



# Preston City Council

## North West Preston Masterplan Area

### Proposals for Strategic Green Space: Implementation and Management

June 2016



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**Disclaimer** – please note that all plans and estimates are indicative only. The masterplan should be seen as a long term indicative vision (over 20+ years). The plans and estimates will therefore be subject to periodic review, change and refinement over the long term.

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# Preface

## Context for the Study

Preston City Council, together with its partner authorities within the Central Lancashire City Deal, is supporting the development of a major new residential neighbourhood in north and west Preston – the area broadly between the existing built-up area and the route of the M55.

The City Council has commissioned the preparation of a Masterplan to foster coordinated development across the area, and in due course the intent is that the Masterplan should achieve the status of statutory ‘Supplementary Planning Guidance’.

## Strategic Green Spaces

The Masterplan envisages the provision of a range of key open spaces (or ‘strategic green spaces’) which will help to create the desired Garden City environment, and a high ‘quality of place’ throughout NW Preston, including:

- two ‘strategic green spaces’, with the larger **Western Park** to the west (following the alignment of a high tension power line) and a smaller **Eastern Park** to the east (abutting the M55);
- **M55 English Woodland Buffer** along the M55 to ameliorate the environmental nuisance from the motorway traffic;
- the ‘greening’ of the corridor of the new **East-West Link Road**; and adjoining spaces

## Local Places

A range of local open spaces, both formal and informal in character, to be provided by the developers of each of the development parcels.

The City Council has determined that it will not adopt any of these new open spaces. City Deal resources have been identified for the advance delivery of the other four components of the overall strategic green space. Responsibility for delivering and securing the future of the local open spaces within each development parcel will reside with the individual developers.

The immediate challenge, therefore, is for the City Council and the City Deal Partners to understand the scale of resources required; first, to deliver this advance green space and, secondly, to secure its long-term future beyond the development phases of NW Preston.

In order to inform the City Deal Partners' on-going deliberations, Preston City Council has commissioned the Land Trust to provide it with professional advice on:

- the **typical capital costs** of creating and laying out the strategic spaces
- the likely **whole-life costs** of managing and maintaining these new strategic open spaces for community benefit in perpetuity;
- the options for the **management** of all forms of new open spaces across NW Preston, in place of statutory adoption and without an open-ended call upon the public purse;
- recommended **governance arrangements** for the management of the new open spaces across NW Preston, applicable to both the strategic open spaces and to the various 'on-site' open spaces that will be created, and financially supported, by the several residential developments.



## Our Approach

We have developed concept designs for the four areas of strategic green space and used these as the basis for assessing their anticipated capital cost and in perpetuity management and maintenance.

The concepts have been developed by our consultants Total Environment (TE) with an understanding of Garden City principles and with the aggregate budget of £5.2m of City Deal resources currently identified to both lay out the open spaces and to endow their long-term management. As requested, we have made no provision for any costs of land acquisition.

Our cost estimates have been prepared collaboratively by Total Environment (TE) and The Environment Partnership (TEP), drawing upon the Land Trust's extensive experience of practical delivery in management of public open space. The resultant figures must, however, be considered as indicative, being based upon a range of assumptions within our report, and therefore subject to revision.

We have also given consideration to the management options open to the City Council and its City Deal partners for how the open spaces can maximise the benefit for the local community and contribute to the desired 'quality of place' across NW Preston.

We have described the possible alternatives to the 'traditional' adoption model, which many local authorities are now declining. The Land Trust model proposed is one that has been developed over the last 12 years, and we consider it to be a robust and highly durable solution for the in perpetuity management and maintenance of public open spaces.

We have assessed and compared qualitatively each of the models with one another, taking into account the likely perspectives of the local authorities, the new and existing residents and the developers.

Our recommendation is that the Land Trust model should prevail. It has a proven track record over a portfolio of almost 60 sites across the country, extending to more than 2000 hectares, acquired from both the public and private sectors.

In support of our recommendation, we have further considered stakeholder engagement in the management of the open spaces across NW Preston, specifically if the Land Trust were to assume responsibility for the open spaces.

The structure and relationships relevant to the four strategic open spaces are, we believe, capable of also accommodating long term responsibility for the full range of local (or 'on site') green infrastructure that developers will be charged with creating and securing – play areas, sports pitches, allotments, incidental open spaces, SuDS etc – and irrespective of whether the developer looks to support their upkeep by way of a one-off commuted sum or via a service charge regime applied to new homeowners.

## Structure of Report

Our report reflects the above scope of our study and comprises a series of inter-related Parts:

### Part 1 – Concept Designs:

Our concept designs for the four strategic green spaces (supported by a series of appendices detailing the context for our proposals.

### Part 2 – Budgetary Implications:

Our cost calculations, set against the £5.2m City Deal budget, and explanations about how the strategic green space could deliver the city wide aspirations for ‘further community infrastructure’, using part of the £4.9m budget and CIL’s funding.

### Part 3 – Management Models:

Descriptions of a range of management models for open space which are compared with the ‘traditional’ adoption model from the point of view of different key stakeholders.

### Part 4 - Stakeholder Engagement:

An outline of how the different stakeholders could become involved in both setting the strategy and in contributing to the delivery of green spaces in the future.

**Disclaimer** – please note that all plans and estimates are **indicative only**. The masterplan should be seen as a long term indicative vision (over 20+ years). The plans and estimates will therefore be subject to periodic review, change and refinement over the long term.



## 1.1 Introduction

Preston City Council has commissioned the preparation of the NW Preston Masterplan Area, with a view to adoption as a Supplementary Planning Document to guide the development of a major urban extension in this part of the city. The over-riding vision within the Masterplan Area is to deliver a neighbourhood that embraces the principles of the Garden City, as originally envisaged by Ebenezer Howard, following on from the New Town extension of Preston in the early 1970's.

This is an exciting and significant development in Preston, an opportunity to deliver a special and quality new neighbourhood, whilst ensuring its sustainability long into the future.

Delivering the new urban extension is a key element of the Central Lancashire City Deal and £5.2m of funding within the City Deal has been identified to support and maintain in perpetuity, four areas of strategic open space within the overall Masterplan Area, without adoption or any further call on the public purse. These comprise:-

- Western Park - North and South
- Eastern Park
- M55 English Woodland Buffer
- East-West Link Road Greening

In order to inform the City Deal Partner's ongoing deliberations, Preston City Council has commissioned the Land Trust to provide it with professional advice on **typical capital costs** of creating and laying out the strategic open spaces, together with the **likely whole-life costs of managing and maintaining** these new open spaces for community benefit in perpetuity.

To do this, conceptual designs have been produced to estimate the size of areas of open space and the required elements within them such as grassland, trees, play space and site furniture. Designs have only been developed to a concept stage and should be treated as indicative only.

## 1.2 Site Description

The site description and site illustration set out below has been extracted from the North West Preston Masterplan, October 2014, as prepared by AECOM, on behalf of Preston City Council and with the support of Lancashire County Council.

*The Masterplan study area comprises circa 319 hectares of agricultural land located to the north west of Preston. The location is divided into two by the West Coast Main Line (WCML). The Masterplan area is arranged and managed as numerous fields comprised of predominantly improved pasture, separated by hedgerows. There are a number of heritage assets within the Masterplan boundary, although there are no Scheduled Monuments.*

*Existing fields are mainly used for agricultural purposes and are split across a large number of different shapes and sizes. Within these there is an underlying pattern of rights of way, footpaths, field ponds, hedgerows and natural features that will work as important points of reference to generate areas for development. Other notable uses include the sports and leisure facilities (Grasshoppers RFC and Fulwood Amateurs) along Lightfoot Lane.*

*Existing development along Hoyles Lane, Sandy Lane and Tabley Lane has its own distinct character and image. These areas will be affected by the new development proposal therefore good urban design to sensitively deal with the interface and transition between these existing and new areas of development is necessary.*

*..... Of particular note is the lower proportion of skilled workers within Preston, when compared with outlying areas. There is a substantial health gap between the most affluent and poorest parts of Preston. Considering the existing nearby deprivation in areas such as Ingol and Tanterton, development in NWP should aspire to reduce these problems by improving access to the healthy housing and environments of new developments for those in need and increase access to local resources such as local centres, health services, open space, allotments, leisure and play facilities etc.*

*Consideration should also be given to community development, to assist with the integration of existing and new areas.*

*The Masterplan Area proposals have been developed, with emphasis placed upon the adoption of Garden City Principles.*

Aerial View of North West Preston, showing proposed Masterplan Area



## 1.3 Site Context

A landscape character analysis has been undertaken, and is contained within Appendix 1. Generally below 50m, the landscape of West Lancashire, in which the Masterplan Area is located, is characterised by lowland farmland divided by ditches in West Lancashire and by low clipped hedges elsewhere. It has been formed of boulder clay deposits which lie on soft Triassic sandstones and mudstones and is naturally poorly drained.

The plain is dissected by wide, meandering rivers and an extensive network of rectilinear raised drainage ditches and dykes. At the centre of the Lancashire and Amounderness Plain lie the estuary and lower reaches of the River Ribble. The Ribble catchment has a history of flooding, with the flood risk concentrated in Preston and upstream in Ribchester. Glacial and post-glacial deposits of clays, sands and marine alluvium have completely masked the solid geology of mudstones and sandstones. The landscape is strongly influenced by the surface drift which constitutes boulder clay, penetrated by pockets of glacial sand and gravel and deposits of post-glacial blown sand which form distinctive landscape features. The landscape is gently rolling, and, until recently, peat accumulated in low-lying areas within the glacial till to form mosses which have largely been reclaimed for agriculture.

The predominant land use is dairy farming on improved pasture and lowland sheep farming with a small amount of arable on the freer draining soils. Field size is large and field boundaries are low clipped hawthorn, although hedgerow loss is extensive. Blocks of woodland are characteristic, frequently planted for shelter and/or shooting and views of the Bowland fells are frequent between the blocks. The fabric of the undeveloped land in this area facilitates surface water run-off, the extent of which can be seen on the aerial view of North West Preston. There are many man-made elements; electricity pylons, communication masts and road traffic are all highly visible in the flat landscape.

Wildlife habitats are typically small scale and fragmented. Estate plantations offer important refuges for many species of flora and fauna. Flooded marl pits which are an integral part of the agricultural landscape together with more occasional brick clay workings and subsidence pools are often rich in species diversity, for example Longton Brick Pits. They provide important wildlife habitats. A complex network of channelised rivers, canals, drainage ditches and dykes supports a nationally important population of water vole.

The Leeds and Liverpool Canal created important links to the cities for the export of produce and the import of manure and ash for fertilisers. Important local industries from the early modern period include the widespread clay extraction for brick making and also the exploitation of salt from the brine wells to the west of Pilling. These have resulted in significant flooded quarries and subsidence pools respectively.

Preston forms a large population centre within the character area, but the surrounding plain remains largely rural in character. The Preston settlement was extended in the early 1970's, in line with Garden City Principles. There is a dense infrastructure network; meandering roads connect the farms and villages while major roads and motorways provide a fast route across the landscape, linking major towns.



## 1.4 Key Landscape Characteristics

- A rich patchwork of pasture, arable fields and drainage ditches, on a relatively flat to gently undulating coastal landscape.
- Thickly blanketed by glacial till, with poorly-drained peat-filled hollows that give rise to mosses and meres (now mainly remnants).
- Medium-sized to large fields form an open, large scale agricultural landscape. Pasture is more dominant north of the Ribble Estuary, with arable to the south. There is a high density of relict pastoral field ponds on the eastern side of the National Character Area (NCA).
- A rectilinear network of lanes and tracks, usually without fences or hedges, subdivides the landscape, and isolated brick farmsteads occur in rural areas.
- A complex network of wide meandering rivers, raised drainage ditches and dykes divide and drain the landscape. Along with fragmented relicts of reedbeds and mosses, and historic place names, these provide a reminder of the area's heritage of wetland reclamation.
- Mixed arable and pastoral farmland habitats support a nationally important assemblage of breeding farmland bird species.
- A complex network of channelised rivers, canals, drainage ditches and dykes supports a nationally important population of water vole.

## 1.5 Proposed Strategic Greenspace

The AECOM Masterplan proposes to provide over 5000 dwellings over 25 years. This is a significant number of properties that will radically alter the environment in this area and impact upon the existing environmental functions that the landscape currently fulfills, whilst fundamentally changing landscape character.

The North West Preston Masterplan Area proposes 4 green infrastructure elements, as follows:-

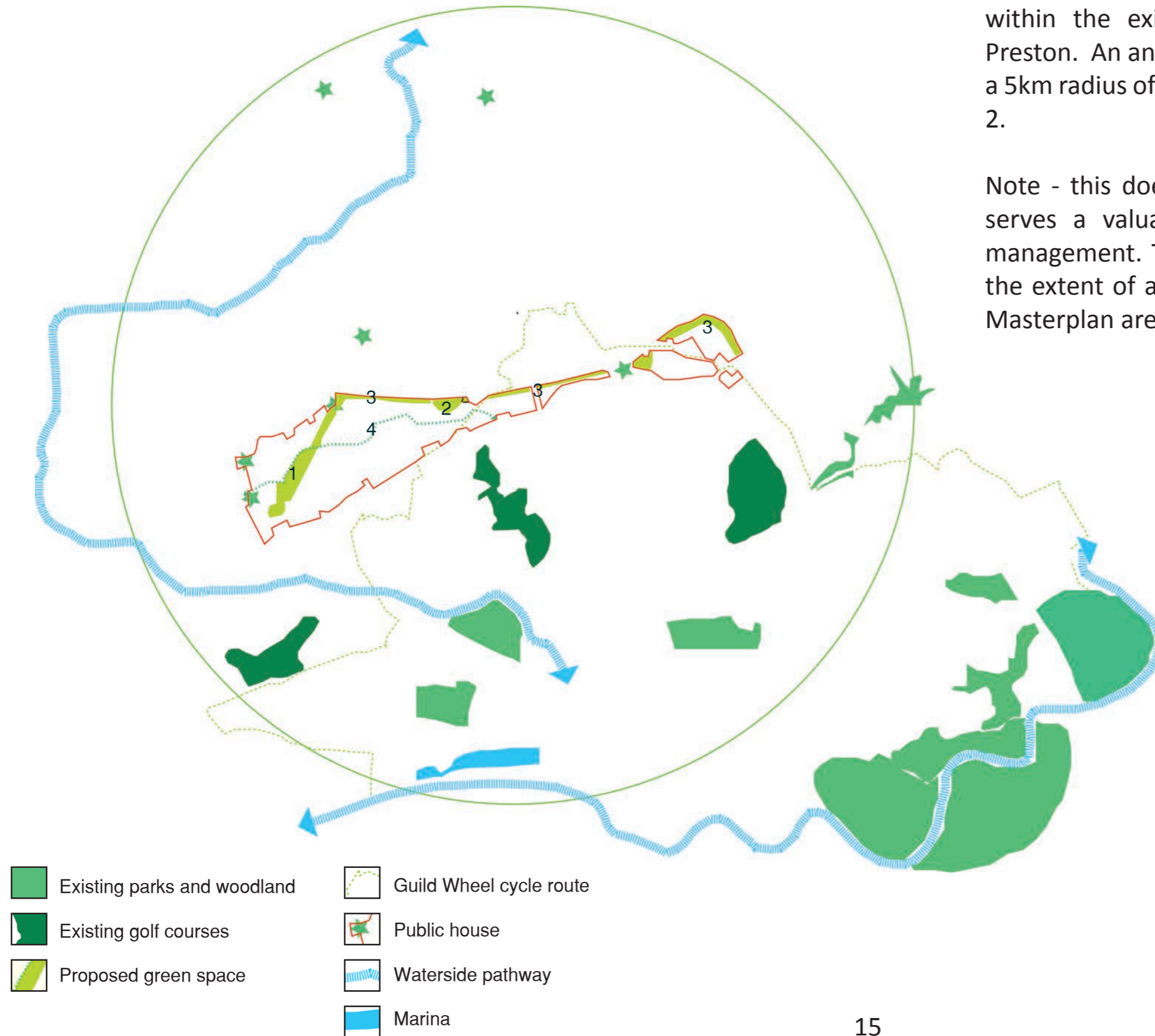
- Western Park - North and South
- Eastern Park
- M55 English Woodland Buffer
- East-West Link Road Greening

These elements will form an important part of the Masterplan Area, shielding proposed new housing from noise generated by traffic, whilst also providing publicly accessible greenspace that can be readily accessed through a walkable and cyclable neighbourhood. The proposed network of greenways contained within the area will be critical to the success of the Masterplan as a whole.

Proposed strategic greenspace that forms the subject of this report is situated to the west of the A6. Proposed green infrastructure to the east of the A6 is intended to be delivered by the Homes and Communities Agency.



Greenwich Ecology Park



Plan showing proposed location of strategic green spaces within the existing green infrastructure framework of Preston. An analysis of existing green infrastructure within a 5km radius of the masterplan is included within Appendix 2.

Note - this does not show existing agricultural land that serves a valuable function in terms of surface water management. The aerial view of North West Preston shows the extent of agricultural land within and adjacent to the Masterplan area (see page 11).

## 1.6 Garden City Principles in respect of Strategic Green Space

The key objective of Garden Cities was to bring the best of town and country together, to form a community that provided access to employment, leisure and entertainment within walking distance of the home. Green infrastructure was an essential component to be considered in the development of Garden Cities.

In order to achieve these walkable neighbourhoods, Ebenezer Howard set out some key design principles in respect of green infrastructure, as follows:-

- Generous green space should be linked to the wider natural environment, including a mix of public and private networks of well-managed, high quality gardens, tree lined streets and open spaces
- opportunities for residents to grow their own food, including generous allotments
- linkages to local cultural, recreational and shopping facilities within walking distance
- community ownership of land and long-term stewardship of assets

Having community facilities and green infrastructure established from the outset helps to facilitate social networks and contributes to the quality of life of the developing community. Walking and cycling instead of always using the car, supportive neighbourhoods, planned educational facilities and a strong sense of community spirit can all improve health outcomes. Garden Cities

are attractive propositions for families seeking somewhere green, healthy and pleasant to live, and if well planned and supported they should prove beneficial in reducing life-style related illness and increasing health and well being.

Publications produced by The Town and Country Planning Association in respect of Garden Cities recommend that at least 40% of a new community's total area should be allocated to green space, of which at least half should be public and should consist of a network of well-managed, high quality green/open spaces linked to the wider countryside. Types of greenspace should include community forests, wetland areas and public parks. The space should be multi-functional, and support sport, play and recreation, walking and cycling, retain and/or create wildlife habitat and function as urban cooling and flood management systems.

However, the future success of community assets and public realm depends upon ensuring that resources for its long term management is secured at the start.



The Landscape Institute has identified five guiding principles to be followed to ensure new garden cities are fit for the 21st century and beyond.

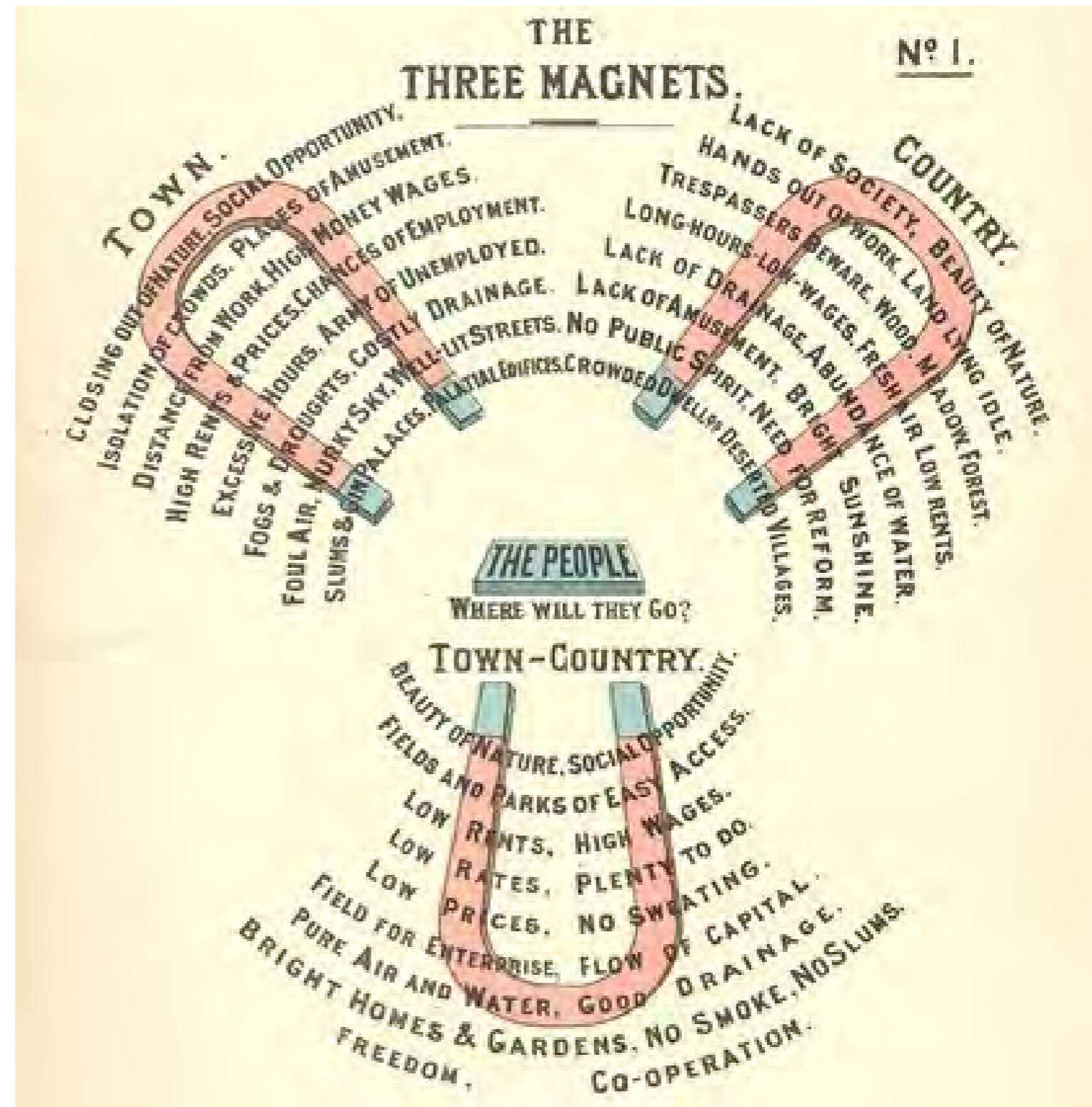
Howard's Magnet Diagram

### Principle 1 - Start with the landscape.

The vision for any new garden city must first and foremost be informed by an understanding of the characteristics unique to its specific location; its local landscape character. These include natural factors, such as landform, hydrology, biodiversity, geology, soils and climate, and also human influences such as historic and current land use and the perceptions of the local community. A vision and masterplan that works with, rather than against, these factors will root garden cities firmly in their landscape context and provide a strong sense of local character to which people can relate.

### Principle 2 – Work within the landscape

Garden cities must respond positively to the opportunities provided by their environment. Layout, form, open spaces, architecture and choice of materials must reflect landscape context and help create a distinctive character and a sense of identity for the new communities. Designing with nature, through a green infrastructure approach, will deliver a whole host of benefits, such as reducing the risk of flooding, enabling wildlife to flourish, cleansing air and water, providing space to grow food and making new garden cities more liveable. A green infrastructure approach will also make garden cities more resilient to a changing climate and capable of mitigating



and adapting to its effects.

### **Principle 3 – Develop a positive relationship between town and country**

Setting the limits of built development from the outset will prevent future suburban sprawl; new garden cities must avoid development on the best and most versatile agricultural land in the interest of future food and farming. The surrounding rural areas must supply space for leisure activities and the secure production of local food, renewable energy and building materials, soils to capture carbon and conserve water, trees and plants to cool the air and improve air quality, and access to open countryside to allow local communities to engage with nature.

### **Principle 4 – Build a place worth living...for life**

Garden cities must provide a ‘home for life’. They must be designed to be adaptable, dynamic, exciting and beautiful places that delight residents, workers and visitors. They must be resilient in the face of changing weather patterns and flexible enough to respond to the depletion of natural resources and demographic and lifestyle changes over time. A wide diversity of compact self-contained neighbourhoods designed around urban village centres, providing a variety of energy efficient house types and tenures, will encourage individuals and families to settle and stay, building distinctive identities for local communities over time. Garden Cities must be great places to grow up in, to learn and work in, and for people to live in for the rest of their lives.

### **Principle 5 – Create vibrant places**

Garden cities must have landscape at their heart and be teeming with wildlife. A generous and well maintained network of public realm that serves multiple purposes for meeting, relaxing, growing food and social interaction, will help build civic pride and enjoyment. Parks and outdoor facilities, as well as access to nature, will encourage healthy lifestyles and community wellbeing. Reserving land for low carbon energy production and recycling, water and flood risk management and prioritising pedestrian and cycle movement, as well as excluding cars in places, will underpin the provision of sustainable, attractive and popular places to live.



Bug Hunting at Greenwich Ecology Park

## 1.7 Key Functional Objectives

The Garden City Principles are very much based upon a socio-anthropological view to improve living standards for all, that are still relevant today.

Contemporary issues include flooding and climate change, and the loss of local distinctiveness and biodiversity, due to human influences upon the landscape.

Large scale developments lead to new populations that have to start the slow process of social cohesion from scratch, and it is important that opportunities are grasped to accelerate this process.

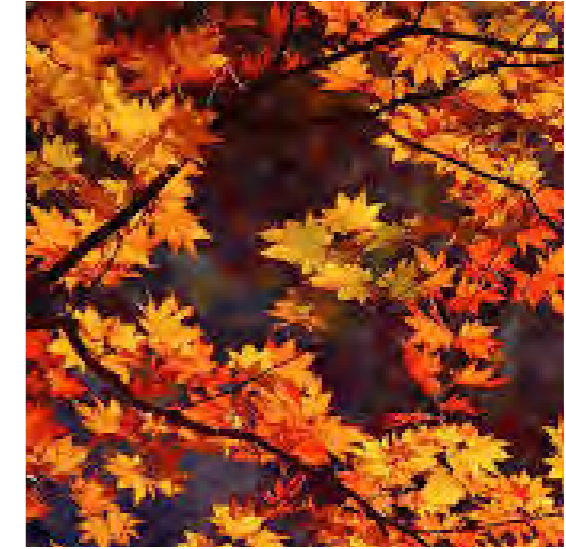
The following objectives have been formulated, in response to the site analysis contained within the Appendices, to help address these issues, and provide a measure of success upon implementation.



### **Objective 1: Water Management Principles**

It is critical that water management principles form a key objective within the proposed green infrastructure strategy and are embedded within the design development of the Masterplan Area and green infrastructure elements.

Existing marl ponds and drainage ditches provide opportunities to provide an extremely functional and resilient landscape in respect of water attenuation.



### **Objective 2: Micro-Climate Modifications**

Consideration should be given to ameliorating localised increases in air temperature wherever possible, in order to combat climate change. This could be achieved through enhancements to existing water features in the area, or by woodland planting.



### Objective 3: Supporting Healthy and Active Lifestyles

The proposed greenways need to link with the surrounding developments, in order to maximise the benefits of healthy living through walkable neighbourhoods, and to reduce reliance on the car.

Community initiatives such as cycling should be promoted for younger children, to develop their cycling confidence and social independence. Health walks, orienteering and distance markers can be used to support personal and group health programmes.

The development of an off-road canal loop would greatly assist in promoting strategic linkages to the wider area. The Western Park will assist with sustainable routes from town to country, following a north-south axis. The East-West Link will enable linkages between residential neighbourhoods and local schools from east to west.



### Objective 4: Supporting Community Initiatives and Fostering Civic Pride

The proposals for two parks present an opportunity to provide publicly accessible recreational and amenity space within the Masterplan Area. This will benefit both new developments and surrounding neighbourhoods in the north of Preston, whilst helping to improve links with the surrounding rural area.

Community initiatives, such as local community events will enable friendships to blossom. Full advantage should be taken in respect of opportunities to enhance play, sports provision and allotments. Learning spaces for use by local schools could also be developed.

These measures will help to develop a sense of ownership and civic pride, in order to ensure the success of the green spaces in the longer term.



### **Objective 5: Local Distinctiveness**

The public open spaces provide an opportunity to enable the Masterplan Area to develop a distinctive identity that reflects local character.

Proposals for green infrastructure elements should develop and enhance the natural characteristics of the site, and preserve local landscape features where possible.



### **Objective 6: Woodland Buffer**

The green buffer to the M55 will provide an environmental buffer to proposed housing adjacent to this busy road network that can serve an important function in terms of noise attenuation, natural flood management and habitat creation for fauna and flora.

## 1.8 Western Park Concept Development

### 1.8.1 Proposals for Strategic Green Space

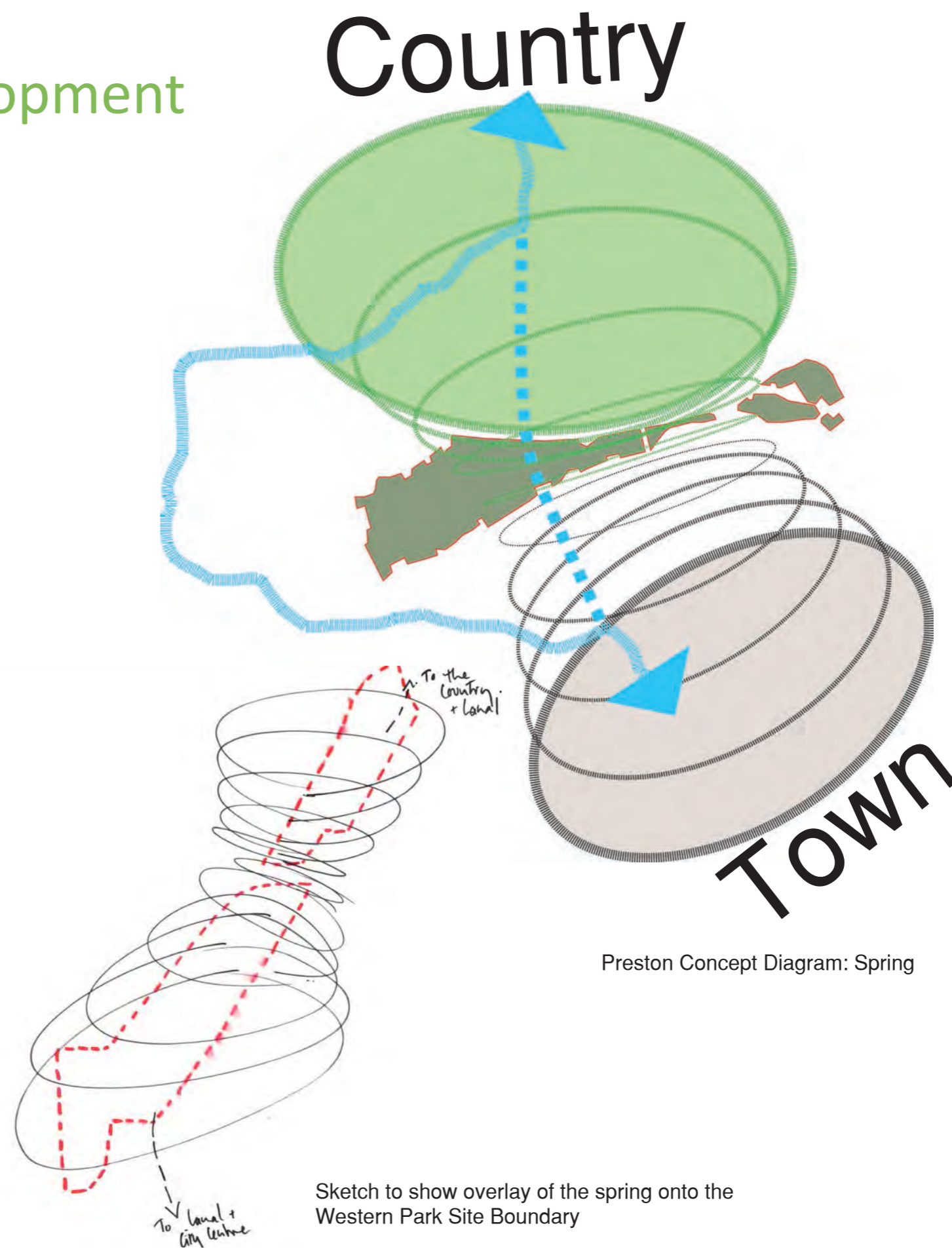
In order to evaluate the capital cost of setting out the strategic green space and the management costs, concept designs for each area have been developed as a basis for indicative costing work.

An analysis of the site designated for the Western Park is contained within Appendix 3 of this document, and should be referred to in gaining an overview of the site constraints and opportunities.

The concept diagram has been arrived at by overlaying Ebenezer Howard's magnet concept onto the spatial fabric of North West Preston, with a clear intention to link the town and country, but also allow for cross movement through the Masterplan Area. It also recognises the potential for the scheme to create a Lancaster Canal loop.

The end result resembles a spring, that is highly flexible but tensioned, incorporating a core route through, whilst also being highly permeable.

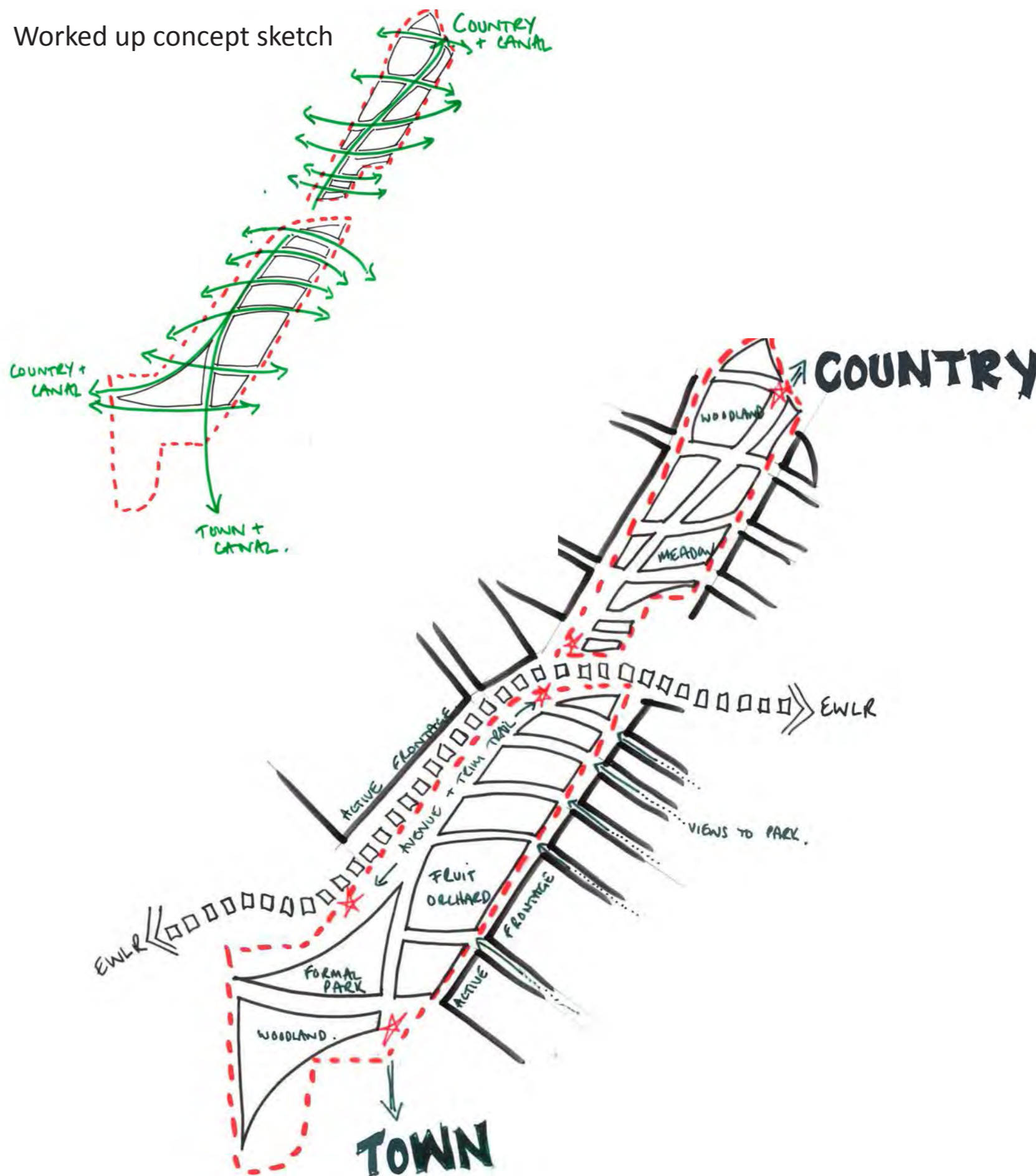
The flexible nature of the spring can then be applied to the allocated site for the Western Park, with good effect. The core route through the site links the town with the country, whilst also affording cross linkages to proposed adjacent local centres and dwellings.



As the concept begins to be worked up, a principal route through the Western Park begins to develop, following a north to south access, providing the potential for improved linkages to Preston city centre and the surrounding rural environment. Secondary linkages across the site are formed from east to west, following the spring lines, that allow for localised linkages to proposed adjacent development. From these linkages, a park structure begins to emerge.

Green spaces between the spring lines can be used to articulate the passage from town to country.

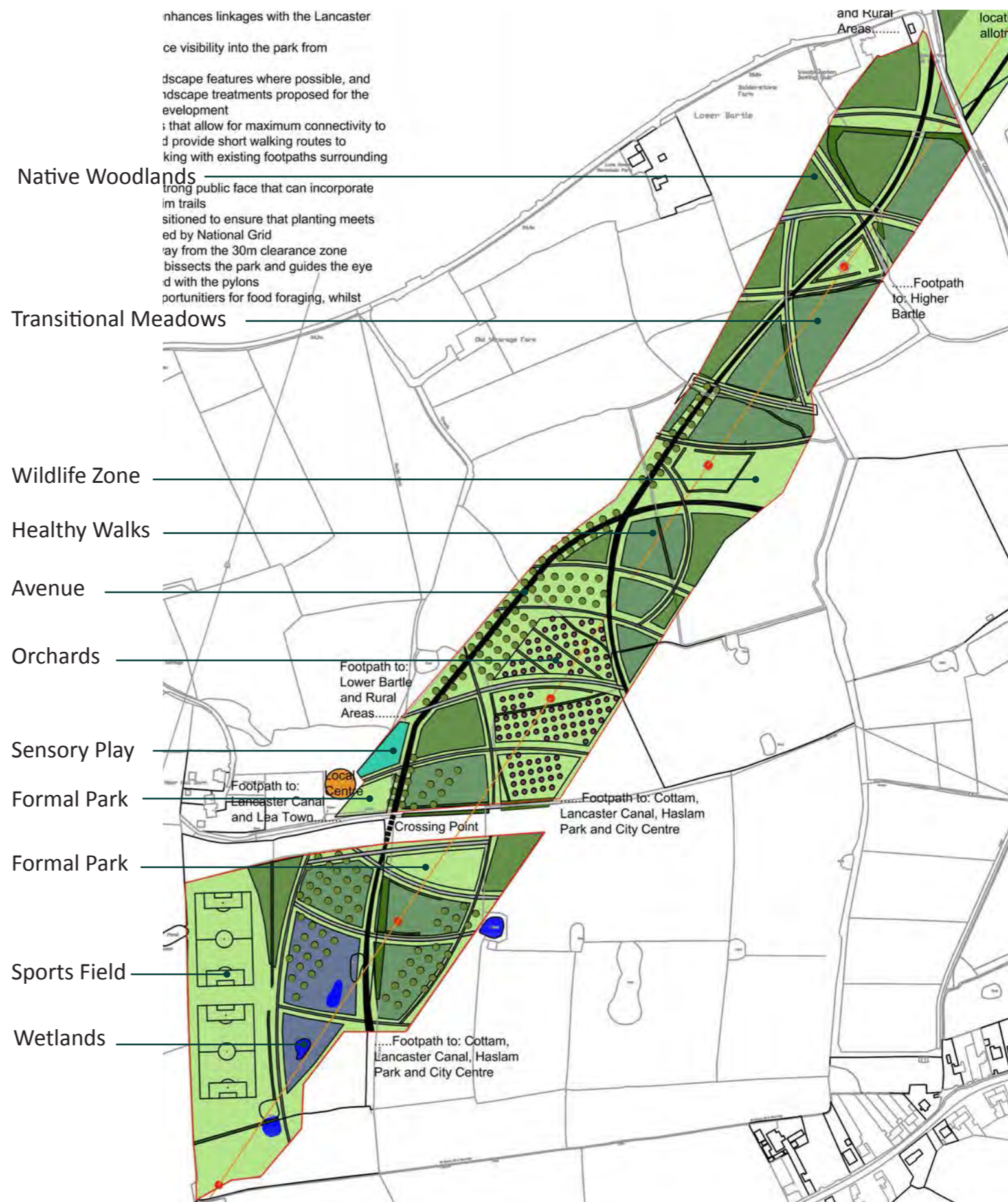
This arrangement also allows for a strong relationship to develop between the park and proposed development, that allows for park frontages and streets, allowing views into the park and that aid legibility within the developments.



## 1.8.2 Design Principles

The concept incorporates the following design principles:-

- Potential for Guild Wheel route to be diverted through the Western Park and form a central off road spine route, that enhances the potential for strategic linkages with the Lancaster Canal
- Sight lines enhance visibility into the park from surrounding vehicular routes
- Retain and enhance existing landscape features where possible, and develop waterbodies to link with adjacent public realm enhancements within the proposed Morris Homes development
- Develop a hierarchy of pathways that allow for maximum connectivity to adjacent proposed development and provide short walking routes to support health objectives, whilst linking with existing public rights of way surrounding the site, in line with the aims of the AECOM Masterplan.
- A tree lined avenue presents a strong public face that can incorporate activities along its length, such as trim trails
- Structure planting is carefully positioned to ensure compliance with National Grid Design Guidelines
- Arced arrangement of pathways bisects the park and guides the eye away from the pylon stanchions
- Sports pitches are positioned away from the 30m clearance zone
- Community orchards present opportunities for food foraging, whilst enhancing local biodiversity.





### 1.8.3 Proposed Character Areas

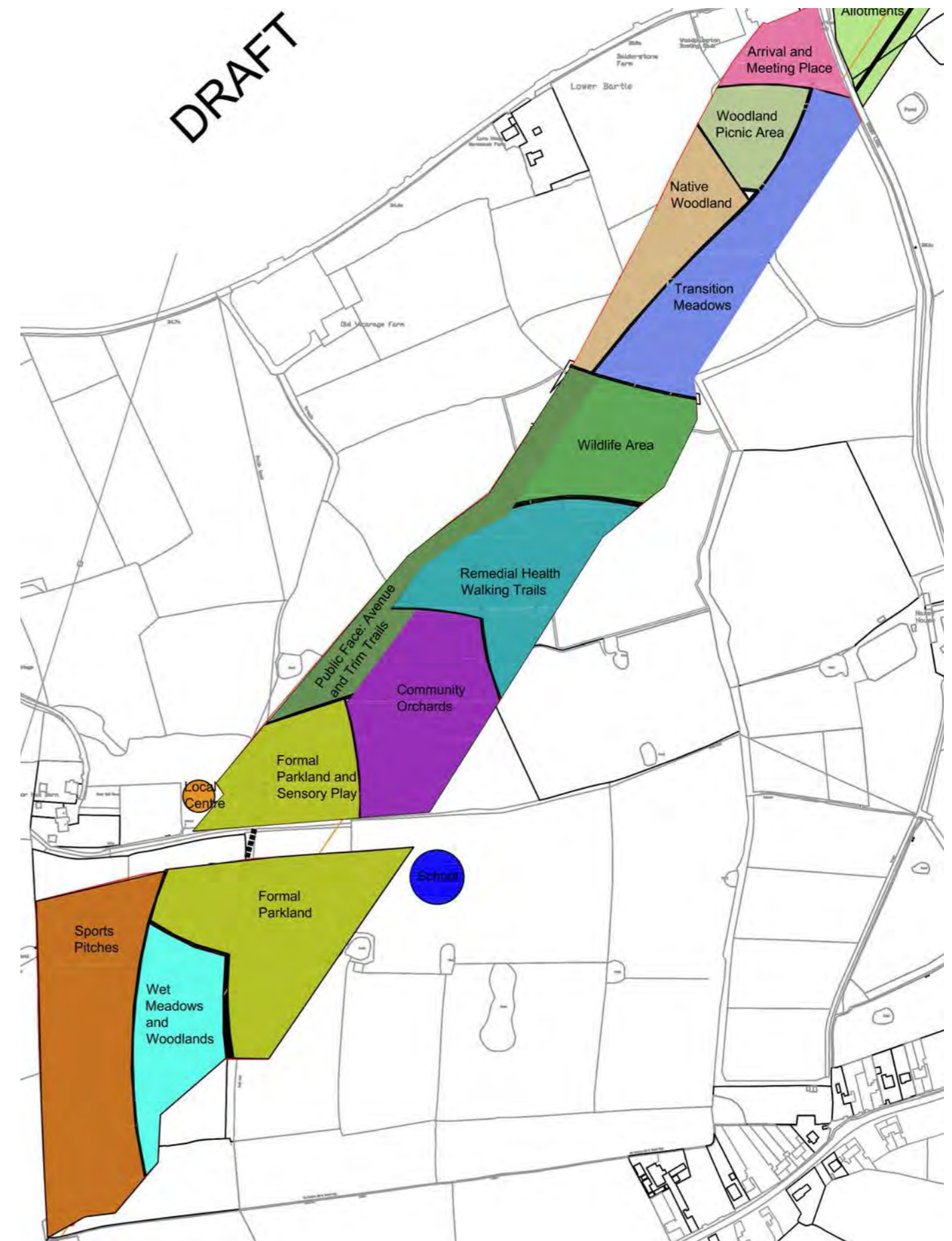
The concept plan can be sub-divided into functional areas that will inform the local character of the park.

Formal parkland and sensory play is positioned near to the proposed local centre and school. The sports pitches are positioned away from the pylons, but within walking distance of the local centre and school, and best use is made of the damp ground conditions to the south of the park to incorporate wet meadows and woodlands, linking with public realm proposals for adjacent developments.

A tree lined avenue leads north west away from the local centre, providing links to the community orchards, healthy walking trails and wildlife area.

The most northern section of the Western Park provides an arrival space that links in with the existing sports provision at Woodplumpton Tennis and Bowling Club to provide an interface with existing facilities, giving way to a picnic area. Woodlands and meadows are proposed, incorporating a more transitional feel towards the countryside.

Spatial provision is made for allotments, to the north of the park, but the costing exercise has excluded this item, apart from basic infrastructure. The local centre is intended to provide unrestricted parking that will serve the needs of visitors to the park.



Character Area Plan

## 1.8.4 Design Rationale

The concept layout for the park has been guided by the Garden City principles and key functional objectives of green infrastructure, as set out earlier in this report. The final concept layout accommodates site-specific constraints, such as the high tension power line, whilst taking advantage of existing natural features.

### Green Infrastructure Approach

Whilst the landscape is currently in agricultural use, the future use of the land will change to residential, and the landscape will be subject to change. The current proposals adopt a green infrastructure approach to the development of the Garden City. The opportunity exists for the Western Park concept to influence and inform early negotiations between developers and the local authority planning department in respect of the future built form and street pattern of surrounding areas to the park.

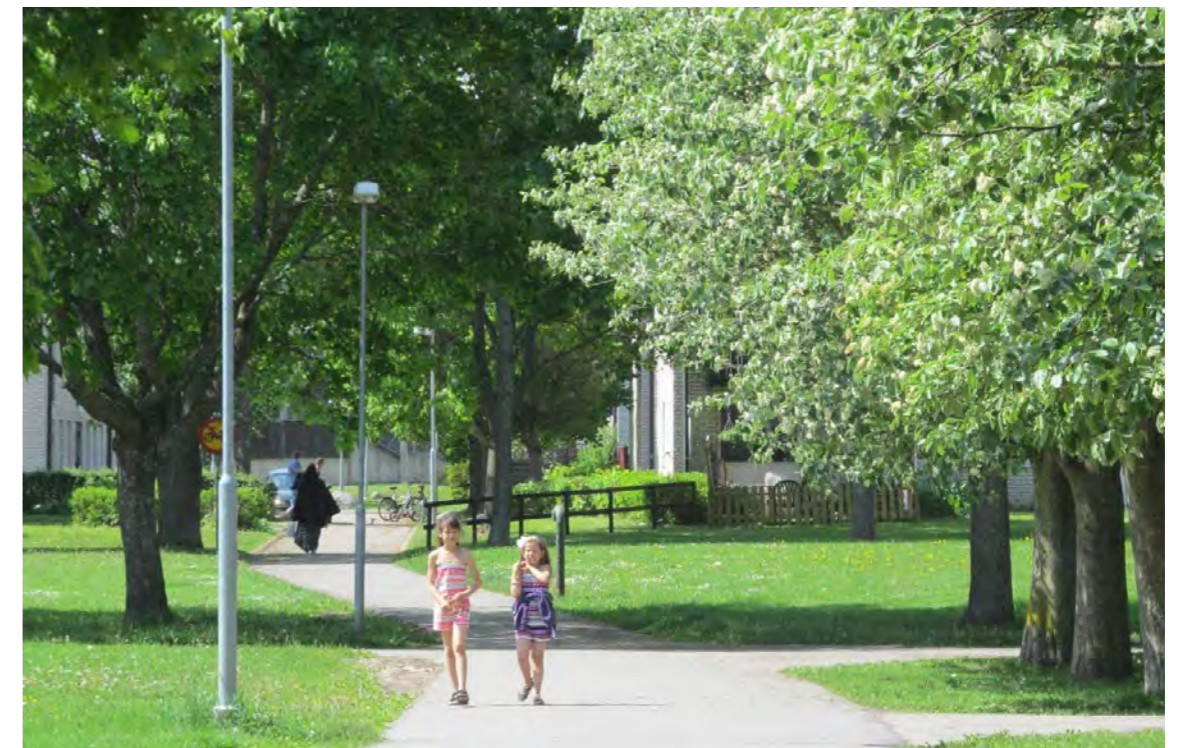
### Connectivity and Healthy Communities

A north to south spine forms the main route through the park that accommodates cyclists and pedestrians, and enhances links between Preston city centre and the wider surrounding rural environment. The potential to improve strategic links to the Lancaster Canal Towpath are also provided.

The spine route is crossed by a network of paths following an east-west axis. These shorter routes help

to connect new residential communities, thereby aiding and accelerating community cohesion, whilst enabling retention of existing landscape features, such as hedges, field lanes and ponds. An excellent precedent example of this arrangement is found in the new district park in Skäggetorp, Linköping Municipality, Sweden (as shown in the image below), where the development of the park was engineered to foster community cohesion for a wide range of ethnic backgrounds.

Numerous park entrances reduce travelling distances from new homes to the park, in order to encourage use of the park through enhanced accessibility. The enhanced accessibility to and through the park to surrounding new residential areas, that can accommodate pedestrians and cyclists will encourage active and healthy lifestyles, whilst maximising opportunities for social exchange and community support networks that are vital for mental health.



### Reducing the Visual Impacts of the High Tension Power Line

Currently, the pylons form a significant visual intrusion within the existing landscape. Whilst they can't be removed, the visual impacts can be lessened by layout out a network of paths that guide the eye away from the stanchions, to the surrounding environment. Use of existing hedges can help to screen views also, and tree planting will help to reduce the visual impacts further.

### Resilience to Climate Change and Local Character

The retention of existing field ponds and ditches, and creation of woodland and wetland habitat will enhance the resilience of the area to climate change, building in the capacity to store water and reduce urban micro-climates through evapotranspiration.

Native species will help to enhance local distinctiveness, whilst enhancing biodiversity within the park, to help offset the loss of biodiversity through development on adjacent sites. Active learning opportunities for the new community will result through the development of a mosaic of habitats, with associated wildlife.

### Future Evolution

The resulting nodal points within the park provide opportunities for the placement of public art, to aid legibility. Briefs for public art could link into the cultural histories of the area, through community engagement, to encourage a sense of community pride.

The Yorkshire Sculpture Park in Leeds is a good example of a former agricultural environment that has been modified to provide an outdoor gallery for metal sculptures, produced by high profile artists. As an approach, there are principles that can be applied to the development of the Western Park in the future.

Yorkshire Sculpture Park, Leeds



## 1.8.5 Photomontage

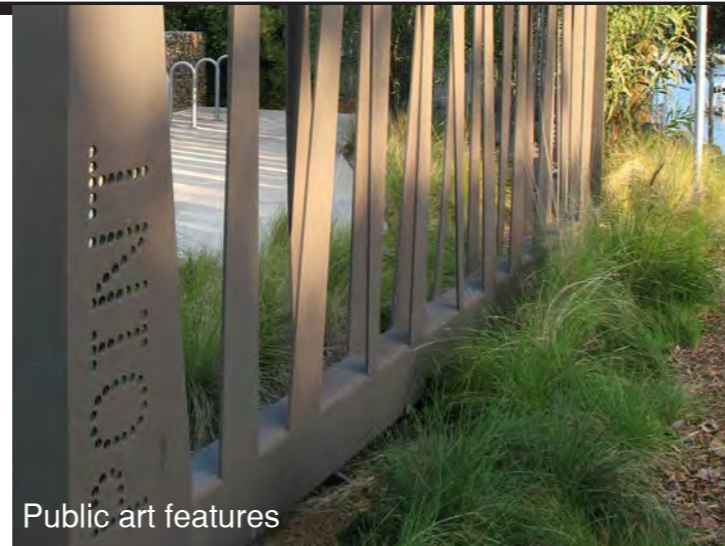
Illustration to show proposed landscape as viewed from the boundary of the Woodplumpton Bowling and Tennis Club, looking south towards the stanchion of the power line.

(Existing view shown above, with stanchion in view)

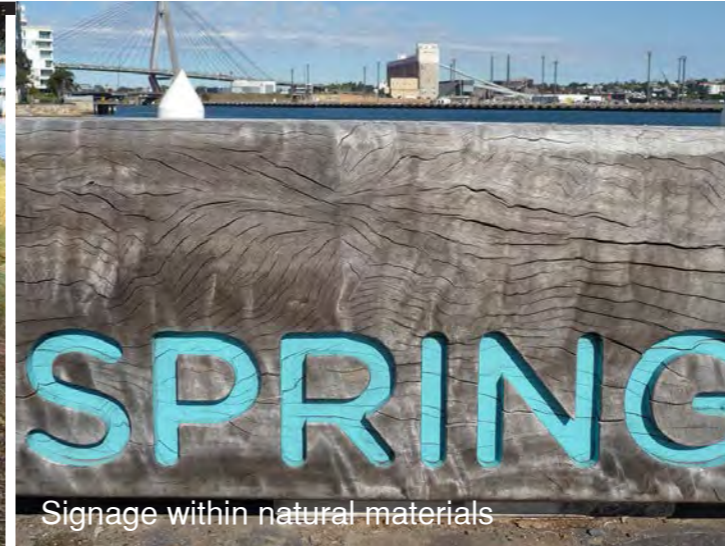




Formal seating areas



Public art features



Signage within natural materials



Informative paving



Play features adjacent to pathways



Formal tree and grass plantings



Seating within avenue promenade



Dwell time



Tree planting laid to a grid



Balancing trails



Decorative staking to create visual interest



Less dense tree planting to greenways

## EXAMPLES OF FORMAL LANDSCAPE



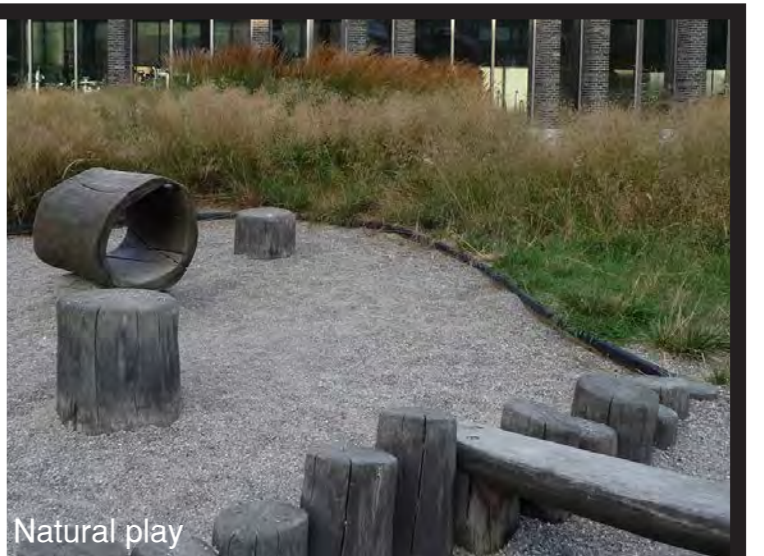
Eco-educational art



Sensory play



Informal arrangements



Natural play



Food foraging



Community orchards



Traditional boundary treatments



Public art



Wind through conifer planting



Balancing trails



Informal tree planting



Meadow planting

## EXAMPLES OF TRANSITIONAL LANDSCAPE

Precedent images to illustrate transitional character of central Western Park section

## EXAMPLES OF RURAL LANDSCAPE

Precedent images to illustrate rural character of northern Western Park section leading to the country

## 1.9 Eastern Park Concept Development

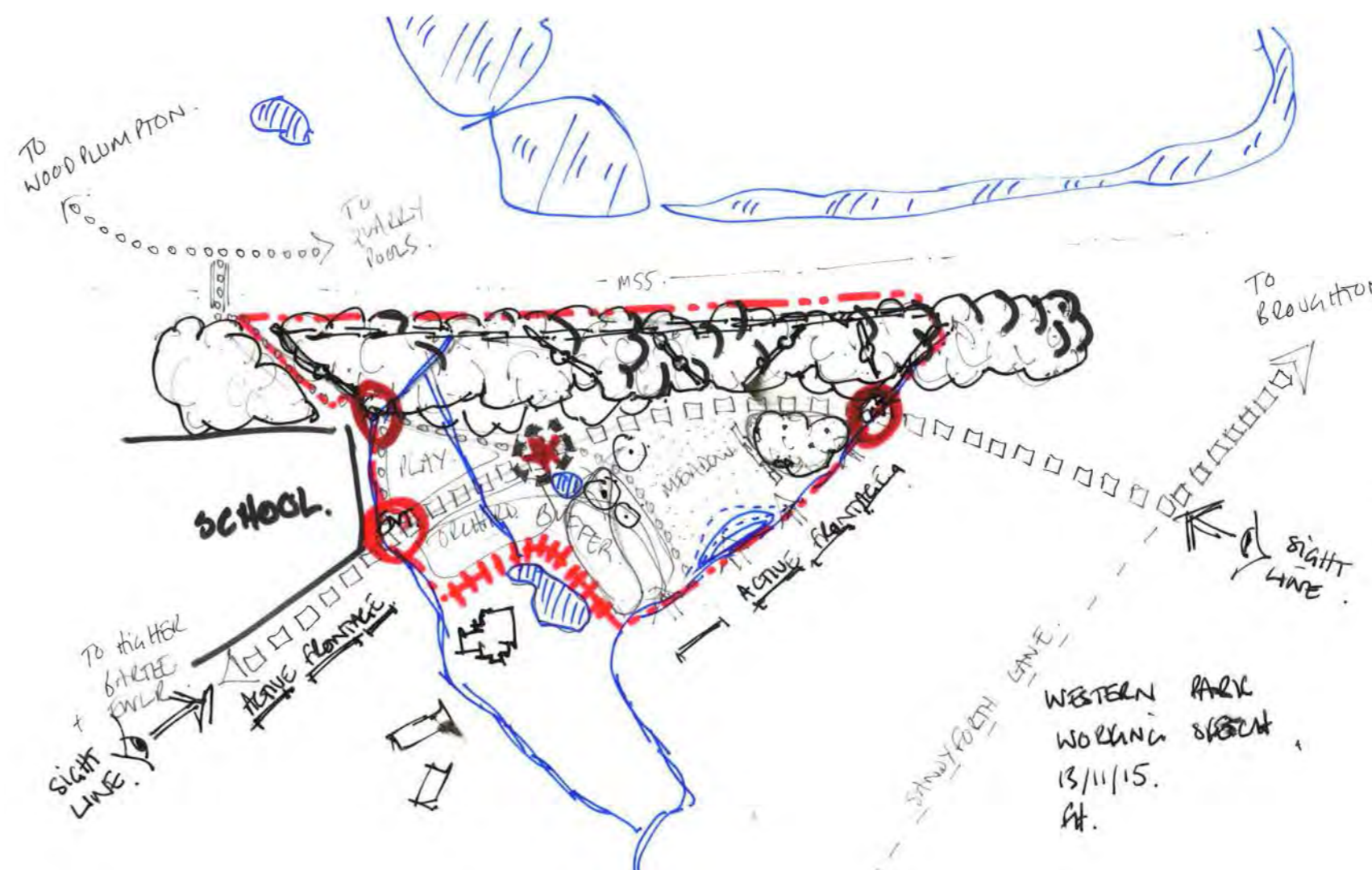
### 1.9.1 Sketch Scheme Development

An analysis of the Eastern Park site has been undertaken and is included within appendix four, to provide supporting baseline information.

Application of the 'Spring' concept to this site articulates the close proximity to the surrounding countryside. It is important that the park facilitates strong links between proposed residential dwellings and the wider landscape, despite the restrictions presented by the M55.

The presence of water on site suggests that water channels and bodies can be incorporated within the scheme, to assist with local distinctiveness and legibility. Manipulation of water channels may be appropriate, to address surface water drainage issues. Earth re-modelling is certainly possible, to create seasonal surface water attenuation ponds.

A woodland buffer is required to the southern boundary of the M55.



Site Analysis to understand the Client Requirements within Site Context

Best use could be made of the close proximity of the proposed primary school, by providing natural play, food foraging and eco-education opportunities.

The design should be mindful of existing dwellings on site. Future developments present an opportunity to provide natural surveillance on to the park, through active frontage.

As development is brought forward in the longer term, Sandyforth Lane will become more heavily trafficked, and it is suggested that the Guild Wheel Cycle Route could be diverted across the Eastern Park, to link with the proposed East-West Link Road, and Higher Bartle.

The Eastern Park will occupy a subsidiary role to the principal Western Park, but will be very important to support the greenspace objectives identified earlier, and provide a much needed green lung for new communities in this location.



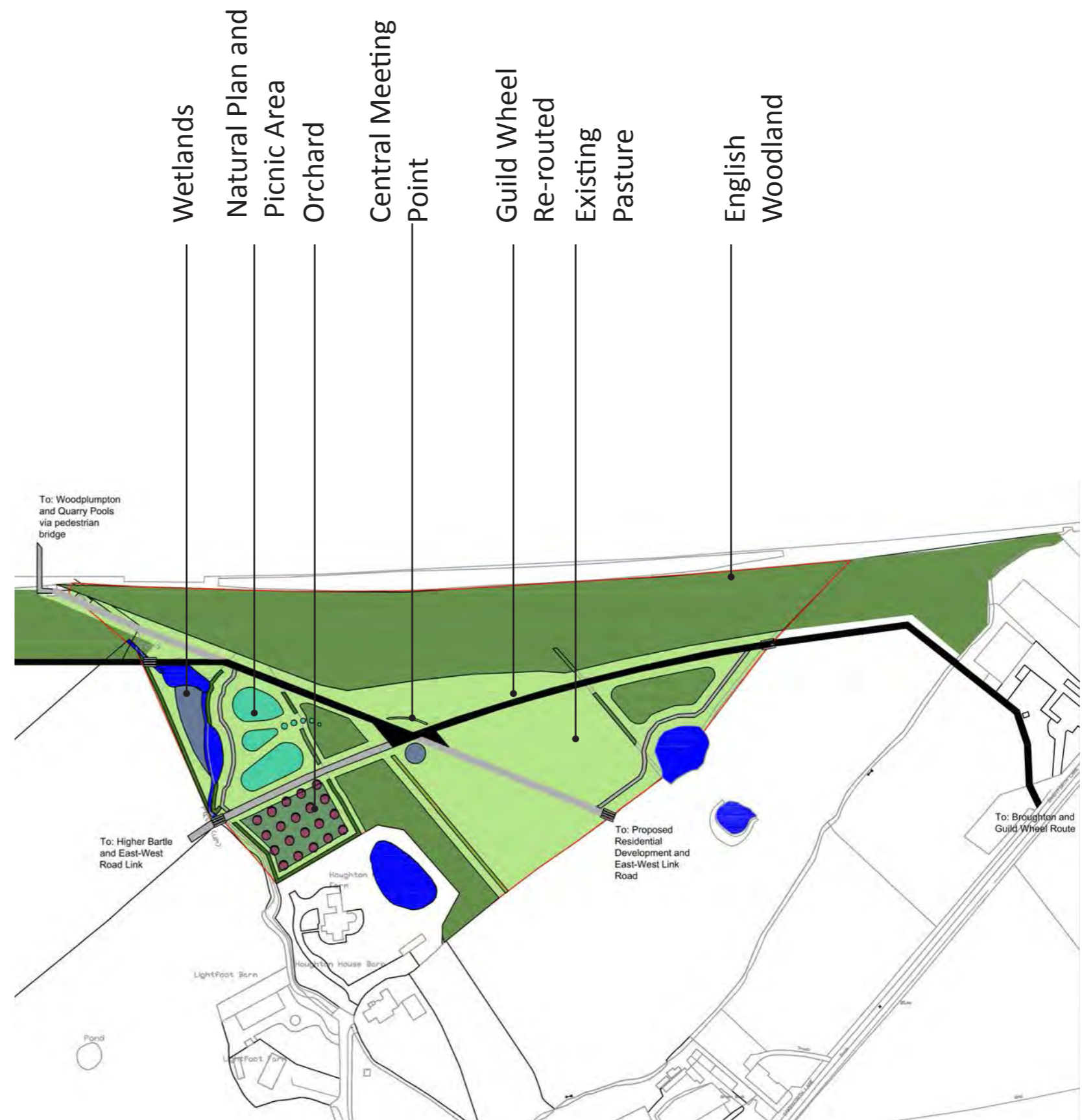
Developing sketch scheme, working up primary spatial arrangements and linkages



## 1.9.2 Design Principles

The emerging concept for the Eastern Park incorporates the following design principles:-

- Potential for Guild Wheel route to be diverted through the Eastern Park and form an off-road cycle route, that enhances linkages with the wider rural environment
- Retain and enhance existing landscape features where possible
- Define entrances to the park through the use of bespoke bridges
- Articulate a central point within the park that promotes dwell time
- Retain pastoral views for proposed dwellings overlooking the park
- Provide noise attenuation through 40m wide English Woodland Buffer
- Potential for natural play and picnic area adjacent to the proposed school site
- Provide a natural buffer between active areas and private dwellings.

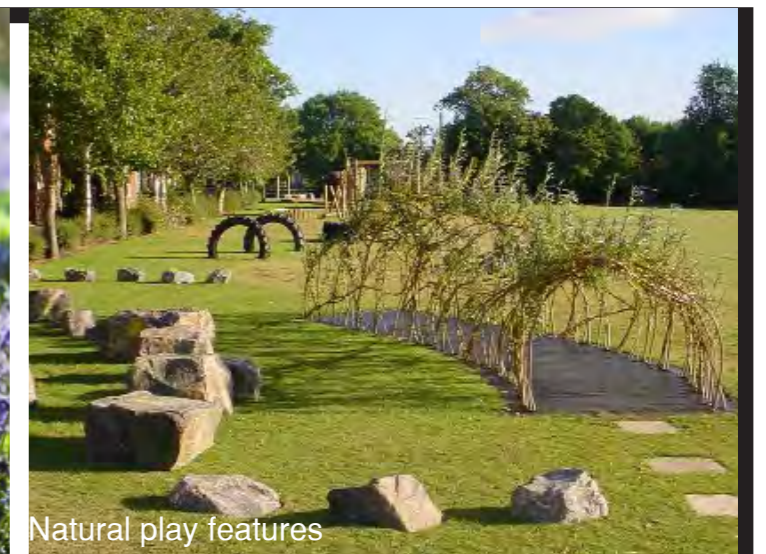
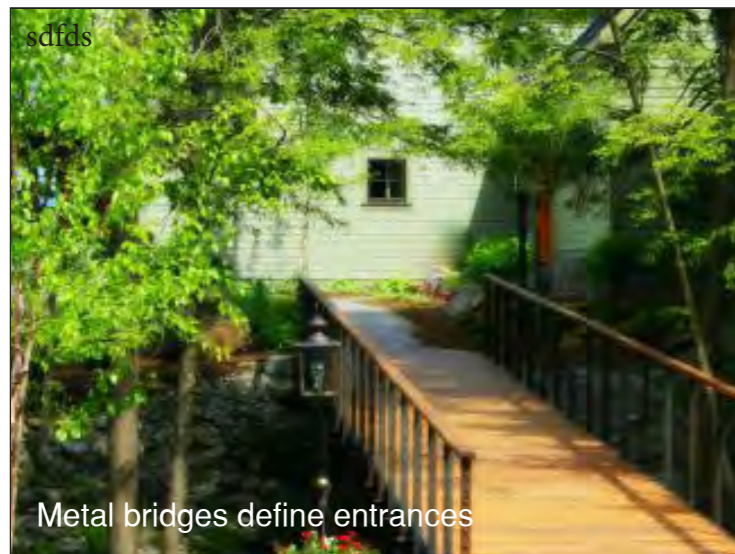


Emerging Concept Plan

### 1.9.3 Photomontage

Illustration to show proposed pathway leading east from the school grounds towards the proposed wetlands, with retention of the field ditch.





## EXAMPLES RELEVANT TO EASTERN PARK

## 1.10 M55 English Woodland Buffer

### 1.10.1 Design Principles

An analysis of the M55 Border has been undertaken and is included within appendix five, to provide supporting baseline information.

Proposals to incorporate english woodland adjacent to the M55 include the following design principles:-

- The woodland buffer should be of sufficient depth to attenuate noise pollution generated from traffic travelling on the M55 road link. The plans have been drawn to take account of existing woodland adjacent to the motorway, to achieve a 40m deep strip along

the entire length, although the existing woodland is not shown on the plan. This should ensure that the scheme accords with the criteria for eligibility in respect of the English Woodland Grant Scheme, offered by the Forestry Commission.

- There is potential for the Guild Wheel route to be diverted adjacent to the English Woodland that links the Western Park to Sandyforth Lane, via the Eastern Park
- The English Woodland should define the northern edge of the Eastern Park.
- A 30m clearance zone will have to be observed adjacent to the pylon line.
- Opportunities exist to incorporate wetlands within the woodland, to aid with water attenuation and alleviate flooding.



English Woodland Plan

## 1.11 East-West Link Road

The East-West Link Road is being implemented by Lancashire County Council. We understand that they will be delivering landscape mitigation proposals associated with the link road. We have been advised that the majority of the capital costs for implementation in respect of the greening of the East-West Link Road will be met by Lancashire County Council. Therefore, this element of the scheme has not been included within this study.

However, costs for management of the greening of the East-West Link Road have been included, and are included within Part Two of this document.

The current proposals for the East-West Link Road do not show a crossing between the two sections of the Western Park. It is suggested that when the Western Park is implemented, a review of the East-West Link Road crossing point and boundary treatment adjacent to the park is undertaken, to allow for the successful integration of the park within the wider strategic elements of the scheme. Given the adoption of the East-West Link Road by the County Council, it has been assumed that the costs for implementation of the pedestrian and cycle crossing point will be met by the County Council, when required.



Avenue tree planting at Marbury, Northwich

## 1.12 Drainage Principles

### 1.12.1 Overview

The most recent floods in the UK occurred in December 2015. Reports of estimated costs for repair range from £1.3bn to £5bn, with many local residents facing financial ruin, due to insufficient insurance cover. Flood insurance is no longer guaranteed for businesses and households in high risk areas within the UK. It is important to ensure that the indicative designs accord with best practice in respect of natural flood management, given the context of re-development surrounding the site. As the scheme progresses towards detailed design, a fuller assessment of meeting natural flood management requirements specific to the green infrastructure in the NW Preston Masterplan area will be undertaken.

The UK's landscape has lost much of its natural water holding capacity as soils are highly degraded, which means lower water filtration and storage capacity. By restoring this capacity, it is possible to prevent or reduce flooding. In much of the degraded landscape, water is currently building up in the upper layers of the soil and making the land prone to water logging and generating run-off. Instead, water should be going deeper into the soil and re-charging the aquifers. Holding water in the landscape is not only about flooding but adaptation to

future climate change. A simple approach to holding water back on land could be more cost effective in the long run, whilst empowering landscapes and communities.

By restoring the river's natural capacity to cope with floods via its wetlands, floodplains and riverbank (riparian) woodlands, the risk of flooding to settlements downstream is lowered and the need for implementing and managing costly concrete defences that deteriorate over time is dramatically reduced. Slowing the flow of the river upstream can reduce flooding downstream, and bring the benefits of an enriched environment for the whole community. Sustainable flood management works by restoring natural pressures, allowing natural storage areas to hold more water upstream and release it more slowly downstream.

There are striking differences between the maintenance costs of hard engineered solutions and natural solutions. By the time concrete walls need to be replaced, wetlands and woodlands are able to look after themselves at virtually no cost. Not surprisingly, European funding schemes are pushing towards nature-based approaches to flood and drought management.

Nationally there is the potential to co-ordinate both objectives and funding, joining up well targeted catchment based approaches.

### 1.12.2 Natural Flood Management Aims

- Where possible, a catchment based approach should be adopted, utilising simple shifts in land management towards the slowing down and retention of water in the landscape.
- Work with natural processes such as the flow of water into ponds that slowly drain over time
- Finding ways that features in the landscape can be used to hold water and benefit the ecosystem, including wildlife
- Hard engineering techniques should be used to complement natural engineering techniques, the effects combining to provide more effective flood management and increase the resilience of the landscape during adverse weather events.



Wetland planting

### 1.12.3 Potential Available Solutions in NW Preston

- Landscapes near ditches and channels are good locations to situate attenuation features and buffer strips to trap and store sediment
- A wide ditch designed to act like a continuous set of ponds and sediment traps. By trapping sediment other ponds and wetlands downstream are protected as well as the river itself.
- Off-line storage ponds provide additional flood storage during storm events and benefits to wildlife.
- Wetlands are natural sponges that hold immense amounts for water and play a vital role in flood management. Water held within the wetlands is filtered of pollutants before it returns to the river
- Woodlands can dramatically reduce storm water run-off and snow melt. Trees intercept both rain and snow but they also absorb moisture from the ground, enabling the soil to hold more water during heavy downpours. A new area of native woodland planting can reduce storm-water run-off and snow melt. A new plantation of 5000 mixed native trees shows how floodwater can inundate the floodplain upstream until it is trapped by the woodland barrier and released slowly downstream. This slowing process also helps to filter the water of pollutants.
- Existing field drains should be protected within developer site boundaries.