be given to active management, e.g. cyclical cutting of 5% annually to create greater structural diversity.

Enhanced Mixed Scrub

Management Intentions

- 6.71 Existing bramble scrub in the northeast and southeastern corner of the Site will undergo habitat enhancement to mixed scrub with a target condition of Moderate. Mixed scrub habitat will provide suitable habitat for birds, bats, badgers and invertebrates.
- 6.72 Bramble scrub does not require habitat condition assessment.
- 6.73 The overall condition of mixed scrub habitat is calculated by the number of criteria it passes:
- Good condition = Pass 5 criteria;
 - Moderate condition = Pass 3-4 criteria; and
 - Poor condition = Pass 2 or fewer criteria.
- 6.74 The proposed enhancement from bramble scrub to mixed scrub habitat is detailed within the Statutory Biodiversity Metric Calculation Tool (TEP ref: 9302.02.002 V4.0). The table below summarises the condition criteria enhanced mixed scrub will achieve and the timeframe to achieve the target condition.

Table 6: BNG Target Condition Criteria for Enhanced Mixed Scrub

Scrub UKHab Community: Mixed scrub		Target Condition: Moderate	Time to achieve target condition: 5 years
Condition Assessment Criteria		Proposed	Management Intentions
A	Scrub is good representation of habitat type	Pass	Maintain appropriate species diversity so that mixed scrub is representative of UKHab description (No one species comprising 75% of the cover).

Scrub UKHab Community: Mixed scrub		Target Condition: Moderate	Time to achieve target condition: 5 years
B	Seedlings, saplings, young shrubs and mature shrubs are all present	Pass	Maintain and develop a good age range across the scrub.
C	Absence of Invasive Non-native Species	Pass	Management will focus on monitoring for future INNS infestations.
D	The scrub has a well-developed edge with scattered scrub	Fail	N/A
E	There are clearings, glades and rides	Fail	N/A

- 6.75 Scrub habitat will achieve a moderate condition within the Site by targeting criteria A, B and C.

Maintenance Operations

Assessment of Scrub Encroachment

- 6.76 Scrub provides an array of habitat opportunities and as such it may be appropriate to allow weed species to develop within the scrub. Weeds provide a vital source of food for pollinators and intern foraging opportunities for birds and mammals.
- 6.77 An annual visual inspection in September will determine whether weeds are becoming too dominant, or scrub is encroaching onto neighbouring grassland.

Reduction of Scrub

- 6.78 Where reduction of coverage is required, scrub growth will be controlled along its advancing face using brush cutters, arisings will be chipped and used sustainably on site for mulching. If required dominant weed species will be hand pulled.
- 6.79 Scrub cutting will be scheduled at a time when there is no risk of disturbing breeding or nesting birds or mammals and to enable berry-bearing scrub species to fruit for the benefit of foraging wildlife (e.g. between December and early February).

- 6.80 In the long term, consideration will be given to active management, e.g. cyclical cutting of 5% annually to create greater structural diversity.

Additional Planting Maintenance Operations

Removal of Mulch Mats

- 6.81 Once plants have established successfully, from Year 5 onwards, the maintenance of a weed free base can be discontinued.

Shrub shelters

- 6.82 Rabbit proof shrub shelters should be installed around all shrub planting.
- 6.83 Shelters will be checked quarterly, and any broken or damaged shelters will be replaced as required.
- 6.84 Remove shelters as necessary, when the plant is suitably established, approximately in Year 5.

Replacement of Failed Planting

- 6.85 Failed planting will be removed and replaced with the same species between November and March for deciduous species and between September and April for evergreen species.
- 6.86 If there is a continuous failure of a certain species, this will be reviewed and, if appropriate, an alternate appropriate species will be planted instead.

Fertiliser

- 6.87 Apply slow-release multi-purpose plant food and soil improver in Autumn during the first 5 years after planting.
- 6.88 Mulch mats should be carefully lifted and fertiliser applied directly to the top layer of soil at the manufacturers recommended rate.

Retained Modified Grassland

Management Intentions

- 6.89 Modified grassland in the south of the Site will be retained. The timing and frequency of grass cuts will be determined by management procedures required to maintain the grassland habitat. Management should fulfil the following key measures:
- Monitor for bracken and scrub encroachment, cut back as required;
 - Monitor for the presence of INNS; and

- Cut regularly during the growing season.

6.90 The current condition of retained modified grassland is Poor (as detailed within the Statutory Biodiversity Metric Calculator (TEP ref: 9302.02.002 V4.0)). The retained grassland will be maintained in its current condition.

Maintenance Operations

Grass Cutting

- 6.91 A 2m strip of grassland immediately adjacent to the hardstanding in the south of the Site will be cut fortnightly during the growing season to maintain a sward height of 50mm. This will ensure that grassland does not encroach onto the hardstanding and maintain a varied sward height.
- 6.92 The remainder of the retained modified grassland sward will be cut every 6-8 weeks during the growing season to maintain a sward height of 70mm.

Weed Control

- 6.93 Weed control will be undertaken annually between April and September and where feasible should be undertaken by hand pulling and should remove all noxious weeds such as docks, thistles, nettles, ragwort and willowherb.
- 6.94 In certain instances, herbicide maybe the most effective measure to remove unwanted species. Where herbicide application is needed this should be in small, controlled areas and should only target the undesirable species. Shields should be used as appropriate to prevent drift into sensitive areas. Herbicides should comply with the Control of Pesticides Regulations as amended (1997) and be on the current list of approved products.

Proposed Modified Grassland

Management Intentions

- 6.95 Modified grassland habitat will be created in the centre of the Site. The timing and frequency of grass cuts will be determined by management procedures required to maintain the grassland habitat.
- 6.96 The condition of modified grassland habitat is calculated by the number of criteria it passes:
- Good condition = Pass 6 or 7 criteria including criterion A;
 - Moderate condition = Pass 4 or 5 criteria including criterion A; and
 - Poor condition = Passes 3 or fewer criterion and/or fails criterion A.

6.97 The proposed condition of modified grassland is detailed within the Statutory Biodiversity Metric Calculation Tool (TEP ref: 9302.02.002 V4.0). The table below summarises the criteria achieved.

Table 7: BNG Target Condition Criteria for Proposed Modified Grassland

Grassland Low UKHab Community: Modified Grassland		Proposed Condition: Poor	Time to achieve target condition: 1 year
Condition Assessment Criteria		Proposed	Management Intentions
A	There are 6-8 vascular plant species per m2 present, including at least 2 forbs.	Fail	N/A
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Fail	N/A
C	Scrub accounts for less than 20% of total grassland area.	Pass	Any scrub encroachment onto grassland will be cut back to maintain less than 20% coverage.
D	Physical damage covers less than 5% area.	Fail	N/A
E	Cover of bare ground is between 1% and 10%	Fail	N/A
F	Cover of bracken is less than 20%	Pass	Any bracken encroachment onto grassland will be cut back to maintain less than 20% coverage.
G	Absence of INNS	Pass	Monitoring for new INNS in grassland.

- 6.98 Proposed modified grassland habitat will achieve poor condition by targeting criteria C, F and G.

Maintenance Operations

Grass Cutting

- 6.99 The proposed modified grassland sward will be maintained at a sward height of 50mm.

Weed Control

- 6.100 Weed control will be undertaken annually between April and September and where feasible should be undertaken by hand pulling and should remove all noxious weeds such as docks, thistles, nettles, ragwort and willowherb.
- 6.101 In certain instances, herbicide maybe the most effective measure to remove unwanted species. Where herbicide application is needed this should be in small, controlled areas and should only target the undesirable species. Shields should be used as appropriate to prevent drift into sensitive areas. Herbicides should comply with the Control of Pesticides Regulations as amended (1997) and be on the current list of approved products.

INNS Monitoring

- 6.102 The grassland will be monitored during monthly site inspections, to ensure that no INNS have established. If INNS are identified, appropriate management interventions will be implemented.

Enhanced Fen

Management Intention

- 6.103 Lowland fen habitat (designated NVC community: swamp and tall herb fen (TEP ref: 9302.02.003)) in the east of the Site will be enhanced to achieve a target condition of Good. The fen will provide suitable habitat for a range of invertebrates and management will focus on increasing plant species diversity.
- 6.104 The overall target condition of the enhanced fen habitat (referred to as fens (upland and lowland) habitat within the Statutory Biodiversity Metric Calculation Tool (TEP ref: 9302.02.002 V4.0) is calculated by the number of criteria it passes:
- Good condition = Pass 5 or 6 core criteria including criterion A and passes additional criterion G;
 - Moderate condition = Pass 4-5 criteria or fails criterion A or G; and
 - Poor condition = Passes 3 or fewer criteria.

- 6.105 The current condition of enhanced fen, and proposed enhancements is detailed within the Statutory Biodiversity Metric Calculator (TEP ref: 9302.02.002 V4.0). The table below summarises the condition change and timeframe to achieve the target condition.

Table 8: Baseline and Target BNG Condition Criteria for Enhanced Fen

Woodland UKHab Community: Fens (upland and lowland)		Current Condition: Poor	Target Condition: Good	Time to achieve target condition: 18 years
Condition Assessment Criteria		Baseline	Proposed	Management Intentions
A	The water table is at, or near the surface throughout the year. No artificial drainage, unless to maintain water levels.	Pass	Pass	Ensure that future development of the land does not compromise water flow into the fen habitat.
B	The parcel represents a good example of its specific habitat type (UKHab description).	Fail	Pass	Plug planting of desirable species will be undertaken. Management will focus on maintaining desirable species composition.
C	The water supplies to the wetland are of good water quality, with low turbidity indicating no obvious signs of pollution.	Fail	Fail	N/A
D	Cover of scrub and scattered trees are less than 10%.	Fail	Pass	The wet grassland will be cut as necessary to reduce suitability for scrub and tree species. If necessary, targeted reduction of scrub/tree coverage will be undertaken.

Woodland UKHab Community: Fens (upland and lowland)		Current Condition: Poor	Target Condition: Good	Time to achieve target condition: 18 years
E	Cover of bare ground is less than 5%.	Fail	Pass	Reseeding and/or additional plug planting will be undertaken as required to maintain vegetation coverage.
F	Absence of INNS. Undesirable species make up less than 5% cover.	Fail	Pass	The fen will be monitored for INNS and undesirable species. Removal will be undertaken as required.
G	No more than 25% of the habitat area has a continuous cover of litter preventing regeneration.	Fail	Pass	Excess litter and arisings will be removed from the fen.

6.106 Fen habitat will achieve a good condition by targeting criteria A, B, and D-G.

Maintenance Operations

Inspections and Remedial Measures

- 6.107 A visual inspection will be carried out as part of the monthly site inspection. This will include an inspection of the water quality for any signs of pollutants (e.g. scum, excessive algal growth and discolouration), vegetation coverage, scrub and tree coverage, presence of INNS, and presence of rubbish and debris.
- 6.108 If pollutants are detected, options for remedial action will be discussed with the landowner and appropriate authorities.
- 6.109 In the event invasive or harmful species are identified, a treatment plan will be drawn up; spot treatment or pulling by hand will be the preferred method. Any other remedial actions will be implemented accordingly.

Vegetation Cutting

- 6.110 The vegetation will be cut to a height of 150mm (approx.) in September. One third of the area will be cut on a three-year rotation to ensure areas of uncut vegetation are retained as refuge for amphibians, small mammals and birds.
- 6.111 Arisings will be collected and removed from site to prevent nutrient enrichment, retain the desired species composition and prevent the fen habitat from drying out.

- 6.112 Vegetation cutting will be avoided between mid-March and August (inclusive) to prevent risk of disturbance and destruction to nesting birds.

Scrub Clearance

- 6.113 Scrub removal will be carried out as necessary, to ensure that the fen habitat remains open.
- 6.114 Where scrub clearance is carried out, cut material should be removed from the Site and stumps should be ground down to facilitate grass cutting.

Weed Control

- 6.115 Weed control will be undertaken annually between April and September and where feasible should be undertaken by hand pulling and should remove all noxious weeds such as docks, thistles, nettles, ragwort and willowherb.
- 6.116 In certain instances, herbicide maybe the most effective measure to remove unwanted species. Where herbicide application is needed this should be in small, controlled areas and should only target the undesirable species. Shields should be used as appropriate to prevent drift into sensitive areas. Herbicides should comply with the Control of Pesticides Regulations as amended (1997) and be on the current list of approved products.

Plug Planting Maintenance Operations

Replacement of Failed Planting

- 6.117 Failed planting will be removed and replaced with the same species in the first five years following implementation. If there is a continuous failure of a certain species, this will be reviewed and, if appropriate, an alternate appropriate species will be planted instead.

Landscape Features Associated with Site Wide Management

- 6.118 Landscape features associated with site wide management detail features that are to be implemented or retained as part of the proposed development. These features are not included within the BNG metric calculations and do not contribute to the Site's overall BNG value. However, these features do contribute to the aesthetic and amenity value of the Site and should undergo management operations and monitoring as detailed in the HMMP.

Hard Surfacing and Crushed Stone with Timber Edging

Management Intention

- 6.119 The hard surfacing and crushed stone with timber edging will be safe and useable. Maintenance will focus on clearing any obstacles to the use of hard surfacing and ensure it is free of slip and trip hazards.

Maintenance Operations

Inspections and Remedial Measures

- 6.120 Hard surfacing and crushed stone with timber edging will be inspected during the monthly site inspection and will be kept safe and usable and cleared of overhanging vegetation and broken branches. Any item considered unsafe must be removed or made safe and replaced as soon as possible.
- 6.121 Repairs will be carried out as required, the surfacing will be replaced in line with the manufacturer's recommendations. The use of materials for repairs and replacements will conform to the original design specification for external works.

Encroaching Vegetation

- 6.122 Encroaching vegetation will be managed manually using an appropriate edging tool.

7.0 Habitat Monitoring and Review Schedule

BNG Monitoring

- 7.1 British Standard 8683 2021 and BNG Good Practice Principles for Development, A Practical Guide⁴ include the requirement for a robust and detailed monitoring and review strategy to ensure that new and enhanced habitats associated with the BNG design are establishing as expected, and on-going management, and maintenance is being undertaken and that adjustments in management practices can be undertaken if required.
- 7.2 The BNG Good Practice Principles for Development, A Practical Guide requires the organisation responsible for management of the Site and delivering the BU's to 'communicate all net gain activities in a transparent and timely manner, sharing the learning with all stakeholders'. The monitoring report should include clear, timed and measurable objectives for BNG, a commitment to adaptive management (where this is required in response to monitoring) and a formal review process to review success against expectations.
- 7.3 To ensure the delivery of the predicted target conditions and the success of BNG the management organisation may need to employ an adaptive management strategy. If required, this will be evidenced based through ecological monitoring and any required practical steps will be devised by an appropriately qualified and competent person and agreed with the local authority as part of its ongoing monitoring of the habitats within the Site.

Responsibility

- 7.4 As part of practical completion and prior to handover to the agreed management organisation a full site walkover will be completed by the management company and/or a suitably qualified representative. The purpose of the site walk over will be to ensure all new and enhanced landscape and habitat features are implemented to the required standards and where required habitat enhancements have been completed or are underway.
- 7.5 The managing organisation will be responsible for undertaking the informal and formal reviews of this HMMP and updating management and maintenance operations to ensure the long-term success of the habitats and compliance with BNG commitments.
- 7.6 Monitoring reports will be submitted to the local authority at appropriate intervals to demonstrate the management organisations success in delivering the required BNG

⁴ [Biodiversity net gain. Good practice principles for development. A practical guide \(cieem.net\)](https://www.cieem.net/biodiversity-net-gain-good-practice-principles-for-development-a-practical-guide)

or if habitats are not achieving the predicted target conditions, reasoning as to why and details of appropriate management actions required to amend management and maintenance operations.

Habitats

- 7.7 Habitats which contribute to BNG on site will require monitoring by a suitably qualified and competent person at the required intervals derived from the UK Habitat Condition Assessment Criteria in accordance with the UK Habitat Definitions.
- 7.8 Monitoring will be conducted via a walkover survey and/or ecological assessment for each habitat type at the frequency as detailed in the BNG monitoring program included in the table below and detailed in Appendix C.

Table 9: Key Measures for Monitoring Habitat Features: Enhanced Other Woodland; Broadleaved

Baseline Habitat Condition	Target Habitat Condition	Monitoring Interval	Anticipated timeframe to achieve BNG
Other woodland, broadleaved - Moderate	Other woodland, broadleaved - Good	1, 3, 5, 10, 15, 20, 25, 30	10 years
Key Measures Ensure whip planting is establishing as expected. Replace any failed planting. Monitor for the presence of INNS. Undertake cyclical programme of thinning and coppicing. Ensure trees are in good health. Promote deadwood habitat through creation of habitat piles and retaining dead branches and stumps.			

Table 10: Key Measures for Monitoring Habitat Features: Enhanced Mixed Scrub

Baseline Habitat Condition	Target Habitat Condition	Monitoring Interval	Anticipated timeframe to achieve BNG
Bramble scrub – N/A	Mixed scrub - Moderate	1, 3, 5, 10, 15, 20, 25, 30	5 years
Key Measures Ensure planting is establishing as expected. Replace any failed planting.			

Baseline Habitat Condition	Target Habitat Condition	Monitoring Interval	Anticipated timeframe to achieve BNG
Monitor for the presence of INNS. Monitor for encroachment of undesirable species. Undertake cyclical reduction of scrub to create structural diversity.			

Table 11: Key Measures for Monitoring Habitat Features: Proposed Modified Grassland

Baseline Habitat Condition	Target Habitat Condition	Monitoring Interval	Anticipated timeframe to achieve BNG
N/A	Modified grassland - Poor	1, 3, 5, 10, 15, 20, 25, 30	1 year
Key Measures Ensure sward is establishing as expected. Reseed areas of bare ground. Monitor for bracken and scrub encroachment, cut back as required. Monitor for the presence of INNS. Maintain sward height of 50mm			

Table 12: Key Measures for Monitoring Habitat Features: Enhanced Fen

Baseline Habitat Condition	Target Habitat Condition	Monitoring Interval	Anticipated timeframe to achieve BNG
Fens (upland and lowland) - Poor	Fens (upland and lowland) - Good	1, 3, 5, 10, 15, 18, 20, 25, 30	18 years
Key Measures Ensure the water table remains at or near the surface throughout the year. Ensure planting establishes as expected. Replace any failed planting. Undertake targeted reduction of scrub and scattered trees, as necessary. Monitor for presence of INNS and undesirable species, remove as necessary. Undertake cyclical vegetation cutting and remove arisings.			

Site Wide Monitoring

- 7.9 The below table includes key measures for monitoring landscape and community features within the Site to ensure the Site continues to support the needs and requirements of its site visitors.

Table 13: Key Measures for Monitoring Landscape Features not associated with BNG

Feature	Key Measures
Site wide	Is the landscape establishing well and attractive to residents and wildlife overall? Is the Site in a clean and tidy condition? Is public access to the Site maintained? Are there any health and safety hazards / deficiencies which require rectification? Does the Site comply with the relevant environmental and health and safety legislation (as set out in Appendix B of this Plan)? Are there any instances where planting is repeatedly failing? If so, has an Arboricultural consultant or landscape architect been consulted with to specify an alternative species?
Hard surfacing and crushed stone with timber edging	Carry out an inspection to ensure weed free appearance and remove trip or slip hazards. Note any damage and carry out repairs as required.

Appendix A: Landscape Maintenance Schedules

✓

Works not to be carried out in these months

*Bird breeding and nesting season (March to August inclusive) no works that may have an impact on nesting birds are to be undertaken

[illegible]

✓

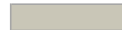
Works not to be carried out in these months

Activity	Frequency per Annum	Years	Indicative Timing of Operation											
			J	F	M	A	M	J	J	A	S	O	N	D
Monitor stumps and, if required, cut any re-growth and re-apply stump killer as required.	As required	As required	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Review deadwood provision and top up brash piles and logs as required.	As required	As required	✓	✓								✓	✓	✓
Whip planting - Remove mulch mat	1	Year 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Whip planting - Re-firm newly planted trees as required.	As required	1 to 5	✓	✓								✓	✓	✓
Whip planting - Check stakes and ties quarterly, adjust twice annually.	4	1 to 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Whip planting - Replace any damaged or missing stakes, ties and guards.	As required	1 to 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Whip planting - Remove stakes, ties and guards.	1	Year 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Whip planting - Formative prune to maintain health and vigour.	As required	5 to 10	✓	✓								✓	✓	✓
Whip planting - Replace failed or damaged deciduous species.	As required	1 to 5	✓	✓	✓								✓	✓
Whip planting - Replace failed or damaged coniferous/evergreen species.	As required	1 to 5	✓	✓	✓	✓						✓	✓	✓
Whip planting - Water new planting.	As required	1 to 5					✓	✓	✓	✓	✓			
Whip planting - Assessment of condition and structure of new tree planting.	1	All years	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Whip planting - Apply slow release multi-purpose plant food and soil improver.	1	1 to 5									✓	✓	✓	
Retained Urban Trees (Good)														
Undertake tree works as prescribed by an arboriculturalist	As required	As required	✓	✓								✓	✓	✓
Retained Bramble Scrub (Condition Assessment N/A)														
Annual visual inspection to determine any dominant species or encroachment.	1	All years										✓		
Cut as required to prevent encroachment onto other landscape types.	As required	All years	✓	✓										✓
Cut 5% of the scrub back annually.	1	All years	✓	✓										✓
Enhanced Mixed Scrub (Moderate)														
Annual visual inspection to determine any dominant species or encroachment.	1	All years										✓		
Cut as required to prevent encroachment onto other landscape types.	As required	All years	✓	✓										✓
Cut 5% of the scrub back annually.	1	All years	✓	✓										✓
New planting - Remove mulch mat	1	Year 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
New planting - Check shrub shelters quarterly.	4	1 to 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
New planting - Replace any damaged or missing shrub shelters.	As required	1 to 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
New planting - Remove shrub shelters.	1	Year 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
New planting - Replace failed or damaged deciduous species.	As required	1 to 5	✓	✓	✓								✓	✓
New planting - Replace failed or damaged coniferous/evergreen species.	As required	1 to 5	✓	✓	✓	✓						✓	✓	✓
New planting - Apply slow release multi-purpose plant food and soil improver.	1	1 to 5									✓	✓	✓	
Retained Modified Grassland (Poor)														
Cut 2m strip adjacent to hardstanding to 50mm fortnightly during the growing season	14	All years					✓	✓	✓	✓	✓	✓		
Cut (70mm) every 6-8 weeks during the growing season	4	All years					✓	✓	✓	✓	✓	✓		
Weed control.	1	All years					✓	✓	✓	✓	✓	✓		
Proposed Modified Grassland (Poor)														
Cut (50mm) fortnightly during the growing season	14	All years					✓	✓	✓	✓	✓	✓		
Weed control.	1	All years					✓	✓	✓	✓	✓	✓		

Key



Works to be carried out in these months



Works not to be carried out in these months

*Bird breeding and nesting season (March to August inclusive) no works that may have an impact on nesting birds are to be undertaken

Activity	Frequency per Annum	Years	Indicative Timing of Operation											
			J	F	M	A	M	J	J	A	S	O	N	D
Inspect the monthly to assess water quality, vegetation coverage, presence of INNS, debris and rubbish.	12	All years	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cut (150mm) with 1/3 cut every three years on a rotation. Remove arisings from the Site.	0.3	All years									✓			
Scrub clearance	As required	As required	✓	✓										✓
Weed control.	1	All years				✓	✓	✓	✓	✓	✓			
Plug planting - Replace failed or damaged plants.	As required	1 to 5	✓	✓	✓								✓	✓
Hard Landscape Elements														
Hard Surfacing and Proposed Crushed Stone with Timber Edging														
Inspect monthly and clear overhanging vegetation, broken branches, leaf litter and trip hazards as required.	12	All years	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cut back vegetation with appropriate edging tool.	1	All years				✓	✓	✓	✓	✓	✓	✓		
Repairs to surfacing.	As required	As required	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Monitoring and Review														
Formal site inspections by managing organisation	4	All years			✓			✓			✓			✓
Annual site meeting with stakeholders	1	All years	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Formal review of management plan and maintenance operations.	0.2	Every 5 years	✓											

NOTE Glyphosate formulations containing the surfactant Polyethoxylated tallow amine (POEA) should not be used within close proximity to waterbodies or other wetland habitats as it can cause high amphibian larvae mortality.

Appendix B: Legislation Context

Summary of Relevant Legislation

The following legal obligations, among others must be considered in carrying out any management operations:

Legislation	Obligations
Health and Safety Legislation	
The Health and Safety at Work Act (1974)	All operations carried out on the Site must only be undertaken by trained personnel, using methods and equipment approved by the Health and Safety Executive (HSE).
Occupiers Liability Act (1984)	Management organisation must ensure that every reasonable care is taken to remove any risks to both legitimate visitors and to any trespassers. In compliance it will be necessary: • To make sure that all footpaths and any other structures are safe; • To remove any hazardous objects; and • To conduct an annual safety audit in order to identify any further hazards.
Environmental Legislation	
Conservation of Habitats and Species Regulations 2017 (as amended)	The Habitat Regulations for England and Wales assign a greater level of protection to a variety of native species of animals and plants listed. The 2017 Regulations have been amended by the 2019 EU Exit Regulations.
Wildlife and Countryside Act (1981)	There is an obligation to comply with legislation for UK species protected (including amphibians, reptiles and bats) under this Act.
Environmental Protection Act (1990)	There is an obligation to keep the Site free from litter and refuse.
Countryside and Rights of Way Act (2000)	Imposes a new right of access on foot to registered common land and other areas of 'open countryside' which under certain circumstances allows access without being confined to footpaths.

Appendix C: BNG Monitoring Schedule

Appendix C of Landscape Habitat Plan (TEP Ref: x9302.02.003)
Table of Habitat Monitoring and Reporting

Habitat Condition Assessment undertaken by a suitably qualified ecologist	
Habitat Condition Target	*
Reporting	

Habitat Condition Monitoring					Years																														
Landscape Feature	Biodiversity Metric 4.0 Habitat Feature	Current Condition	Target Condition	Timeframe	Capital Works Sign Off	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Area Habitats																																			
Retained Other Woodland, Broadleaved	Other Woodland, Broadleaved	Moderate	Moderate	N/A	N/A	*																													
Enhanced Other Woodland, Broadleaved	Other Woodland, Broadleaved	Moderate	Good	10 year	1 year									*																					
Retained Urban Trees	Urban Trees	Good	Good	N/A	N/A	*																													
Retained Bramble Scrub	Bramble Scrub	N/A	N/A	N/A	N/A	*																													
Enhanced Mixed Scrub	Mixed Scrub	Bramble Scrub	Moderate	5 year	1 year					*																									
Retained Modified Grassland	Modified Grassland	Poor	Poor	N/A	N/A	*																													
Proposed Modified Grassland	Modified Grassland	N/A	Poor	1 year	N/A	*																													
Enhanced Fen	Fen (Upland and Lowland)	Poor	Good	18 year	1 year																		*												

Reporting					Years																														
Habitat Management and Monitoring Plan updates submitted to the LPA																																			
BNG Condition Assessment Report submitted to the LPA																																			

EXAMPLE: Habitat Condition Monitoring, Assessment Sheet

Date of Assessment:		Assesment number:					
Landscape Feature	Parcel Ref:	UKHab Metric 4.0 Condition assessment criteria	Baseline Condition	Target Condition	Monitoring interval	Anticipated Timeframe to achieve BNG target	Biodiversity Units

Condition assessment summary:

Progress towards UKHab and Condition summary (is the habitat on course to meet or has met target condition?):

Adaptive Management: Any proposed changes to Management:

Drawings

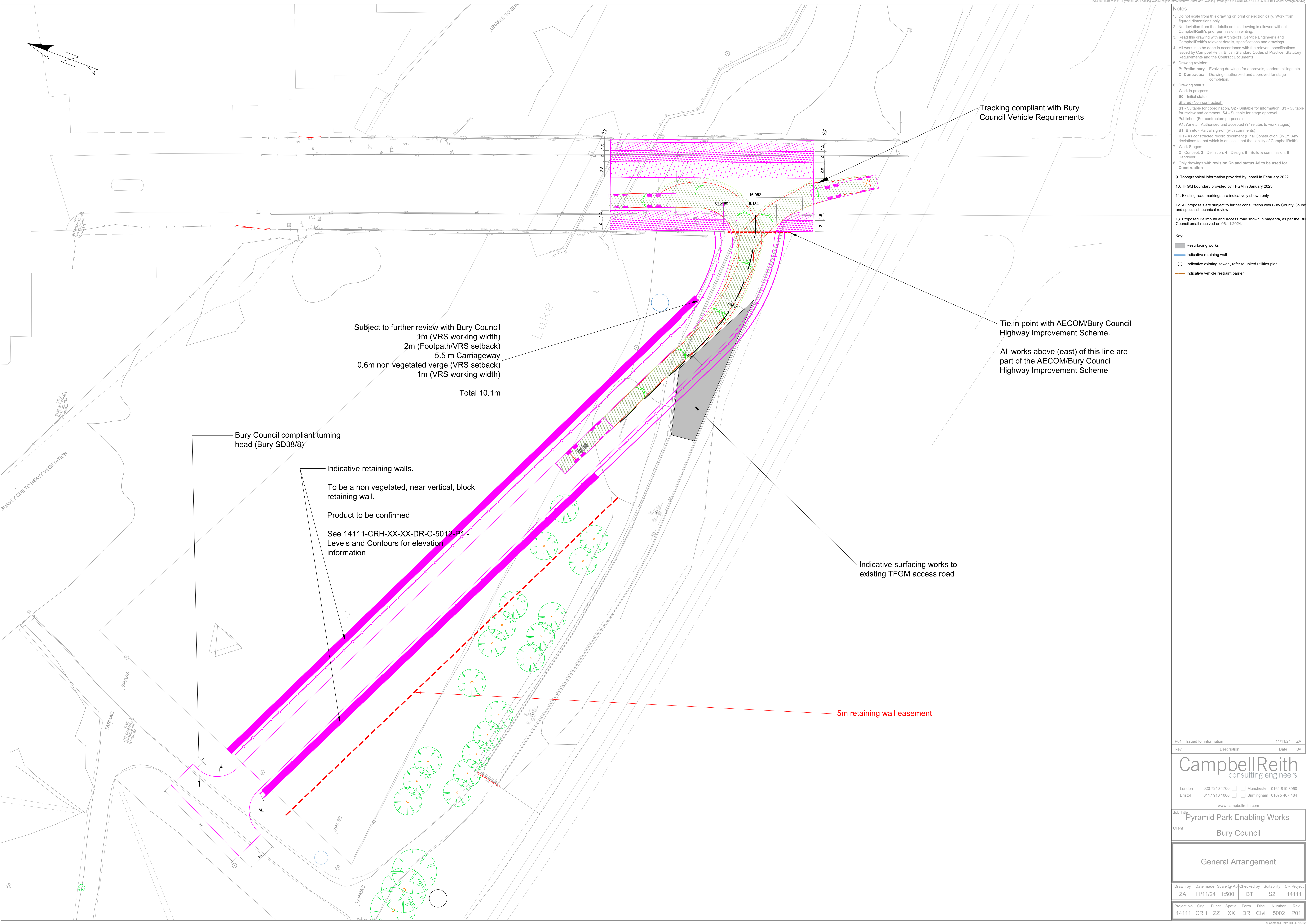
Drawing 1: General Arrangement (Campbell Reith ref: 14111-CRH-ZZ-XX-DR-Civil-5002 Rev P01)

Drawing 2: Biodiversity Enhancement Planting Plan (TEP ref: D9302.02.001A)

Drawing 3: Baseline UK Habitats (TEP ref: G9302.02.007)

Drawing 4: Proposed UK Habitats (TEP ref: G9302.02.010A)

Drawing 5: Site Hydrology Figure (TEP ref: G9302.02.014)



- Notes
1. Do not scale from this drawing on print or electronically. Work from figured dimensions only.
 2. No deviation from the details on this drawing is allowed without CampbellReith's prior permission in writing.
 3. Read this drawing with all Architect's, Service Engineer's and CampbellReith's relevant details, specifications and drawings.
 4. All work is to be done in accordance with the relevant specifications issued by CampbellReith, British Standard Codes of Practice, Statutory Requirements and the Contract Documents.
 5. Drawing revision:
P: Preliminary Evolving drawings for approvals, tenders, billings etc.
C: Contractual Drawings authorized and approved for stage completion.
 6. Drawing status:
Work in progress
S0 - Initial status
Shared (Non-contractual)
S1 - Suitable for coordination, S2 - Suitable for information, S3 - Suitable for review and comment, S4 - Suitable for stage approval.
Published (For contractors purposes)
A1, A2 etc - Authorised and accepted ('n' relates to work stages)
B1, B2 etc - Partial sign-off (with comments)
CR - As constructed record document (Final Construction ONLY. Any deviations to that which is on site is not the liability of CampbellReith)
 7. Work Stages:
2 - Concept, 3 - Definition, 4 - Design, 5 - Build & commission, 6 - Handover
8. Only drawings with revision Cn and status AS to be used for Construction.
 9. Topographical information provided by Inoral in February 2022
 10. TFGM boundary provided by TFGM in January 2023
 11. Existing road markings are indicatively shown only
 12. All proposals are subject to further consultation with Bury County Council and specialist technical review
 13. Proposed Bellmouth and Access road shown in magenta, as per the Bury Council email received on 06.11.2024.

- Key:
- Resurfacing works
 - Indicative retaining wall
 - Indicative existing sewer - refer to united utilities plan
 - Indicative vehicle restraint barrier

Subject to further review with Bury Council
1m (VRS working width)
2m (Footpath/VRS setback)
5.5 m Carriageway
0.6m non vegetated verge (VRS setback)
1m (VRS working width)
Total 10.1m

Bury Council compliant turning head (Bury SD38/8)

Indicative retaining walls.
To be a non vegetated, near vertical, block retaining wall.
Product to be confirmed
See 14111-CRH-XX-XX-DR-C-5012-P1 - Levels and Contours for elevation information

Tracking compliant with Bury Council Vehicle Requirements

Tie in point with AECOM/Bury Council Highway Improvement Scheme.
All works above (east) of this line are part of the AECOM/Bury Council Highway Improvement Scheme

Indicative surfacing works to existing TFGM access road

5m retaining wall easement

P01	Issued for information	11/11/24	ZA
Rev	Description	Date	By

CampbellReith

consulting engineers

London 020 7340 1700 Manchester 0161 819 3060
Bristol 0117 916 1066 Birmingham 01675 467 464

www.campbellreith.com

Job Title: Pyramid Park Enabling Works
Client: Bury Council

General Arrangement

Drawn by	Date made	Scale @ A0	Checked by	Suitability	CR Project
ZA	11/11/24	1:500	BT	S2	14111

Project No	Orig	Funct	Spatial	Form	Disc	Number	Rev
14111	CRH	ZZ	XX	DR	Civil	5002	P01

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Area to be seeded with grassland following remediation works

Bury College

Tram Line

Native Scrub Enhancement Mix
32nr *Corylus avellana*
119nr *Crataegus monogyna*
13nr *Ilex aquifolium*
40nr *Prunus spinosa*

Existing bramble scrub enhanced through management and planting of native species

Native Scrub Enhancement Mix
53nr *Corylus avellana*
68nr *Crataegus monogyna*
8nr *Ilex aquifolium*
23nr *Prunus spinosa*

Existing wetland fen to be enhanced through management such as removal of scrub and planting of native wetland species to infill resulting gaps

Native Fen Enhancement Mix
1,487nr *Carex acutiformis*
1,487nr *Carex paniculata*
1,487nr *Eriophorum angustifolium*
1,487nr *Potentilla palustris*
1,487nr *Schoenoplectus lacustris*

Town Fields Close

Existing informal footpath to be surfaced to direct pedestrian movement away from habitats

Native Scrub Enhancement Mix
13nr *Corylus avellana*
17nr *Crataegus monogyna*
2nr *Ilex aquifolium*
6nr *Prunus spinosa*

Existing woodland to be enhanced through planting of native understorey species, native wildflower seeding and management

Native Woodland Enhancement Mix
45nr *Corylus avellana*
67nr *Crataegus monogyna*
7nr *Ilex aquifolium*
15nr *Prunus padus*
15nr *Salix caprea*

Proposed access arrangements
(refer to Campbell Reith ref: 14111-CRH-XX-XX-DR-C-5002 P010 General Arrangement)

Indicative proposed retaining walls

Retaining wall easement
(5m offset)

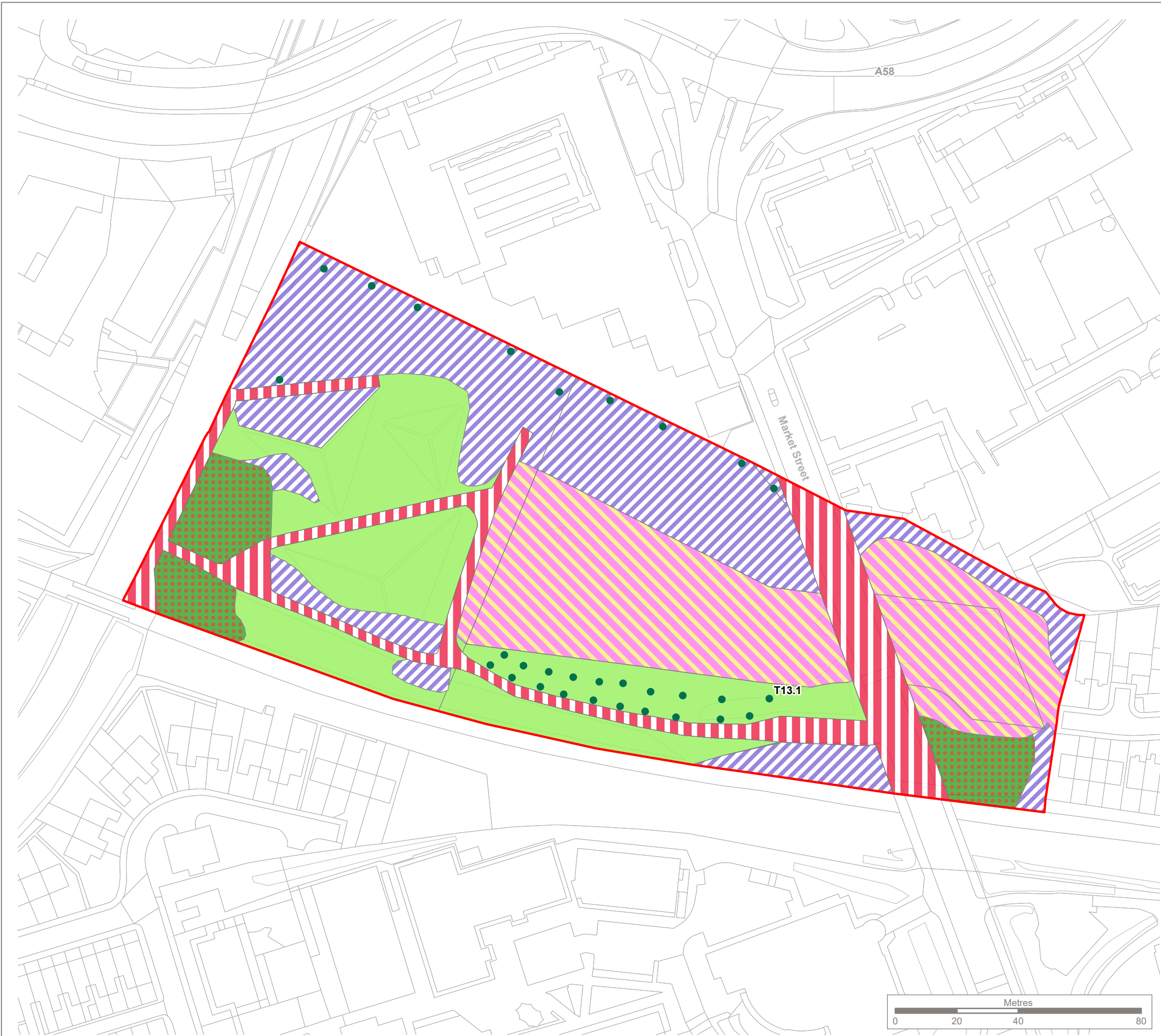
Impact on existing trees to be determined (2no trees assumed to be lost)

Railway Line

Main Street

[illegible]

Scale 1:750 @ A1	Date 06/11/2024	
Drawn AL	Checked EH	Approved KD



KEY

 Site boundary

Individual Trees

 Urban tree

Wetland

 Fens (upland and lowland)

Grassland

 Modified grassland

Heathland and Shrub

 Bramble scrub

Woodland and Forest

 Other woodland, broadleaved

Urban

 Developed land, sealed surface

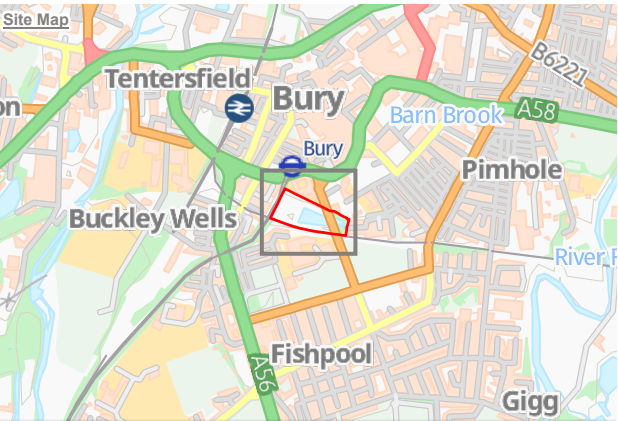
Note:

The locations of habitats and habitat features are indicative.



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Rev	Description	Drawn	Approved	Date



**THE
ENVIRONMENT
PARTNERSHIP**

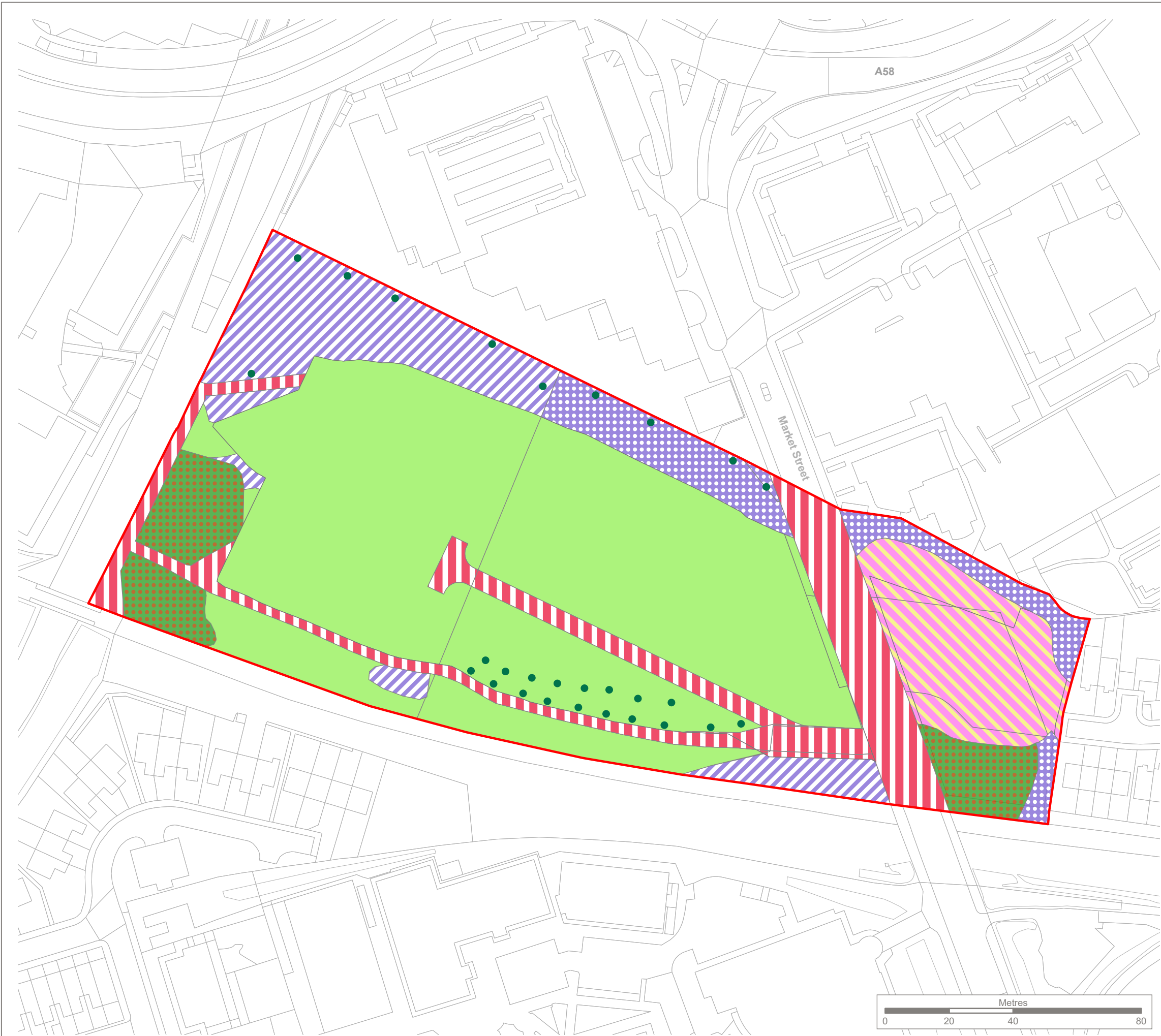
401 Faraday Street, Birchwood Park, Warrington, WA3 6GA
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project
Pyramid Park, Bury

Title
Baseline UK Habitats

Drawing Number
G9302.02.007

Drawn	Checked	Approved	Scale	Date
CW	BJ	EH	1:1,250 @ A3	25/10/2024

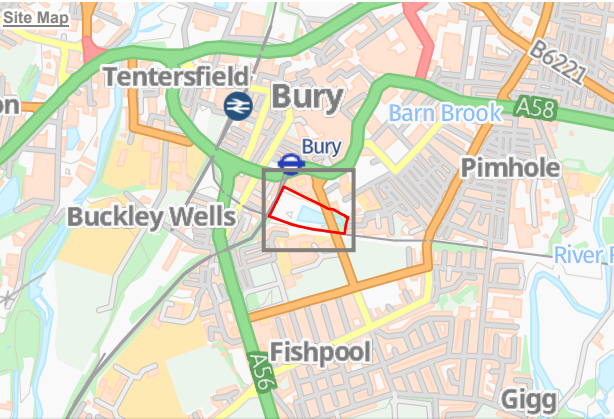


KEY

- Site boundary
- Individual Trees
 - Urban tree
- Wetland
 - Fens (upland and lowland)
- Grassland
 - Modified grassland
- Heathland and Shrub
 - Bramble scrub
 - Mixed scrub
- Woodland and Forest
 - Other woodland, broadleaved
- Urban
 - Developed land, sealed surface

Note:
The locations of habitats and habitat features are indicative.

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Based on '14111-CRH-ZZ-XX-SK-C-0002-P2_Phase1 Habitat Survey Produced by TEP (002)' plan provided by client.



A	Updated proposed development	SP	EH	15/11/2024
Rev	Description	Drawn	Approved	Date



THE ENVIRONMENT PARTNERSHIP

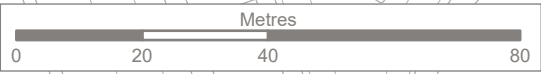
401 Faraday Street, Birchwood Park, Warrington, WA3 6GA
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

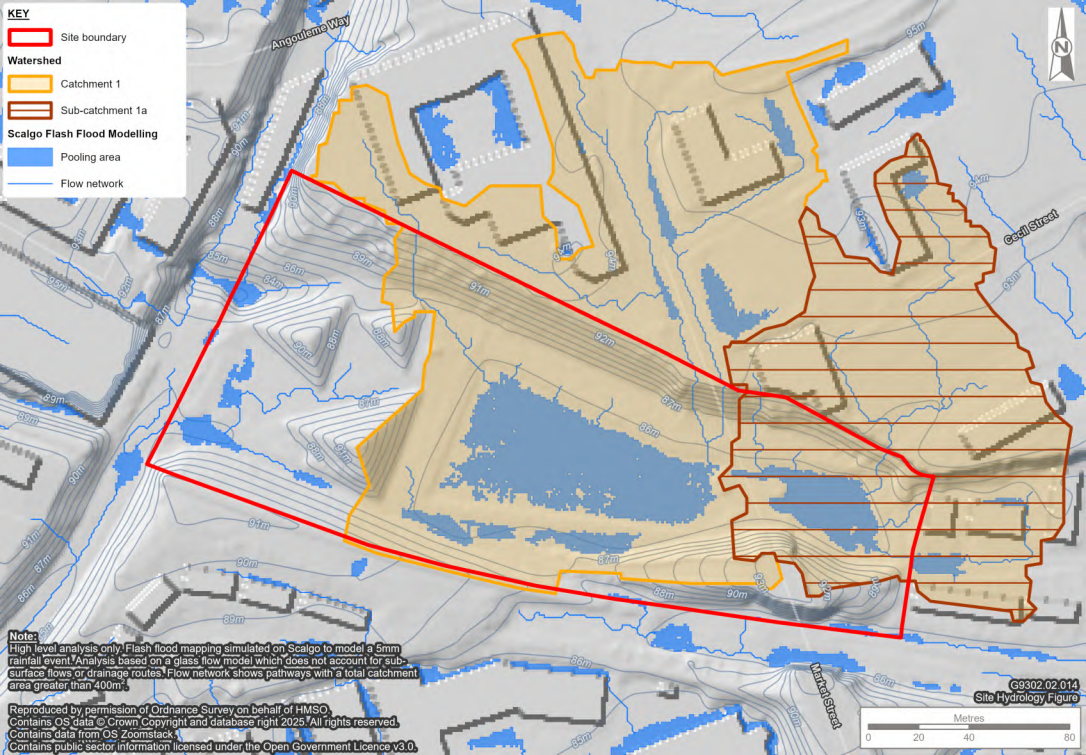
Project
Pyramid Park, Bury

Title
Proposed UK Habitats

Drawing Number
G9302.02.010

Drawn	Checked	Approved	Scale	Date
MK	BJ	EH	1:1,200 @ A3	15/11/2024







WARRINGTON

401 Faraday Street
Birchwood Park
Warrington
WA3 6GA

T: 01925 844004
E: tep@tep.uk.com

MARKET HARBOROUGH

The Reynard Suite
Bowden Business Village
Market Harborough
Leicestershire
LE16 7SA

T: 01858 383120
E: mh@tep.uk.com

GATESHEAD

Office 26 Gateshead
International Business
Centre
Mulgrave Terrace
Gateshead
NE8 1AN

T: 0191 6053340
E: gateshead@tep.uk.com

LONDON

8 Trinity Street
London
SE1 1DB

T: 020 3096 6050
E: london@tep.uk.com

CORNWALL

Nr Falmouth
Cornwall

T: 01326 240081
E: cornwall@tep.uk.com
