Horley North West Sector

Riverside Green Chain: Landscape Management Plan
November 2016
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1.0 Introduction

This document has been prepared on behalf of the Developer Consortium for Horley North West Sector, Meath Green Lane, Horley, Surrey.

Outline planning consent for the development of land North West of Horley was granted by Reigate and Banstead Borough Council on 2 December 2014 (planning reference P/04/02120/OUT. The approved master plan includes proposals for a comprehensive mixed use development comprising housing (approximately 1510 dwellings), neighbourhood centre, primary school, recreation and open spaces, and associated infrastructure and access roads.

1.1. Background

As stated in the S106 agreement, The Riverside Green Chain (RGC) is a key commitment of the Horley Master Plan (HMP) and the key policy adopted by RBBC sets out the policy context for RGC as follows;

Policy HR38 of the Reigate & Banstead Borough Council’s (RBBC) adopted Local Plan (2005).

The RGC is intended as a multi-functional chain of linked green spaces around the town. It seeks to integrate land that cannot be developed because of its flood risk, nature conservation or archaeological importance, into a creative multi-functional landscape, which will help meet deficiencies in open space in the area and lead to wide ranging community, economic and environmental benefits.

Policy HR38 supports a range of uses and facilities for the RGCF that seek to:

- Protect and enhance the riverine environment
- Protect the 1 in 100 year flood plain, to ensure that there is no increased risk of flooding to either existing or new properties.
- Protect and, where possible, enhance existing water course, including the establishment of buffer zones.
- Incorporate sustainable drainage systems (SuDs) that serve the new neighbourhoods, to reduce the risk of flooding.
- Protect wildlife habitats, enhance biodiversity and preserve archaeological sites.
- Provide natural and semi-natural green space, including the designation of Local Nature Reserves, to protect wildlife, enhance biodiversity and improve people’s access to nature.
- Protect and enhance archaeological sites.
- Provide opportunities for informal recreation.
- Provide a range of environments for outdoor informal recreation.
- Provide an orbital cycle and pedestrian path with connections to new and existing housing areas, as well as providing facilities for horse-riders.
- Provide allotments, woodland and agriculture where possible.
1.2. Requirement for RGC Management Plan

Planning condition 13 of the outline consent for the proposed development sets out the requirement for the Management Plan:

“The development hereby permitted shall not be begun until a management plan for the Riverside Green Chain within the development has been submitted to and approved by the Local Planning Authority. The submitted details shall generally accord with the principles set out in the Environmental Statement and Design Statement. The development shall be carried out and completed in accordance with the approved management plan details.

Reason: To ensure the preservation of a range of natural habitats in accordance with Reigate & Banstead Borough Local Plan 2005 policy Hr38”.

1.3. Purpose of the Management Plan

The landscape management plan has been prepared to provide guidance in the future management and maintenance of the Riverside Green Chain with the aim of outlining the management techniques required for the design intent to be realised. The background information, design rationale and proposed management prescriptions will give the landscape manager the necessary information to make informed decisions to help maximise the recreational amenity, ecological value and appearance of the Riverside Green Chain.

1.4. Structure of this Document

Sections 2.0 to 3.0 provide background material, including the planning background, the Site prior to development, the Site’s context and an overview of the phase 1 Riverside Green Chain landscape masterplan and design intent.

Section 4.0 addresses general management objectives split between landscape, nature conservation and recreation.

Section 5.0 contains management prescriptions outlining the maintenance requirements for existing and proposed vegetation and habitat types across the phase one Riverside Green Chain.
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2.0 The Development Site

The site covers approximately 98ha of farmland and woodland to the north west of Horley, Surrey (approximate central grid reference TQ 269 445). The land use to the east and west of the site is predominantly farmland. The River Mole and Burstow Stream border the northern and western boundaries of the Site with a minor road (Meath Green Lane) bisecting the Site into eastern and western halves. Residential development and private boundaries (e.g. garden fencing and hedges) border the southern and south eastern boundaries of the Site, with a sewage treatment works to the south.

Part of the site, adjacent to and including, the River Mole, falls within land identified by Reigate and Banstead Borough Council as the “Horley Green Chain”, a belt of public open spaces (which are in the flood plain and thus not developable) are envisaged to help meet Horley’s needs for informal recreation and leisure.

Land within the boundary of the phase one Riverside Green Chain currently consists of improved and semi-improved grassland pasture. The grassland is intersected by hedgerows, including large mature hedgerow trees, water courses and a farm track partially lined by hedgerows. The River Mole forms the Site boundary to the west and areas of existing riparian vegetation are located along its banks.

2.1. The Riverside Green Chain Concept Plan

The Riverside Green Chain is a Local Plan policy objective of Reigate & Banstead Borough Council, and is intended to encircle Horley. The Horley North West Sector development will deliver a significant section of the Riverside Green Chain, with the potential to connect into adjacent sections at each end.

The phase one Riverside Green Chain proposals seek to integrate landscape, ecological, recreation, flood compensation and surface water drainage requirements into a multifunctional landscape with a distinctive identity drawing upon local landscape character which will make a major contribution to the character of the new development.

The primary circulation route within the Green Chain will be the orbital footpath/cycleway which will run along the entire length of Green Chain through the North West Sector, with a connection in the middle via Meath Green Lane. At either end of the North West Sector, the orbital path will connect with existing public rights of way, along which RBBC may extend the orbital route in the future.

2.2. Gatwick Airport

The site is approximately 3.2km away from Gatwick Airport and in respect of aviation safety the Civil Aviation Authority have been consulted on the detail proposals to ensure safeguarding of this aerodrome.
3.0 The Landscape Masterplan

3.1. Concept and design justification

The design of the Riverside Green Chain draws upon traditional man influenced rural landscapes – our countryside heritage. It incorporates, locally relevant, functional and productive features like willow pollards, orchards, hazel coppices, shaws, hay meadows and boundary hedgerows. The design uses these elements in a composition that responds to the site’s history and increases the recreational value of park by using them to create enclosure where desired, close vistas and frame long distance views.

The design responds to the site’s topography. The two large areas of amenity grassland are located on the flattest part of the site and are not intersected by paths, providing useable space for informal kick about and recreation. The orbital route generally runs close to the development edge and diverts closer to the River Mole where land is higher and flood risk subsequently lower, offering a more varied and restorative experience for people using the route. Secondary routes link the development edge to the orbital route, creating smaller looping routes close to people’s homes and tertiary mown grass routes extend toward the River Mole. These tertiary routes will be wet at certain times of the year, but will offer informal recreation opportunities within a semi-natural rural setting during drier periods.

3.2. Project status

Outline planning consent for the development was granted by Reigate and Banstead Borough Council (RBBC) on 2 December 2014. Since outline approval various reserved matters applications have been submitted and approved by RBBC. The western link road, providing access into the development from the A217, has been completed and adopted and the first dwellings are nearing completion for phase one of the development.
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4.0 Objectives

4.1. Nature Conservation

The vast majority of Riverside Green Chain shall be natural and semi-natural open space, therefore one of its primary purposes is to preserve, manage and enhance wildlife habitats and species.

This section includes the following:

- Requirement for managing ecological resources and biodiversity;
- Ecological resources prior to development;
- Ecological management objectives for the Riverside Green Chain;
- Principles of the ecological management prescriptions for the Riverside Green Chain, including monitoring

4.1.1. Requirement for Managing Ecological Resources

The ecological provisions outlined in this document have been identified from commitments made in the following key documents:

- Horley North West Sector Environmental Statement Volume 1, September 2004
- Environmental Statement Supplement A, August 2012
- Environmental Statement Supplement B, October 2012
- Deed of Agreement pursuant to Section 106 of the Town and Country Planning Act 1990 relating to the Horley North West Sector, 2014

The Environmental Statement Supplements A and B took into consideration the ecological principles of the National Planning Policy Framework (NPPF) which came into effect 27th March 2012 and with regards to biodiversity replaced Planning Policy Statement 9. The enhancement measures set out within the Supplements, and presented in this document, therefore seek to contribute to and enhance the natural and local environment and contribute positively towards the Government’s commitment to halt the overall decline in biodiversity.

Paragraph 117 of the NPPF indicates that development should seek to promote the preservation, restoration and re-creation of priority habitats and recovery of priority species populations. Priority habitats and species referred to in the NPPF relate to species and habitats of principal importance included under section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. The NERC Act 2006 (Section 41) requires a list to be prepared of habitats and species of principal importance (SPI) for conservation of biodiversity in England.

Species and habitats of principal importance that have been recorded within or adjacent to the Riverside Green Chain or wider development of North West Horley include: Hedgerows, ponds, rivers, soprano pipistrelle, brown long eared bat, Noctule bat, hedgehog.
British Standard for Biodiversity: BS42020:2013

Since the submission of the Environmental Statement and subsequent Supplements a new British Standard on Biodiversity has been published: BS42020:2013 Biodiversity: Code of practice for planning and development (BSI Standards Limited, 2013).

BS42020 is a code of practice that provides recommendations and guidance for those in the planning and development and land use sectors whose work might affect or have implications for the conservation or enhancement of biodiversity. It is intended to be used as guidance for ecological issues as they arise through the planning process and in matters relating to consented development and activities.

This document has been prepared with reference to section 11 of BS42020, and in particular section 11.1. Section 11.1 of BS42020:2013 relates to post-development management of habitats and species and provides guidance on what should be considered for inclusion within a Landscape and Ecological Management Plan (LEMP).

Future versions of this document should be prepared with reference to BS42020.

4.1.2. Management Context

This section sets out the key ecological resources present prior to development of the Riverside Green Chain.

Pre-development Ecological Resources

The Riverside Green Chain is located along the River Mole and Burstow Stream to the west and north of the proposed development.

Prior to development the majority of the proposed site of the Riverside Green Chain was dominated by cattle and sheep grazed pasture.

The section of the River Mole adjacent to the proposed development has many of the characteristics of a typical small lowland river, including generally meandering course, wide channel and typically slow flow rates (smooth flow/glide). The banks are largely stable in character, and steep, with erosion being small-scale or as a result of poaching by cattle. The channel is generally around 8 m to 10 m in width. Abundant man-made litter is apparent, including plastic and sawn timber, and fly-tipped waste (e.g. an old car). The vegetation on the bank tops and faces alternates between dense woody vegetation/trees and ruderal species such as common nettle. There are many over-hanging trees with some areas of the channel being heavily shaded. Fallen trees or submerged limbs/roots are also present creating small debris dams or areas of silt deposition.

To the north-east of the main footprint of the Riverside Green Chain (along the River Mole) is a smaller area that will be included in the Riverside Green Chain, created between the Burstow Stream and Bolters Wood.

The Burstow Stream is a tributary of the River Mole. Like the main river, the stream supports a range of emergent, submerged and floating aquatic vegetation. The banks support scrub and tall herb communities dominated by nettle as well as occasional specimen trees.

Other than the River Mole and Burstow Stream, described above, the other key ecological receptors associated with the Riverside Green Chain have been identified through the
ecological study to date as either existing receptors or those that have potential to be present in the future (July 2015) and include:

- Bolter's Wood
- Species-rich meadows
- Scrub
- Woodland
- Wetlands
- Hedgerows
- Bats (roosting, foraging and commuting)
- Otter
- Badger
- Hedgehog
- Birds: kingfisher, sand martin, barn owl, passerines
- Reptiles

The invasive species, Himalayan balsam, is also present in parts of the site.

4.1.3. **Ecological Management Objectives**

This section lists the ecological management objectives, the overall aim of which is to ensure measures are taken to ensure maintenance and enhancement of the ecological value of the site for the diversity of wildlife (habitats and species) known to occur within the Riverside Green Chain and in the local area. A brief summary of how each objective will be achieved is set out under each objective.

**Objective 1: Create new ecologically valuable habitats within the RGC**

Rationale: For the maintenance and enhancement of existing wildlife and to promote an increase in biodiversity at the site through increasing the suitability of the site for locally occurring protected and priority species.

The following broad semi-natural habitat types will be created within the development:

- Meadow grassland
- Wet meadow grassland
- Amenity grassland
- Reed beds
- Emergent and marginal vegetation
- Multi-storey Woodland
- Single-storey woodland
- Scrub
Objective 2: Enhance the site for protected species and species of principal importance for nature conservation

Rationale: Complementing Objective 1 by further increasing the suitability of the site for existing and potentially present in the future (in the case of otter) protected species and species of principal importance for conservation.

The following wildlife provisions will be installed/created within suitable habitats within the Riverside Green Chain, as shown on the detailed proposals:

- Installation of bat boxes on mature trees along the River Mole and Burstow Stream corridors
- Installation of nesting provisions for birds including kingfisher, sand martin, barn owl and passerine birds
- Installation of hedgehog hibernation features
- Creation of otter holts
- Creation of deadwood habitat

Objective 3: Promote ecological awareness within the local community

Rationale: To raise ecological awareness within the local community for the encouragement of protection of wildlife. This will be achieved through the provision of interpretation boards identifying species present and management regimes in place.

Objective 4: Monitor the establishment of habitats and wildlife installations

Rationale: To assess the status and conditions of the habitats and wildlife installations and implement remedial measures where appropriate to ensure longevity of these features for biodiversity.

4.1.4. Ecological Management Prescriptions

This section sets out the habitats and features for which ecological management prescriptions (activities). The key biodiversity benefits which will result from each element are also identified.

The details of the management prescriptions for each habitat/feature will be included in the Riverside Green Chain specification that is required for the s106.

Each management prescription included in the Riverside Green Chain specification will be divided into three sections: provision/establishment of the habitat/feature, post-installation/establishment management, and monitoring and remedial actions.
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The key biodiversity benefits focus on the benefit to those species (or species groups) that have been identified as present on the site and/or in the wider area, and in particular those that have been identified as being of principal importance for the conversation of biodiversity in England and/or at local level.

Table 1 below indicates ecological trends and constraints (factors) that may influence management prescriptions for the site, as advised in BS42020.

Table 1: Ecological Factors Influencing Management

<table>
<thead>
<tr>
<th>Ecological Factor</th>
<th>Habitat Management Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bird breeding season</td>
<td>Management of hedgerows, trees, marginal grassland, bird boxes.</td>
</tr>
<tr>
<td>Active period for bats</td>
<td>Management of bat boxes and mature trees with bat roosting features</td>
</tr>
<tr>
<td>Active period for reptiles and amphibians</td>
<td>Management of marginal grassland, hedgerows, ponds</td>
</tr>
<tr>
<td>Flowering season (plants)</td>
<td>Management of grassland, trees, hedgerows</td>
</tr>
<tr>
<td>Aquatic lifecycles</td>
<td>Wetland management</td>
</tr>
</tbody>
</table>

**Objective 1: Create new ecologically valuable habitats within the Riverside Green Chain**

**Meadow Grassland: Creation**

A clay meadow species-rich mixture comprising native species will be sown into scarified land within the proposed clay meadow grassland areas illustrated on the detailed design plans for phase one of the Riverside Green Chain.

**Key Biodiversity Benefit**

The creation and management of grassland with increased species diversity will provide suitable foraging habitat for a range of wildlife including: badger, grass snake, bats, birds, small mammals (including hedgehog) and invertebrates.

The meadow habitat is also likely to provide bird nesting habitat, particularly at interfaces between tall grassland and scrub or woody cover. Species that typically nest close to the ground in this type of habitat include robin, yellowhammer, whitethroat, blackbird, and dunnock.

**Amenity Grassland: Creation**

Amenity grassland will be created. The amenity grassland in the green open spaces will be maintained as short-mown grassland and will be comprise a species mix tolerant of disturbance and trampling.

**Key Biodiversity Benefits**

Although the amenity grassland within the Riverside Green Chain will be intensely managed, this habitat is valuable for a variety of species known to occur at the site. Bird species that will forage on short grassland for earthworms, grubs and ants include starlings, blackbirds, and green woodpecker. Swallows will forage over short-mown grassland catching...
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fly species on the wing. Amenity grassland can also provide suitable foraging habitat for badgers.

**Wet Meadow Grassland: Creation**

Wet meadow grassland will be created in the flood compensation areas, swale and other low lying parts of the Riverside Green Chain.

**Key Biodiversity Benefit**

The different grassland types within the Riverside Green Chain will provide a range of plant species across the site, which will in turn provide different resources for invertebrates. Wet meadow grassland will provide foraging habitat for a range of wildlife including; badger, grass snake, amphibians, bats, birds, small mammals (including hedgehog) and invertebrates.

**Enhancement of the River Mole**

There will be annual control of the invasive Himalayan Balsam throughout the length of the River mole (development site) to prevent the establishment of large swathes of this species.

**Key Biodiversity Benefits**

Benefits to riparian species including improved opportunities for aquatic species such as spawning fish and specialist invertebrate groups. This in turn will improve foraging opportunities for species which prey upon these groups such as king fisher and otter.

**Aquatic and Marginal Vegetation: Creation**

Phase one of the Riverside Green Chain will include flood compensation areas and a swale leading from a detention basin to the River Mole.

**Key Biodiversity Benefits**

The wet and marginal vegetation zones will provide breeding habitat for amphibians, aquatic and riparian invertebrates. These habitats will provide foraging habitat for a range of wildlife such as birds, reptiles, bats, and otter; should their current range expand in to the area.

**Woodland: Creation**

New woodland habitat will be created within phase one of the Riverside Green Chain.

**Key Biodiversity Benefits**

The new areas of woodland will enhance the mosaic of habitats being provided through the creation of the Riverside Green Chain. As the woodland matures the trees may provide suitable natural roosting features for bats, as well as nesting opportunities for birds. The woodland will provide foraging habitat and shelter for a range of wildlife.
Scrub: Creation

Areas of riparian scrub will be created around the margins of wetland habitat. A mosaic of scrub will create areas of semi-open land within grassland habitat to enhance structural diversity in these areas, providing edge rich habitat.

Key Biodiversity Benefits

Scrub habitat will benefit wildlife through providing food and shelter for insects and other invertebrates, as well as providing cover and foraging opportunities for birds, over-wintering invertebrates and badgers.

Trees: Creation

New trees are proposed within phase one of the Riverside Green Chain. Field trees, feature trees relating to the development, riparian trees maintained as pollards and an orchard are proposed within phase one.

Key Biodiversity Benefits

Trees will provide enhanced foraging and roosting habitat for a range of bird species as well as singing perches for songbird species. Native and non-native trees are proposed to increase the spaces resilience to climate change and disease. Some of the tree species, especially within the proposed orchard will provide a good source of food for pollinators. In future years mature trees may provide roosting opportunities for bats.

Hedgerows: Creation

Retained hedgerows within the Riverside Green Chain will be managed, and new hedgerows will be created.

Key Biodiversity Benefits

Existing hedgerows will provide connectivity between the Riverside Green Chain and the new development. This will encourage the use of the development by wildlife commonly associated with gardens, such as bats, badgers, and hedgehogs.

Objective 2: Enhance the site for protected species and species of principal importance for nature conservation

Locations for the features below are shown on the detailed design drawings for phase one of the Riverside Green Chain.

The below features should be installed in such a way as to ensure no possibility of slippage or fall and to avoid any potential increase in flood risk and that, where necessary, future maintenance, inspection or replacement can be conducted safely. Consideration should also be given to ensure that the features below do not present a hazard in other ways to the public.
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Provision of Nesting Habitat for Barn Owl  
A barn owl box will be installed on a suitably mature tree within the Riverside Green Chain facing meadow grassland habitat.

The Ecologist will be consulted on the design and exact location of the barn owl box prior to installation.

Provision of Nesting Habitat for Sand Martin  
A man-made bank designed specifically to encourage breeding Sand Martins will be created adjacent to the River Mole.

This will be designed by the client team with specialist ecological input from the Ecologist, and the location of this feature will be advised by the Ecologist.

Provision of Nesting Habitat for Kingfisher  
A man-made bank designed specifically to encourage breeding kingfishers will be created adjacent to the River Mole.

This will be designed by the client team with specialist ecological input from the Ecologist, and the location of this feature will be advised by the Ecologist.

Creation of Otter Holts  
Two otter holts will be created along the River Mole.

This will be designed by the client team with specialist ecological input from the Ecologist, and the location of this feature will be advised by the Ecologist.

Provision of Roosting Features for Bats  
Five bat boxes (Schwegler 1FF) are proposed to be erected on mature trees within the area of phase one of the Riverside Green Chain. The bat boxes will be located on trees along the River Mole under the guidance of a suitably experienced licenced bat ecologist.

Schwegler bat box model 1FF is suitable for a range of bat species including pipistrelle species, Daubenton’s bats and Noctule bats, all of which have been recorded on site.

Bats are particularly sensitive to temperature change and it is therefore useful for bat boxes to be arranged at different heights and facing different aspects to offer a range of roosting options. The entrances of the bat boxes should be orientated in a southerly direction from south-east through to south-west where they will receive sunlight and provide a range of temperatures.

The bat boxes will be positioned such that there is a clear flight path from the entrance towards a habitat corridor, such as a hedgerow or line of trees. Where possible they will be located approximately 4 m above ground level, out of reach by people. The location of these features will be advised by the Ecologist.

Lighting levels in the area surrounding the bat boxes and any connecting habitat corridors must be kept below 0.5 lux to increase the likelihood these features will be colonised by bats.

Bat boxes should not require any regular maintenance other than to be replaced or repaired. Roosting bats are protected against disturbance under national and European legislation and
therefore if any bat boxes need to be replaced or repaired and there is evidence the box is in use this should be undertaken by a suitably licensed bat worker.

**Provision of Hedgehog Hibernation Features**

Ten hedgehog hibernation features will be created in suitable locations within phase one of the Riverside Green Chain. These will be designed in accordance with good practice guidance provided by the British Hedgehog Preservation Society. The exact location of these features will be advised by the Ecologist, approximate locations are shown on the detailed design drawings.

**Creation of Deadwood Habitat**

One log pile will be created within grassland on the banks of each of the detention basins. Where possible these will be created from locally sourced timber that is untreated and preferably still has the bark attached as this will increase the value of the log pile to invertebrates, fungi and other wildlife. They will be created using a mixture of sizes and shapes of timber to give structural diversity and create small enough sized voids for reptiles and amphibians. They will be positioned in sunny locations as this will provide optimal basking conditions for reptiles and invertebrates. The log piles will each cover an area in the region of 2m by 1.5m.

**Objective 3: Promote ecological awareness within the local community**

In order to raise public awareness of the ecological measures being implemented at the site, interpretation boards should be installed in key habitat areas, for example along the River Mole, by detention basins, and on footpaths through meadow grassland.

**Objective 4: Monitor the establishment of habitats and wildlife installations**

The monitoring is likely to involve an annual audit, for the first five years following implementation, by an appointed ecologist. The ecologist will check the habitat provisions provided during the implementation works and assess their value and any requirement for maintenance/ modification. The ecologist will be appointed by the management company. The Riverside Green Chain and Spine Path Specification for phase one will confirm the remedial actions that will be undertaken if management objectives are not being met/likely to be met within a specified time frame.

### 4.2. Landscape

**4.2.1. Trees, Woodland and Hedges**

The existing site vegetation is confined to small pockets of woodland, tree belts and hedges along the edges of fields, with frequent mature field and hedgerow trees. A small woodland called Bolters Wood, designated as a Site of Nature Conservation Interest (SNCI) is located to the east of Cheswick Farm, outside of phase one.

The Riverside Green Chain proposals aim to protect the landscape character and strengthen the existing vegetation pattern with new planting, predominantly native trees and shrubs, within the Riverside Green Chain and adjacent to the development edge. These proposals will integrate the wider landscape with green corridors which link through the masterplan.
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The majority of trees within the Riverside Green Chain will be retained except trees identified for felling due to sound arboricultural advice or where removal is required to enable excavation of flood compensation areas.

New Trees

New tree planting is proposed throughout phase one of the Riverside Green Chain. Adjacent to the development edge, small clumps and single feature trees will help filter views of the development from the wider landscape and soften the transition from development edge to semi-natural open space. Other tree planting will strengthen existing linear features and focus along the banks of the River Mole to strengthen this corridor.

Proposed Woodland

New woodland habitat will be created within phase one of the Riverside Green Chain.

Woodland, copses and scrub planting will strengthen existing landscape features, create new habitat whilst screening the development and providing amenity value for the users of the Riverside Green Chain. New areas of planting are illustrated on the detailed design proposals for phase one of the Riverside Green Chain.

New Hedgerow

New sections of native hedgerow will be planted using locally distinctive species to gap up existing hedges to maintain the field pattern and improve wildlife corridors. Entire new sections of hedgerow will draw upon the historic field boundaries creating a series of smaller sub-divided spaces whilst filtering views.

Management Objectives

- Maintain landscape distinctiveness
- Integration with the wider countryside setting
- Seen/filter views from the wider countryside
- Provide good visual surveillance from housing on the development edge
- Enhance biodiversity
- Improve connectivity between existing hedgerows and woodland creating green corridors
4.2.2. Grasslands
The majority of the Riverside Green Chain currently comprises open grassland contained by the existing field boundaries, which is a distinctive local landscape characteristic. Access routes will weave through the fields providing a sequence of spaces and offering opportunities for passive or active recreation.

Amenity Grassland
Within phase one of the Riverside Green Chain, two main areas of amenity grassland are proposed evenly along the development edge. The main amenity areas are not dissected by paths and occupy higher flatter land therefore maximising the amenity grasslands’ ability to accommodate space intensive ball games. The amenity grassland will be maintained as short-mown grassland and will comprise a species mix tolerant of disturbance and trampling.

Increased species diversity Grassland
Suitable management will be key to increasing species diversity within the meadow. Areas of the existing rye dominated grassland will be scarified and seeded with a meadow mixture suitable for clay soil. However, the soil is fertile and a maintenance regime that aims to reduce fertility over many years will be required to achieve and maintain a more diverse sward. The creation and management of species-rich meadow grassland will provide suitable foraging habitat for a range of wildlife which are referenced above in the ecological habitat creation section 4.1.

Management Objectives
• The creation of a multi-functional landscape
• Visual amenity
• Public access and enjoyment. The spaces will accommodate places for informal recreation such as ball games and kite flying
• Habitat creation
• Nature conservation
• Control / manage landscape vegetation to Civil Aviation Authority guidance in relation to Potential Bird Hazards from Amenity Landscaping

4.2.3. Drainage, Watercourses and Wetlands
The majority of the Riverside Green Chain comprises floodplain; therefore, drainage is a key consideration to be weighed alongside landscape character, visual amenity, ecology and recreation.

There are a series of attenuation basins which provide surface water treatment from the development. These features integrate with the Riverside Green Chain, but sit outside of the extents. The maintenance of these features will be dealt with within the Reserved Matters planning application for strategic infrastructure.
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Ponds and Wetlands

Wet meadow grassland will be created in the detention basins, flood compensation areas and swale, as illustrated on the detailed phase one Riverside Green Chain proposals. This grassland type will provide a range of plant species across the site, which will in turn provide different resources for invertebrates. Wet meadow grassland will provide foraging habitat for a range of wildlife including badger, grass snake, amphibians, bats, birds, small mammals (including hedgehog) and invertebrates.

Main Rivers and Critical Ordinary Watercourses

There will be annual control of the invasive Himalayan Balsam throughout the length of the River mole (development site) to prevent the establishment of large swathes of this species.

Management Objectives

- Provide defined routes which are maintained for emergency access by RBBC grounds maintenance staff and the Environment Agency
- Manage safe public access close to and across drainage features
- Provide a rich diversity of habitat for wildlife

4.3. Recreation

4.3.1. Access

It is a key strategy of the development masterplan to encourage access to the countryside and provide a legible network of routes to promote sustainable travel within the local community. The proposed movement network includes various amenity routes which connect with existing Rights of Way. Much of this network is aligned through proposed green corridors across the site and includes peripheral leisure routes through the Riverside Green Chain for pedestrians and cyclists.

Orbital Route

The primary route through the Riverside Green Chain will provide a shared access for walking and cycling. The route is located generally close to the development edge to improve accessibility, but also to keep the route close to the flood extent boundary to minimise the frequency with which it will be flooded, in an effort to keep the footpath accessible all year. The route occasionally deviates towards the river to provide variation and opportunity to enjoy the countryside away from the built environment, where land is higher and the chance of flooding subsequently lower.

This route will have a suitable surface finish for use all year by cyclists, walkers, and wheelchair and pushchair users. The route will need to be maintained, taking into account the risks of cyclists skidding on any loose surfaces.

Secondary Route

A secondary access network will provide routes which connect the development, PROW and primary route together. These routes offer short circular walks for users.
Routes to be surfaced with self-binding gravel or similar surface finish should provide use all year. The routes will require maintenance checks throughout the year especially following any flood event.

**Tertiary Route**

Indicative routes of mown grass paths have been indicated on the Riverside Green Chain detailed proposals. The routes offer interesting and varied walks through the Riverside Green Chain and create shorter circular routes from a number of locations. The paths will be flooded and impassable at times. It is envisaged that the mown paths will be moved from time to time to spread the footfall over different parts of the grassland, however if a distinct desire line is identified as the park becomes more heavily used this should be incorporated into the mown footpath maintenance regime.

**Fishing Platforms**

Angling points have been identified within the Riverside Green Chain, in areas identified in the Environmental Statement following consultation with Horley Piscatorial Society. The fishing platforms have been located close to other routes whilst maintaining some separation from other users of the Green Chain.

**Management Objectives**

- Create a legible network and improve connectivity to/from the development
- Provide a variety of formal and informal routes
- Maintain connectivity with existing public rights of way
- Routes to be safe, with good natural visual surveillance maintained
- Maintain access for a wide range of users

4.3.2. **Furniture**

A variety of furniture elements are proposed within the Riverside Green Chain to support the multi-functional landscape and potential user groups. Furniture will be constructed using robust materials appropriate for use and sympathetic to the location and landscape character. Locations for furniture elements within phase one of the Riverside Green Chain are shown on the detailed proposals and will be designed to meet DDA requirements.

Furniture elements will include:
- Benches
- Seats with backrest and armrest
- Picnic tables with unhindered access for pushchairs/wheel chairs
- Waste and dog bins
- Interpretation and signage
- Fences and gates
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Management Objectives

- Maintain furniture elements and make sure they remain fit for purpose, free from vandalism and graffiti
- Manage public information and education
5.0 Management Prescriptions

This section sets out the Management Prescriptions (regimes) for proposed vegetation and habitat types found within the site. They are intended to ensure the management objectivities are met. In support of the onsite management, a landscape typologies plan (Figure 1) for the site has been prepared to help identify the locations where each management prescription is required within phase one.

The management prescriptions relate to the condition of the development following implementation of the works. It does not cover works required to construct the open space areas, nor does it include for initial establishment maintenance (normally linked to the appropriate defects liability period for that particular landscape type).

The detail of each activity should be reviewed post implementation, areas surveyed and prescriptions updated as required.

5.1. Health & Safety

At all times it is a requirement that the relevant British Standards, Statutory Regulations and Codes of Practice are complied with. Particular attention should be paid to the latest issue of the following:

- The Food and Environment Protection Act
- The Control of Pesticides Regulations
- The Control of Substances Hazardous to Health Regulations
- The Code of Practice for the Use of Approved Pesticides in Amenity and Industrial Areas
- The Health and Safety Work etc. Act

The work prescribed in the Management Programmes should be undertaken using appropriate and well-maintained equipment operated by qualified and supervised staff.

Work should be planned and carried out in a manner and at times to minimise unnecessary disturbance to local residents within the close proximity of the Riverside Green Chain, as well as taking into account the correct timing of seasonal works such as pruning and hedge cutting to comply with good horticultural practice and any restrictions imposed by ecological constraints.
5.2. W1 – Multi-storey woodland

Woodland is a key component of the Riverside Green Chain. The aim of the management prescriptions is to guide the creation of a well balanced, interesting woodland, with a dense and varied woodland edge and an innerstand that has a clear layer structure which is enjoyable to pass through, with a pinch at the edge, a clearer but enclosed innerstand and an exit into wide open meadow.

Standard and coppice

Standard and coppice will involve identifying prime canopy trees and managing the woodland to allow these trees to thrive alongside a functional lower tree, shrub and ground flora layer by allowing more light through to the lower woodland layers down to the woodland floor. Although the woodland’s primary functions relate to amenity and ecology, there is a potential for the woodland to provide an income both from coppice and standards, without negatively affecting the primary objectives. The identified income source will influence the prevalent species within the woodland, for coppiced species this may be hazel. The identified income source will also influence the length of time between coppicing, although it is worth noting that from an ecological perspective a rotation of 7-15 years is preferable.

Establishment Period – Years 1-7

Years 1-4

(i) Adjust stakes and ties at the end of growing season or at any other time as necessary to maintain support and avoid chafing damage and thus minimise the possibility of infection taking hold within any wounds.

(ii) Although canopy species have been planted in singular blocks, by year 3 the plantation should be assessed to see whether the nurse species which intersperse these blocks are supressing the slower growing canopy trees.

(iii) If it is deemed that the nurse species are having a negative effect upon the slower growing species, some of the nurse species should be coppiced. Both Alder and Birch respond well to coppicing when young, however as the plantation develops other species may be deemed more suitable, at which point stump treatment should be used to halt the growth of less desirable species.

(iv) By year three the plantation may need to be generally thinned. When choosing the specimens to be retained, it should be remembered that the primary functions of the plantation are public amenity and ecological good. Some specimens with interesting form, windswept habit etc. should be retained alongside more conventional specimens. Post works, density should vary, with dense areas likely to create tall, thin trees and sparser areas where some specimens can spread laterally as appropriate.

Years 5-7

(v) Remove stakes and ties in year 5, or when the tree is deemed firm and self supporting.
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(vi) Whip guards should be removed once the trees/shrubs reach a level of maturity where they can withstand browsing wildlife. The removed guard should be taken away from site and disposed of at a suitable facility.

(vii) As years 1-4, ii, iii and iv

(viii) If the thinned specimens are intended to grow back as coppice the cut needs to be angled to ensure water will not pool on the cut.

(ix) Brushwood and other vegetative arisings, will be stacked within the woodland as small habitat piles.

(x) Within the internal woodland, trees that pose a risk to users of the woodland will be managed appropriately.

Long-term management

(xi) During the first seven years the plantation will have been thinned, starting the coppicing process. Subsequent cuts will be made on a cyclical rotation. Coppice cuts should be made to the same level as the previous cut, without stumps proud of the knob. Cuts should be made at an angle, to direct water away from the knob and stop it pooling.

(xii) If it is deemed that the nurse species are having a negative effect upon the slower growing species, some of the nurse species should be coppiced. Both Alder and Birch respond well to coppicing when young, however as the plantation develops other species may be deemed more suitable, at which point stump treatment should be used to halt the growth of less desirable species.

(xiii) Deadwood is a particularly important woodland habitat and is of value to bats, birds, invertebrates and fungi. To ensure the woodland has the requisite deadwood habitat, dead and dying trees, where they do not present a significant safety risk, should be retained in a variety of situations. This may include creating eco-stick monoliths, a process of severe pollarding that removes all but the trunk of the tree to create standing deadwood.

(xiv) Within the internal woodland, trees that pose a risk to users of the woodland will be managed appropriately.

(xv) Crown lifting. As the woodland matures and specimens are identified, the crowns of the specimens may need to be lifted. The intention of a canopy layer with a lifted crown is to increase site lines within innerstand woodland and create a clear distinction between coppiced shrub layer and the tree layer above.

(xvi) As the woodland matures it is important to identify and develop a plan of succession. The age structure needs to be diversified to benefit the widest range of wildlife, and highest level of resilience, which comes from skilled management.

Woodland Edges

Opportunities will be taken to diversify the structure of external woodland edges should one species start to dominate and therefore enhance their value as ‘marginal habitat’. Woodland edges can be particularly valuable for the high light conditions that encourage flowering and fruiting of understorey, shrubs and field layer species.
The aim is to create an edge structure that will provide protection to the woodland, increase valuable habitat and provide a windfirm edge. Measures to ensure the woodland edge is managed appropriately are as follows:

(xvii) Manage discrete boundary parcels on rotation over a 5-10 year period.

5.2.1. Management Prescriptions

<table>
<thead>
<tr>
<th>Activity</th>
<th>Timing</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Felling and coppicing woodland edge</td>
<td>January to March</td>
<td>Cyclical programme (5-10yr cycle)</td>
</tr>
<tr>
<td>Thinning and coppicing innerstand</td>
<td>January to March</td>
<td>Annual cyclical programme years 3-7. Post year 7 cyclical programme TBC (likely 7-15yr cycle)</td>
</tr>
</tbody>
</table>
5.3. **W2 – Single-storey woodland**

Single storey woodland is used throughout phase one of the Riverside Green Chain in a relationship with multi-storey woodland. The clear stems will filter views and the canopy above will create a sense of enclosure without hindering site lines, will provide shade and soften some of the multi-storey woodland edges. The aim of the management prescriptions is to guide the creation of a balanced stand of trees with clear stems generally above 2.5m with a grassland ground layer. It is not designed to be a timber plantation, and canopies of trees heavily merging, trunks bending away from more dominate trees and areas of open land are part of the proposed character, and should be encouraged through appropriate management.

**Establishment Period – Years 1-7**

**Years 1-2**

1) Adjust stakes and ties at the end of growing season or at any other time as necessary to avoid chafing damage and minimise the possibility of infection taking hold within any wounds and maintain firm support.

**Years 3-7**

(ii) Remove stakes and ties in year 5, or when tree deemed firm and self supporting.

(iii) Trees that pose a risk to users of the woodland will be managed appropriately.

**Long-term management**

(iv) As the woodland matures it is important to identify and develop a plan of succession. The age structure needs to be diversified to benefit the widest range of wildlife, and highest level of resilience, which comes from skilled management.

(v) Crown lifting. As the woodland matures and specimens are identified, the crowns of some trees may need to be lifted.
5.4. **Tx – Trees: Retained Existing**

The retention and enhancement of the existing vegetation and individual trees is central to the Riverside Green Chain concept and management plan. The trees add maturity to the site, and provide opportunities for foraging and shelter for existing wildlife.

long term management

(i) Inspect mature trees at minimum two year intervals on Health and Safety grounds. This inspection and subsequent work shall be carried out by an arboricultural specialist.

(ii) Inspect regularly for pests and diseases and treat early.
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5.5. T2 – Trees: Specimen in General Public Open Space including key feature trees

It is envisaged that most of these trees will be in meadow or amenity grassed areas

Establishment Period – Years 1-7

Years 1-4

(i) Water as deemed necessary to secure healthy establishment and to avoid the need for replacement due to dry periods (less than 30mm rainfall at the end of a four week period), and subsequent loss of a whole growing season.

(ii) Adjust stakes and ties at the end of the growing season or at any other time as necessary to avoid chafing and maintain firm support.

(iii) Apply slow-release fertiliser in spring.

(iv) Prune dead, dying, crossing, rubbing and damaged branches and encourage new leader if necessary.

(v) Remove stem growth.

(vi) Replace losses with original species and size.

(vii) Maintain mulch cover where used but ensure mulch does not cover or fill up irrigation pipes if installed and is clear of the tree’s stem.

(viii) Inspect regularly for stem wounds, pests and diseases and treat early.

Years 5-7

(ix) Water any replacement trees as (i) above.

(x) Remove stakes and ties in year 5, or when tree deemed firm and self supporting.

(xi) Apply slow-release fertiliser in spring.

(xii) Prune dead, dying, crossing, rubbing and damaged branches and crown-thin early crowded branches when operations are easily carried out and arisings are minimal.

(xiii) Remove stem growth.

(xiv) Inspect regularly stem wounds, pests and diseases and treat early.

Long Term Management

(xv) Prune as Years 5-7 (i), (ii) and (iii) above.

(xvi) Inspect as (vi) above and consult arboriculturalist on issues about damage, disease, proximity to walls, fences, lighting columns and other service facilities. Carry out felling and tree surgery work as deemed necessary.
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5.6. T3 – Trees: Pollards

Pollarding of riparian species along the river bank is a key part of the Riverside Green Chain concept which draws upon traditional man influenced rural landscapes – our countryside heritage. The aim of the management prescriptions is to create a traditional riparian pollard with a clear stem to 1-1.5m tall with pollard growth from this single trunk.

Establishment Period – Years 1-7

Years 1-2

(i) Water as deemed necessary to secure healthy establishment and to avoid the need for replacement due to dry periods (less than 30mm rainfall at the end of a four week period), and subsequent loss of a whole growing season.

(ii) Adjust stakes and ties at the end of growing season or at any other time as necessary to avoid chafing and maintain firm support.

(iii) Apply slow-release fertiliser in spring.

(iv) Remove stem growth to encourage strong leader growth.

(v) Replace losses with original species and size.

(vi) Maintain mulch cover where used.

(vii) Inspect regularly for stem wounds, pests and diseases and treat early.

Years 3-7

(viii) Water any replacement trees as (i) above.

(ix) Adjust stakes and ties at the end of growing season or at any other time as necessary to avoid chafing and maintain firm support.

(x) Depending upon the rate of growth, the pollarding process should be started between 2-5 years after planting. To pollard the tree cut the leader at 1.5m, no shoots should be present below this level (see iv)

(xi) Remove stakes and ties in year 5, or when tree deemed firm and self supporting.

(xii) Apply slow-release fertiliser in spring.

(xiii) Pollarding should then be undertaken upon a cyclical basis, every 3-5 years as appropriate. Pollard cuts should be made to the same level as the previous cut, without stumps proud of the knob. Cuts should be made at an angle, to direct water away from the knob and stop it pooling. Works should be undertaken during the winter season when the tree is dormant.

(xiv) Remove stem growth, especially after pollarding.

Long Term Management

(xv) As years 3-7 xii and xiv.
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5.7. T4 – Trees: Orchard trees

A mixed orchard is a key part of the Riverside Green Chain concept which draws upon traditional man influenced rural landscapes – our countryside heritage. The aim of the maintenance is to maintain space between branches, allowing light into the canopy to aid fruit size and ripening.

Establishment Period – Years 1-7

Years 1-4

(i) Water as deemed necessary to secure healthy establishment and to avoid the need for replacement due to dry periods (less than 30mm rainfall at the end of a four week period), and subsequent loss of a whole growing season.

(ii) Adjust stakes and ties at the end of growing season or at any other time as necessary to avoid chafing and maintain firm support.

(iii) Apply slow-release fertiliser in spring.

(iv) Remove stem growth, watershoots and any dead or diseased branches. After which, assess the canopy and thin as necessary to allow light into the canopy by removing branches that are too close together.

(v) Remove around 1/3 of any new growth on retained branches.

(vi) Replace losses with original species, size and variety.

(vii) Maintain mulch cover where used.

(viii) Inspect regularly for stem wounds, pests and diseases and treat early.

Years 5-7

(ix) Water any replacement trees as (i) above.

(x) As years 1-4 iv and v

(xi) Remove stakes and ties in year 5, or when tree deemed firm and self supporting.

(xii) Apply slow-release fertiliser in spring.

Long Term Management

(xiii) As years 1-4 iv and v
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5.8. **H1 – Hedges: Retained Existing**

The objective is to increase the habitat potential of the hedges, which also have mature trees in them, whilst maintaining them as attractive features particularly where located within or close to residential areas.

**Long Term Management**

(i) The existing hedgerows should be managed to create a thick base with thick stems and a good density of stems.

(ii) The months in which hedges are cut should vary between early autumn and late winter. This will allow for at least some hedges within the development to bear fruits over the winter period in some years, therefore providing a winter food source for invertebrates, birds and badgers. Cut hedges to agreed heights and timings (generally between September - February), remove dead wood and replant gaps as appropriate.

(iii) Consult arboricultural specialist on issues of health and safety of mature trees.
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5.9. **H2 – Hedges: New Native and allotment mix**

The objective is to develop hedges which attract a wide variety of wildlife. Neatly trimmed hedges have less value in this respect and free-growing hedges should be allowed to develop wherever possible.

**Establishment Period – Years 1-7**

**Years 1-4**

(iii) Re-firm soil around any loose plants without compacting.
(iv) Apply slow-release fertiliser to hedge lines in spring from Year 2.
(v) Reduce all hedge plants by 1/3 in Year 2 if not cut back at the time of planting in Year 1. Prune weak plants or plants suffering wind rock by 50% in Year 1/Year 2 to encourage new stem growth and root development.
(vi) Replace losses with original species and size in Years 1-3 only.
(vii) Remove competing vegetation from hedge lines between 1 March to 30 September before weeds and grass set seed, by hand weeding or chemical means as appropriate.
(viii) Maintain any mulch cover to original depth.
(ix) Whip guards should be removed once the trees/shrubs reach a level of maturity where they can withstand browsing wildlife. The removed guard should be taken away from site and disposed of at a suitable facility.

**Years 5-7**

(i) Continue cutting regimes established in earlier years to achieve functional requirement for individual hedges.
(ii) Evaluate benefit of traditional ‘laying’ of some hedges to create denser long term barrier or screen. Hedges for ‘laying’ should not be cut for 2-5 years prior to this operation.

**Long Term Management**

Refer to Years 5-7.
5.10. **S1 - Scrub: New standard and riparian scrub**

Standard and riparian scrub areas have been proposed throughout the Riverside Green Chain, with the intention of creating a mosaic of half open land which works to frame views, create pinch points, increase habitat potential and add visual interest with autumn colour and fruiting and flowering shrubs. The aim of the management prescriptions is to manage this transitional landscape type, with the aim of creating a structurally diverse, plant community.

**Establishment Period – Years 1-7**

**Years 1-4**

(i) Re-firm soil around any loose plants without compacting.

(ii) Remove competing vegetation within planted area between April and August, before weeds and grass set seed, by hand weeding or chemical means as appropriate. (Should be limited to controlled spot treatment of herbicide)

(iii) Prune weak plants or plants suffering wind rock by 50% in Year 1/Year 2 to encourage new stem growth and root development.

(iv) Replace losses with original species and size in Years 1-3 only.

(v) Whip guards should be removed once the trees/shrubs reach a level of maturity where they can withstand browsing wildlife. The removed guard should be taken away from site and disposed of at a suitable facility.

(vi) Annual grass strimming, between September and October, where required, to facilitate growth of young trees and shrubs.

(vii) Visual inspection to assess canopy and identify presence of rubbish, debris and invasive weeds on a monthly basis.

**Years 5-7**

(vi) Selectively coppice scrub to create a structurally diverse layered plantation. Cut areas of scrub in a rotation, aiming to retain all ages. Leave berry bearing scrub cutting until after December so the resource remains available for birds and mammals. Post works density should vary, with dense areas likely to create tall, thin plants and sparser areas where some specimens can spread laterally. If the thinned specimens are intended to grow back as coppice the cut needs to be angled to ensure water will not pool on the cut. Works to be undertaken in a cyclical programme every 3rd Year.

**Long Term Management**

Refer to Years 5-7.
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### 5.11. Cl – Hazel Coppice

Hazel coppice is a traditional component of man influenced rural landscapes – our countryside heritage, which the design of the Riverside Green Chain draws upon. Areas of hazel coppice have been proposed at key points to close vistas. It is proposed that the hazel whips are planted at very high density, with the aim of replicating an ancient coppice stand.

#### Establishment Period – Years 1-7

**Years 1-3**

(i) Water as deemed necessary to secure healthy establishment and to avoid the need for replacement due to dry periods (less than 30mm rainfall at the end of a four week period), and subsequent loss of a whole growing season.

(ii) Re-firm soil around any loose plants without compacting

(iii) Apply slow-release fertiliser to planted areas in spring from Year 2

(iv) Remove by hand weeding competing vegetation within planted areas between 1 March and 30 September before weeds and grass set seed.

(v) Prune weak plants or plants suffering wind rock by 50% in Year 1/Year 2 to encourage new stem growth and root development.

(vii) Maintain any mulch cover to original depth

**Years 4**

(viii) Coppice the whole hazel plantation. Cuts should be made at an angle, to direct water away from the knob and stop it pooling.

#### Long Term Management

(ix) Subsequent cuts will be made on a cyclical rotation about every three years. Coppice cuts should be made to the same level as the previous cut, without stumps proud of the knob. Cuts should be made at an angle, to direct water away from the knob and stop it pooling. Long Term Management
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5.12. **GI – Grasslands: Clay Meadow**

Clay meadow grassland species will also be introduced to the parts of the site illustrated within the detailed Riverside Green Chain proposals. These areas are currently pasture. Implementation will involve undisturbed areas being scarified and seeded and disturbed areas being seeded at a higher density.

In the first year of establishment, the grassland should be mown regularly to prevent grasses becoming over dominant, to promote root growth and to help reduce slug damage to young plants.

Grass cutting must work from one side to the other, or from the centre to the perimeter to allow fauna to escape.

No fertilisers, herbicides or pesticides are to be used in or adjacent to the wet meadow grassland.

**Establishment period – Year 1**

(i) Cut grassland to 150mm every 6-8 weeks between March and November. Arisings are to be removed from site in an effort to reduce fertility and increase species diversity in the longer term.

**Long Term Management**

(ii) Cut grassland to 150mm once annually during August. Leave the hay, evenly spread, to dry and shed seed for 1-7 days then remove. Arisings are to be removed from site in an effort to reduce fertility and increase species diversity in the longer term.

(iii) Cut down and remove patches of aggressive weeds such as thistle and ragwort and remove arisings from site before they set seed.
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5.13. **G2 – Grasslands: Wet Meadow**

Wet Meadow grassland will be created on the lower shelf of the flood compensation areas. Wet meadow grassland species will also be introduced to other low lying parts of the site which are currently grassland pasture. These parts of the site will be scarified and seeded.

In the first year of establishment, the grassland should be mown regularly to prevent grasses becoming over dominant, to promote root growth and to help reduce slug damage to young plants.

Grass cutting must work from one side to the other, or from the centre to the perimeter to allow fauna to escape.

No fertilisers, herbicides or pesticides are to be used in or adjacent to the wet meadow grassland.

**Establishment period – Year 1**

(i) Cut grassland to 150mm every 6-8 weeks between March and November. Arisings are to be removed from site in an effort to reduce fertility and increase species diversity in the longer term.

**Long Term Management**

(ii) Cut grassland to 150mm once annually during August. Leave the hay, evenly spread, to dry and shed seed for 1-7 days then remove. Arisings are to be removed from site in an effort to reduce fertility and increase species diversity in the longer term.

(iii) Cut down and remove patches of aggressive weeds such as thistle and ragwort and remove arisings from site before they set seed.
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Two large areas of amenity grassland are proposed within phase one of the Riverside Green Chain. The amenity grassland will be maintained as short-mown grassland and will comprise a species mix tolerant of disturbance and trampling. The area which is to become amenity grassland is currently improved grassland pasture dominated by perennial rye grass. Implementation will involve overseeding undisturbed areas and seeding disturbed areas to create a dense sward.

Long Term Management

(i) The amenity grasslands are to be cut regularly during between March and November. Dependent on weather and ground conditions it is envisaged that the grass will be cut every 3 weeks during the growing season. Mowing should not take place if the process will damage the sward because of wet ground conditions or during periods of prolonged dry weather.

(ii) Remove litter and debris prior to mowing

(iii) Cuttings may be dispersed and left evenly spread over.

(iv) Cut to maintain sward to 30-50mm.

(v) All boundaries of grass areas shall be kept tidy, and management shall extend right up to any building line, wall, fence, service marker, manhole cover, signpost or other obstruction.

(vi) Gang mower, rotary or cylinder mowers may be used depending on location and size of area.
5.15. **G4 – Grasslands: Mown Footpaths and maintenance strips**

Indicative routes of mown grass paths have been indicated on the Riverside Green Chain detailed proposals. The routes offer interesting and varied walks through the Riverside Green Chain and create shorter circular routes from a number of locations. The paths will be flooded and impassable at times. It is envisaged that the mown paths will be moved from time to time to spread the footfall over different parts of the grassland, however if a distinct desire line is identified as the park becomes more heavily used this should be incorporated into the mown footpath maintenance regime. The mown footpath strips may run through clay meadow, or wet meadow grassland. Where the sward is newly established refer to the maintenance schedule for those types of grassland.

**Long Term Management**

(i) The mown footpaths and maintenance strips are to be cut regularly between March and November. Dependent on weather and ground conditions it is envisaged that the grass will be cut every 3 weeks. Mowing should not take place if the mower will damage the sward because of wet ground conditions or during periods of prolonged dry weather.

(ii) Remove litter and debris prior to mowing and mow regularly to develop dense, hard-wearing sward. Do not mow in periods of prolonged dry weather.

(iii) Maintenance strips and mown footpaths should be around 1-2m wide. Their width be governed to a certain extent by the width of the mower, with the aim of cutting requirement for more than one pass.

(iv) Cuttings may be dispersed and left evenly spread over.

(v) Cut to maintain sward to 30-50mm.
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5.16. F1 – Site furniture and signage

Strong, robust furniture has been specified throughout the Riverside Green Chain. Maintenance is key to maximise public use and longevity. Site furniture and signage is to be maintained in sound working condition, good appearance and free of hazards.

Long Term Management

(i) Bi-monthly, inspect for damage to ensure safe use. Consider if the item is performing its original function, and not visually detracting from area. Repair/replace as necessary. Ensure that any performed repairs do not invalidate specific manufacturers guarantees

(ii) Remove any excess dirt or graffiti
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6.0 Appendix

6.1. Figure 01 (4181_0910)