ROSSENDALE BOROUGH

ENVIRONMENTAL NETWORK STUDY

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Document Title	Rossendale Borough Environmental Network Study Report
Prepared for	Rossendale Council
Prepared by	TEP - Warrington
Document Ref	5966.005

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Date	January 2017
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Approved	Francis Hesketh

Amendment History					
Version	Date	Modified by	Check / Approved by	Reason(s) issue	Status
0.1	28.11.16	T. Johns	F. Hesketh	Draft for comment	
0.2	05.12.16	T. Johns	F. Hesketh		
0.3	23.01.17	T. Johns	F. Hesketh	Final	

CONTENTS PAGE

TABLES PAGE

FIGURES PAGE

APPENDICES

Executive Summary

1. Environmental networks are the backbone of Rossendale Borough's green infrastructure. Networks are multi-functional; in other words they support biodiversity, enable recreation and healthy physical activity, sustain landscape and historic character, contribute to carbon storage and flood resilience, and stimulate regeneration and the local economy.

2. An environmental network consists of Core Nature Areas, Stepping Stones, Corridors and Restoration Areas, as shown in the graphic below. Environmental networks should usually be accessible to communities so the social and economic benefits of contact with nature are widely enjoyed.

3. Figure 1 illustrates the components of an environmental network

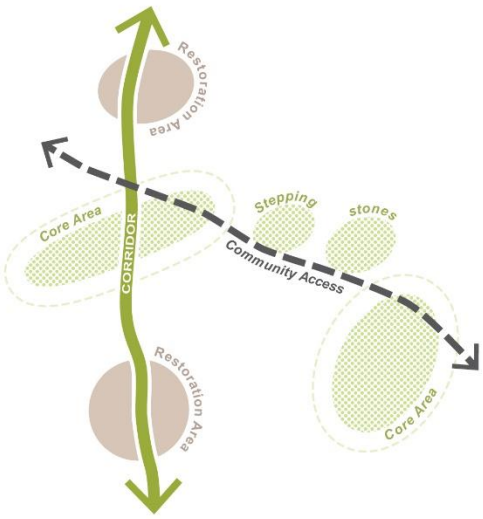

Figure 1 An Environmental Network: derived from "Making Space for Nature" (Lawton, 2010)

4. Rossendale Council's brief to TEP was twofold:

   - Firstly to identify the key components of the Borough's environmental network and advise on policy for its protection and enhancement, including measures to identify and address gaps in the network;
   - Secondly to examine a number of "Greenlands" sites which are under pressure for development, to advise on their green infrastructure functionality, and to assist the Council to determine whether sites meet the aims of the environmental network.

5. The existing adopted Rossendale Core Strategy[1] vision is for a high-quality natural environment to sustain quality of life in its communities. The vision recognises that a strong environmental network should be maintained. For example, Policy 17 (Green Infrastructure) contains the following vision:

Rossendale's Green Infrastructure will be widely recognised as one of the Borough's key strengths, and will attract and support sustainable development and regeneration whilst delivering wider social, economic, environmental, health and climate change adaptation and mitigation benefits.

6. Rossendale Council is formulating its Local Plan, which as well as allocating land for development, will set out policies for protection and enhancement of the Borough's environmental network, in accordance with the National Planning Policy Framework and Planning Policy Guidance. Once adopted, the Local Plan will replace the Council's Core Strategy.

Recommendations

7. TEP's advice is that the Borough's environmental network should comprise rural networks, valley networks and Greenlands sites. TEP has prepared a Conceptual Diagram illustrating the network (Figure 2, below). Some of the rural and valley networks connect with neighbouring authorities, and the network reflects how Rossendale's policy can contribute to broader environmental resilience, notably in the River Irwell catchment which also impacts on Greater Manchester.

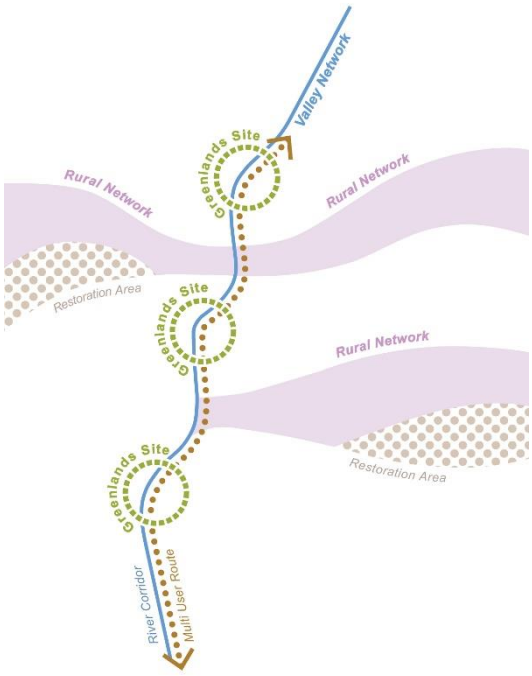

Figure 2 - Conceptual Diagram showing Rossendale's Environmental Network

[1] From East to West: Making Rossendale the best. Core Strategy Development Plan Document. The Way Forward 2011 to 2016.

Rural Network

8. The rural network consists of core nature areas, such as SSSI's, Biological Heritage Sites and priority grasslands, moorland, woodland and stream habitats[2]. These are already given statutory protection or are recognised as national or local policy priorities.

9. The rural network also consists of connecting corridors. These have been identified by the Lancashire Environment Record Network[3] (LERN). Land in the corridors is not always currently managed for environmental objectives, so there is opportunity in local policy to promote restoration and enhancement of corridors.

10. TEP advises that the rural network should, in the future, include sub-catchments where woodland planting can significantly increase the flood-proofing of urban areas downstream. Indications from Forestry Commission's ongoing research[4] are that significant tree-planting in small sub-catchments (less than 100km^2) is most effective at slowing overland water flows during storms. Once this research is advanced sufficiently to provide evidence about which sub-catchments should be prioritised in Rossendale, it is recommended that these sub-catchments are included in Rossendale's rural environmental network.

11. The rural network can sustain biodiversity, landscape, heritage, carbon-storage, flood resilience and recreation functions in addition to productive uses.

12. Although the rural network is generally not subject to development pressure, Local Plan policy can promote development and land use management which contributes to sustaining, enhancing and restoring environmental functions of the rural network.

13. The rural network may be subject to planning applications for development such as renewable energy. If these are acceptable in location and planning terms, opportunity should be taken to design the schemes in such a way as to enhance the rural network in and around the proposed development.

14. Offsetting mechanisms are increasingly being adopted for urban development affecting biodiversity and for industrial processes which generate greenhouse gases. The rural network should be a priority area for investment of offsetting monies, since it can deliver multi-functional land use in addition to satisfying the purpose of the offsetting monies. This will require the Local Plan to include an offsetting policy and the Council to encourage offset providers to engage with landowners in the rural network.

[2] Priority habitats are those listed under s41 of the Natural Environments and Rural Communities Act, 2006. They are often termed "s41 habitats" or "UK Biodiversity Action Plan habitats".

[3] LERN is Lancashire's Local Biological Records Centre, and has used its datasets to generate maps showing woodland and grassland networks, which are described in detail later in this report.

[4] Forest Research has a number of ongoing studies into the catchment management and woodland planting to reduce floodrisk using principles of "slow, store, filter". The studies are available at http://www.forestry.gov.uk/fr/infd-6mvecj

Valley Network

15. The valley network includes the primary river valleys, their floodplains, and linear recreational corridors which follow the valleys.

16. The valleys comprising the network are the Spodden, Irwell, Whitewell Brook, Limy Water and Ogden. These are all central to the history and economy of Rossendale. They are important landscape features and connect communities with the rural environmental network.

17. The valley network can also sustain biodiversity, landscape, heritage, flood resilience, economic activity, health and recreation functions.

18. The valley network contains core areas (such as Biological Heritage Sites, priority habitats, parks and civic spaces), along with connecting corridors including the rivers and floodplains, multi-user routes and amenity habitats. The valleys have numerous assets and areas in need of restoration; for example gaps in vegetation or access caused by urban barriers, culverts, heavily modified watercourses and industrial and derelict land which still causes pollution, water quality and flooding problems.

19. Management and restoration of Rossendale's valleys is of direct interest to Greater Manchester, whose draft spatial framework[5] promotes river valley enhancement and flood-proofing activity in the Irwell and Roch catchments with reference to Policy GM7 Green Infrastructure, GM8 Nature Conservation, GM14 Recreation and GM18 Flood Risk and Water Quality.

20. The Mersey Basin campaign[6] and the 'Rivers Return' Irwell Catchment Plan[7] demonstrate that sustained action, campaigning and regeneration can reverse environmental decline, but significant action is still required due to many watercourses not meeting Water Framework Directive objectives, and a continuing legacy of poor physical and visual access to the rivers.

21. This study has identified the key valleys in the network, and the key gaps that require intervention, but additional work would be required to define the spatial extent of the valley network within which development management policies would apply. Nevertheless, in the interim it is possible to proceed with a thematic policy similar to that of the Greater Manchester Spatial Framework. TEP advises that policy aims for the valley network are to:

    - Retain the open and continuous character of the valleys outside the settlements;
    - Return rivers to a more natural state where practicable, including through deculverting and re-naturalisation of river banks and flood plains;
    - Enhance woodland networks including the protection and expansion of clough woodland;

[5] https://www.greatermanchester-ca.gov.uk/info/20081/draft_plan
[6] The Mersey Basin Campaign worked with the catchments of the River Mersey and River Ribble. Its primary goal was to repair the damage done by industrialisation and to foster a modern and prosperous future, with an improved environment.
[7] The River Irwell Catchment incorporates the Rivers Irwell, Croal, Roch, Medlock and Irk and their tributaries, which drain the western Pennines and flow through the Pennine Fringe and Greater Manchester conurbation before joining the Manchester Ship Canal.

- Increase public access to and along the valleys, especially footpaths and cycleways in urban areas where access is discontinuous, insecure or unavailable to less mobile people;
- Retain and enhance distinctive valley industrial heritage with green infrastructure measures;
- Manage land to increase biodiversity, retain water, reduce run-off, mitigate climate change and improve water infiltration;
- Ensure that the design of new developments maximises the benefits of locating close to waterways with high quality frontages to them but also with flood risk management measures;

22. As with the rural network, the valley network is a priority for investment of offsetting monies arising from development, industrial processes and corporate social responsibility funds; with the aim of implementing the policy priorities listed above. To deliver the necessary improvements, the Council needs to work in partnership with landowners, the Rivers Trust, other environmental charities, Environment Agency, United Utilities and local community bodies.

Greenlands Sites

23. Rossendale's 1995 Local Plan designated Greenlands sites with the intention of protecting them for amenity, recreation, biodiversity and community uses. Many Greenlands sites are actively managed for these purposes and all are close to residential areas. Most Greenlands sites fulfil a variety of green infrastructure functions. Several are located within valley and rural environmental networks.

24. The Council recognises that, given their location in or near to settlements, and the extent of housing need, it is appropriate to examine whether the Greenlands sites contribute to the purposes of the environmental network. In order to inform the Council's decision, TEP analysed 24 Greenlands sites considered to be under development pressure. This excluded Greenlands sites such as managed parks, gardens, cemeteries which have established public use.

25. For the assessment, TEP measured the number of green infrastructure functions that each of these Greenlands sites provides. The green infrastructure functions of most relevance to Rossendale were agreed with the Council as:

- Aesthetics and visual character;
- Supporting heritage;
- Recreation;
- Green travel routes;
- Shading from the sun;
- Carbon storage;
- Trapping air pollutants;
- Habitat for wildlife;
- Connectivity for wildlife;
- Water interception; and
- Water infiltration.

26. This analysis can be used to inform the sites allocation process of Rossendale Council's Local Plan. Where possible, in accordance with guidance in NPPF[8], allocations should be steered to sites of least environmental or amenity value (in this context; those with fewest green infrastructure functions and contributing least to the purposes of the environmental network).

27. Remaining Greenlands Sites would continue to enjoy Local Plan policy protection as part of the Borough's environmental network and revised policy formulation should promote the protection and enhancement of these sites, increasing the number of green infrastructure functions they fulfil and promoting actions which enhance the network as a whole e.g. additional tree-planting, habitat creation, provision of public access, healthy recreation opportunities and flood risk management installations such as rain gardens, attenuation ponds and detention basins.

[8] CLG (2012) National Planning Policy Framework - refer to section 11 for policy on the natural environment

2.0 How to navigate this study

2.1 An Executive Summary is provided at the beginning.

2.2 Chapter 2 describes the aims and objectives of this study, including any limitations.

2.3 Chapter 3 summarises the national and local planning policy context, notably key paragraphs in National Planning Policy Framework (NPPF) which direct Local Planning Authorities to define ecological networks, allocate land of least environmental value for development and to encourage multiple benefits from use of open land in urban and rural areas.

2.4 Chapter 4 highlights the multiple benefits of a green infrastructure approach to management of urban and rural land. It describes Rossendale's existing environmental resource and some of the needs of the Borough such as flood risk and air quality. It describes the purpose of the Borough's Greenlands sites as urban and urban fringe open spaces. It also refers to consultation undertaken with neighbouring authorities.

2.5 Chapter 5 describes the approach to defining a Borough-wide network covering both urban and rural areas. It also describes the method used to analyse the green infrastructure functions of Greenlands sites.

2.6 Chapter 6 presents the three components of a proposed environmental network for Rossendale. This chapter also summarises the findings of the analysis of the Greenlands sites and makes planning policy recommendations.

3.0 Aims and objectives

3.1 Rossendale in Lancashire is a predominantly rural borough and is defined by a series of interlocking valleys dissecting upland areas, with settlements lining the valley floors (Drawing G5996.018). The Borough has a population of approximately 69,000 and is set to grow by around 5,200 people by 2034.

3.2 Rossendale Borough Council is in the early stages of producing a new Local Plan which allocates sufficient sites suitable for development while retaining open areas to form environmental corridors for public and natural benefits, including recreation, health and wellbeing, tourism, carbon storage, biodiversity and flood risk management.

3.3 The National Planning Policy Framework (NPPF) and Planning Practice Guidance (PPG) are clear that recreation, health and wellbeing, biodiversity, natural environment and flood risk management must play a part in plan making and decision taking. The "green infrastructure approach" is the overarching term used in the NPPF and PPG to describe how multi-purpose management of land can help address these matters. The term will be referred to regularly in this study.

3.4 The Borough extends to 138 km2 of which 88% is non-developed land and 22% is designated as Green Belt.

3.5 The catchment of the River Irwell drains the majority of the area. The River Irwell begins its course to the north of Bacup, and meanders through Rawtenstall towards the south east of Haslingden before flowing south into Ramsbottom in the neighbouring Borough of Bury.

3.6 Outside the Irwell catchment, Woodnook Water rises near Rising Bridge in the north west of the Borough and flows in a north west direction towards Accrington, forming part of the River Ribble catchment. The River Spodden rises north of Whitworth and flows south through the south east of the Borough before flowing towards Rochdale.

3.7 The Borough has an extensive network of public rights of way (PRoW) covering 660km and cycle routes extending to 64km and linking with neighbouring boroughs.

3.8 Rossendale is reasonably rich in biodiversity with 3 Sites of Special Scientific Interest, 7 Local Geodiversity Sites, 52 Biological Heritage Sites, one Local Nature Reserve, as well as 3 ancient woodlands, river valleys and other priority habitats, known as s41 habitats[9].

3.9 The first aim of this study is to consider the value of establishing an environmental network and defining it in the Local Plan. The components of this network are investigated by this study and will include the national, regional, county and borough-wide environmental assets listed above, along with some of the 'Greenland' sites introduced below.

[9] Section 41 of the Natural Environments and Rural Communities Act, 2006, directs Local Authorities to have regard to the conservation of habitats of priority for the conservation of biodiversity. These include threatened, rare and sensitive habitats such as hedgerows, acidic grassland, native species broadleaved woodland.

3.10 The second aim of the study is to investigate the role played by 'Greenlands' in contributing to the Borough's environmental network. Greenlands is a saved policy designation from the 1995 Local Plan which sought to protect specific open spaces from development.

3.11 There are over 80 Greenlands sites, all close to or within settlements. Given the objectively-assessed need for new housing, some are subject to development pressure. This study assesses the Greenlands sites under pressure in terms of their actual or potential contribution to the environmental network.

3.12 The objectives of the study are to:

- Provide an evidence base for Rossendale Borough Council to determine an environmental network across the administrative area reflecting the need to provide for healthy communities, meet the challenge of climate change and flooding, conserve and enhance both the natural and historic environment;
- Identify and evidence the key cross-border links to neighbouring areas;
- Identify and evidence any gaps in the environmental network; and
- Provide an evidence base for the Council to determine whether the 'Greenland' sites under pressure for development should be retained as green space forming part of the network of environmental corridors.

Caveats

3.13 The brief from Rossendale Borough Council for the study is enclosed at Appendix A.

3.14 This Environmental Network Study is one body of evidence that the Council will consider in its Local Plan making process. Other evidence includes a Green Belt Assessment, housing and employment assessments and technical considerations relating to flooding and infrastructure.

3.15 The fact that an existing Greenland site may be considered as environmentally suitable for development does not imply that the Council would or should take it forward for development allocation in the Local Plan. Other factors may render such sites unsuitable for development.

4.0 Policy and Guidance

4.1 Rossendale Borough Council is preparing a new Local Plan, which once adopted, will replace the Council's Core Strategy. Consultation on the Regulation 18 Draft Local Plan will commence in July 2017.

4.2 The Council prepared a Strategic Housing Market Assessment (SHMA) in accordance with the NPPF which looks at future housing need and identifies an Objectively Assessed Housing Need (OAN). The OAN for Rossendale Borough is 265-315 dwellings per annum, or 3975-4725 houses for the 15 year plan period of 2019– 2034. A figure towards the bottom of this range is expected.

4.3 The Council has prepared other evidence to inform the Local Plan including a Strategic Flood Risk Assessment, Strategic Housing Market Area Assessment, Economic Land Availability Assessment and a Green Belt Assessment. The draft Local Plan sets out a range of matters affecting how the Council's planning policy could respond to the future needs of the Borough. Key to the evolution of the Council's Local Plan will be to determine a strategy which is mindful of the constraints that Rossendale has, including Green Belt.

National Planning Policy Framework

4.4 The NPPF directs local authorities to make every effort to allocate land for development where it is of low environmental value. It also requires efforts to promote healthy communities, meet the challenge of climate change and flooding and conserving and enhancing the natural and historic environment through the planning process. The following NPPF policies influence the objectives and outcomes of this study:

- Core land use principles;
- Promoting healthy communities;
- Meeting the challenge of climate change, flooding and coastal change;
- Conserving and enhancing the natural environment; and
- Conserving and enhancing the historic environment.

Relevant extracts from those policies are provided in Appendix G.

Natural Environment White Paper

4.5 The Natural Choice: Securing the Value of Nature (HM Government, 2011) confirms the Government's commitment to identifying, securing, restoring and enhancing ecological networks. The White Paper illustrates the components of a network, by reference to Making Space for Nature (Lawton, 2010). This approach is based on five components, to be integrated with existing land uses and economic activities:

4.6 **"Core areas"** of high nature conservation value which contain rare or important habitats or ecosystem services. They include protected wildlife sites and other semi-natural areas of high ecological quality;

4.7 **"Corridors and stepping stones"** enabling species to move between core areas. These can be made up of a number of small sites acting as 'stepping stones' or a mosaic of habitats that allows species to move and supports ecosystem functions;

4.8 **"Restoration Areas"**, where strategies are put in place to create high-value areas (the 'core areas' of the future) so that ecological functions and wildlife can be restored;

4.9 **"Buffer zones"** that protect core areas, restoration areas and 'stepping stones' from adverse impacts in the wider environment; and

4.10 **"Sustainable use areas"**, focused on the sustainable use of natural resources and appropriate economic activities. Together with the maintenance of ecosystem services, they 'soften' the wider countryside, making it more permeable and less hostile to wildlife.

4.11 The components of ecological networks are illustrated in the graphic below, which TEP has derived from the White Paper, with modifications to show community interaction with the network.

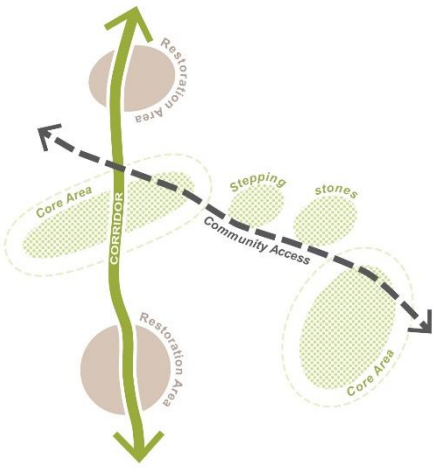

Figure 1.1: An Environmental Network : derived from "Making Space for Nature" (Lawton., 2010)

4.12 The White Paper focuses on protecting and enhancing the natural environment, which is also one of the main reasons for managing land using the green infrastructure approach. Ecological networks will be included in green infrastructure networks, but the latter will also include open land which has cultural, heritage and/or socio-economic functions.

4.13 Nevertheless the White Paper illustrates environmental or green infrastructure networks can be identified and mapped in Local Plan policy.

Planning Practice Guidance (PPG)

4.14 PPG sets out the importance of promoting healthy communities, meeting the challenge of climate change and flooding, conserving and enhancing the natural environment and the historic environment and these should be taken into account through plan-making and decision-taking. Given Rossendale's diverse landscape and environment, these considerations are key to preparation of the Local Plan.

PPG notes that Local Plans should identify the strategic location of existing and proposed green infrastructure networks. The aim of identifying and upholding GI in Local Plan documents is to help deliver a range of social, economic and natural policy priorities, including new housing, jobs, climate-change adaptation, resilience to flooding and restoration of biodiversity and pollinator networks.

Local Policy

4.15 Rossendale's Core Strategy's vision is for a high-quality natural environment to sustain quality of life in its communities. The vision recognises that a strong environmental network should be maintained. Key policies are listed below, with relevant extracts from those policies in Appendix G:

- Policy 1: General Development Locations and Principles;
- Policy 14: Tourism;
- Policy 17: Rossendale's Green Infrastructure;
- Policy 18: Biodiversity, Geodiversity and Landscape Conservation; and
- Policy 19: Climate Change and Low and Zero Carbon Sources of Energy.

5.0 Context of the Study

5.1 This section sets the context for the study. It highlights the benefits of the Green Infrastructure (GI) approach, reports on the mapping of Rossendale's existing environmental resources and some of the challenges to do with air quality and flooding. It outlines some of the other evidence base studies informing the preparation of the Local Plan and concludes with the findings of the Council's duty to cooperate with neighbouring local authorities and other environmental organisations.

Why plan for green infrastructure?

5.2 Green Infrastructure (GI) is the network of green and blue spaces that surround, pass through and create the structure and form of our settlements and landscapes, connecting our towns and villages. The GI approach can be employed at a number of levels, from neighbourhoods through to regions, as its multiple benefits and vital functions are applicable at all geographic levels.

5.3 As alluded in paragraph 114 of the NPPF, GI planning recognises that networks of green and blue spaces are vital to our economic, environmental and community well-being through providing the setting for healthy and sustainable communities, enhancing and creating a sense of place, providing ecosystem services and helping to adapt to a changing climate. Biodiversity will be better able to adapt to potential impacts of climate change if the habitats in the landscape are well connected.

5.4 Transcending administrative and geographical boundaries, GI incorporates unbuilt land and other features such as recreational networks, public rights of way and cycleways. GI planning can offer low impact and often low cost solutions to many of the issues that affect our environment, society and economy.

5.5 The value of GI is recognised in the Government's 2011 Environment White Paper[10] and in several independent economic appraisals, and is part of English planning policy, concerned with biodiversity, climate change and sustainable development. The National Planning Policy Framework recognises the value of GI and the multiple benefits it delivers, and requires that local authorities take a strategic approach to its delivery.

The Benefits of Green Infrastructure

5.6 Figure 3 illustrates the relationship between sustainable development, the eleven GI benefits (see paragraph below) and the strategic priorities from Rossendale's Corporate Plan[11] which are:

- Regenerating Rossendale
- Responsive Value for Money Services
- Clean and Green Rossendale

10 The Natural Choice: Securing the Value of Nature (2011) DEFRA
[11] Rossendale Borough Corporate Plan 2013-2016

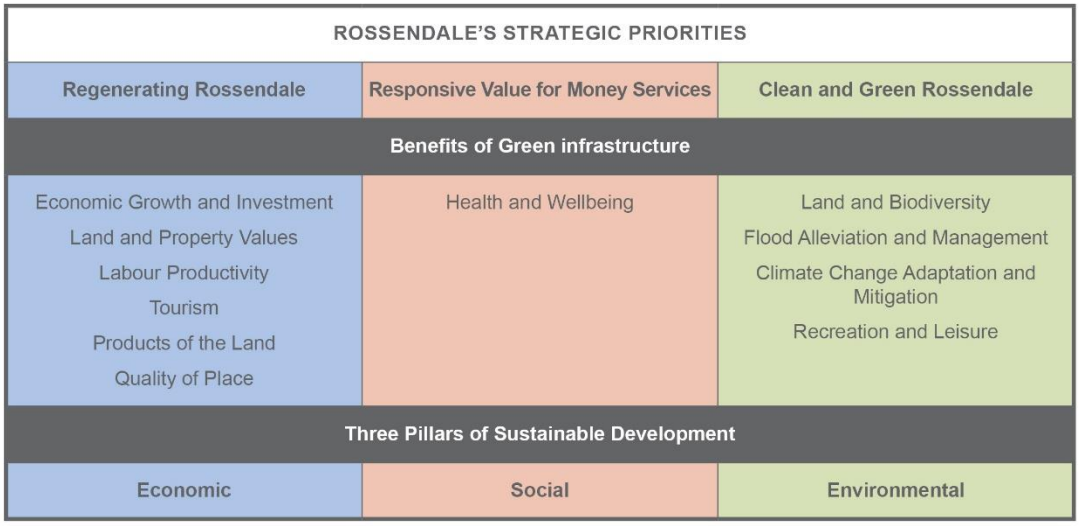

Figure 3 - Rossendale's Strategic Priorities

5.7 The eleven benefits to people and nature are adapted from the Economic Value of Green Infrastructure (2008)[12]. More detail of the benefits is outlined below.

Economic Growth and Investment

5.8 High quality GI creates a setting for business. It provides a positive impression for would-be investors, entrepreneurs and workers. Its successful implementation and design raises the Borough's profile.

Land and Property Values

5.9 Property near accessible, attractive and well-managed green spaces generally has a higher value and is more appealing to buyers than areas with less provision. A high standard of green space is associated with more settled communities, reducing outward "demographic flight" and provides local authorities with a greater income base.

Labour Productivity

5.10 Employees whose workplaces are located near clean and attractive green space are less likely to suffer stress, absenteeism and illness. Highly skilled staff are more likely to remain in Rossendale if their workplaces and their domestic neighbourhoods are in an attractive setting, reducing employers' costs associated with staff turnover and recruitment.

Tourism

5.11 GI sustains a healthy tourism and visitor industry, whether this is through direct expenditure by visitors to the Borough's parks, cycleways, moorlands; or by adding quality and variety to existing destinations such as the East Lancashire Railway and the Lee Quarry Adrenalin Gateway.

12 The Economic Value of Green Infrastructure (2008), ECOTEC for NWDA

Products of the land

5.12 A significant area of Rossendale is rural, with much devoted to grazing. In recent years there have been some woodland planting schemes and so within the longer term, there could be opportunities for more woodland management for wood production and to support some of the other 10 benefits.

Health and Well-Being

5.13 Accessible and cared-for green spaces provide opportunity for sports and exercise, which has direct health and economic benefits, reducing (in combination with other factors) the occurrence of heart disease, respiratory and mental illnesses.

Recreation and Leisure

5.14 Green spaces close to residential areas provide opportunities for children's play, vital to their social and physical development. Other activities include dog-walking, jogging and horse riding. Many arts and cultural activities can be enhanced by an attractive outdoor setting. Green spaces can become the focus for neighbourhood and family events which can aid community cohesion. Adoption of open spaces by neighbourhood groups engenders civic pride and reduces the occurrence of anti-social behaviour.

Quality of Place

5.15 Green spaces can become the focus for neighbourhood and family events which can aid community cohesion. They can contribute to an attractive setting for Listed Buildings, Conservation Areas and other heritage assets.

Land and Biodiversity

5.16 Green spaces and habitat networks are essential to healthy ecosystems. Connectivity allows for foraging, dispersal and reduces vulnerability to local extinction through genetic exchange and re-population. Accessible green spaces allow people to experience nature, which in turn encourages environmental stewardship.

Flood Alleviation and Management

5.17 The increased need for housing and other development puts pressure on the environment's capacity to deal with rainfall. In highly built up areas, the extent of impervious surfaces makes property vulnerable to surface water flooding. Sustainable Drainage Systems (SuDS) incorporated into new development, or retrofitted into urban streets, can manage surface water better, and if integrated into green space, can also benefit communities and wildlife.

Climate Change Adaptation and Mitigation

5.18 Greening of urban areas, including new water bodies and street trees, green roofs on new buildings (examples can be seen at Offshoots Permaculture Project at Towneley Hall in neighbouring Burnley), reduces the urban 'heat island' effect and the potency of airborne pollution, both of which affect the most vulnerable members of society. GI can also help store carbon in timber and soil; and encourages alternatives to motorised transport, such as cycling and walking for short journeys.

5.19 Each of the benefits listed above has a direct relationship with many other policies, programmes, strategies and initiatives across sectors such as health, education and regeneration.

5.20 The benefits refer to the contributions to people and nature arising out of GI at a more strategic level. In section 5 reference is made to the functions of GI. Most GI assets such as green space or woodland have a primary purpose or function but it is possible for functions to co-exist leading to multifunctional GI and the ability to use land more effectively and efficiently. The approach to assessing the GI functions of Rossendale's Greenland sites under development pressure is explained in Section 5.

Promoting Healthy Communities

Greenlands sites

5.21 Rossendale has 88 'Greenlands' sites saved from the previous Local Plan (1995) policy E1. They are areas of non-developed land including a mix of parks, playing fields, recreational areas, cemeteries, semi-natural green space and woodland in or next to the urban footprint that have been protected from development.

5.22 Figure 4 shows their location and the schedule in Appendix B presents the name and location of each site and the footprint in hectares. In total they cover 249ha.

5.23 Land such as parks, playing fields and cemeteries will continue to be protected and form part of the network.

5.24 There is development pressure on a number of the Greenland sites and consultation with the Council indicates that up to 24 are subject to such pressure and these are listed on the schedule in Appendix C. In total they cover 125ha. These sites will be assessed for their contribution to the aims and objectives of the Environmental Network and their GI functions and the approach to the assessment is presented at paragraph 5.16.

Access Land under Countryside and Rights of Way Act 2000 (CRoW)

5.25 3,603ha or 26% of Rossendale is designated as Access Land under CRoW (Figure 5). Typically in the uplands, there are large areas of Access Land to the south and west of the Borough extending into neighbouring Rochdale, Bury and Blackburn with Darwen respectively. There are smaller areas to the north extending into neighbouring Burnley.

Public rights of way (PRoW)

5.26 Rossendale has a good access network with the Pennine Bridleway (national trail) and Irwell Sculpture Trail, Burnley and Rossendale Ways (promoted trails). The network connects to other trails near but outside Rossendale, including the Calderdale and Todmorden Centenary Ways and Irwell Sculpture Trail.

5.27 The Borough is also well served by a public rights of way network, which links the rural areas and the main settlements (Figure 5a). There are 590km of PRoW (pedestrian only) across Rossendale and 660km of bridleway open to pedestrians, cyclists and horse riders.

Cycle routes

5.28 Rossendale has a growing network of cycle routes promoted by Lancashire County Council and Sustrans shown on Figure 6. The three main routes are:

- National Route 6 - locally linking Blackburn, Accrington, Haslingden and Ramsbottom
- Regional Route 91 - locally linking rural areas of Burnley Borough, Waterfoot, Rawtenstall, Haslingden and rural areas of Bury and Bolton
- Regional Route 92 - linking Shawforth and Rochdale, with an 'off road' section linking Rochdale with Rawtenstall known as the East Lancashire Cycleway/ "Valley of Stone" greenway. Lancashire County Council are leading the planning and implementation of this project. A section of the route between Whitworth and Britannia has been completed, the remainder is either proposed or under construction.

There are other more local routes at Crawshawbooth and Helmshore.

Air quality

5.29 Rossendale has two 'traffic related' air quality management areas; in Rawtenstall town centre associated with the A682 and the Sykeside roundabout in Haslingden associated with the A681.

Meeting the challenge of climate change and flooding

Risk of Flooding from Rivers

5.30 Figure 7 presents Rossendale's extensive river catchment across the upland area and valley network. It shows that sections of a large number of watercourses, including primary rivers are culverted even in the rural upland areas. Culverting watercourses can increase the risk of localised flooding due to blockages. Culverts also tend to accelerate flows and this increases risk downstream.

5.31 A number of areas have a high probability for flooding, including; shorter sections of the River Irwell near Bacup. Stacksteads, Waterfoot and Rawtenstall and the reservoirs (assuming retaining structures are breached). Some larger areas at Irwell Vale also have a high probability for flooding from the Irwell. Areas at Crawshawbooth and Goodshawfold have a high probability of flooding from Limy Water.

5.32 There is a low to medium probability of flooding from a local watercourse at Haslingden.

5.33 Areas of low probability are more extensive and tend to be associated with River Irwell at Bacup, Stacksteads, Waterfoot, Rawtenstall. Other areas affected are next to watercourses at Whitewell Bottom, Crawshawbooth and Haslingden.

5.34 As Rossendale is at the head of the Irwell and Spodden catchments, water collected here can contribute to flooding downstream in neighbouring Bury and Rochdale and further afield in Salford and Manchester.

Risk of Surface Water Flooding

5.35 Overland flow and surface water flooding typically arise following periods of intense rainfall, often of short duration, that is unable to soak into the ground or enter drainage systems.

5.36 Figure 8 illustrates the risk of surface water flooding and this tends to occur in the valley bottoms of urban areas near steep sided slopes. Bacup fits this scenario and such flooding has been mapped as a risk along the A681 corridor through the settlement. Other areas of risk are the A671 corridor north of Whitworth and at Shawforth. Also the B6238 at Waterfoot and the A682 through Rawtenstall.

Conserving and enhancing the natural environment

Biodiversity Designations

5.37 Rossendale has a reasonably rich biodiversity (Figure 9) with three Sites of Scientific Interest, 52 Biological Heritage Sites, one Local Nature Reserve, as well as undesignated three ancient woodlands, river valleys and other priority habitats, also termed s41 habitats.

5.38 The 3 Sites of Scientific Interest are:

- Greens Moor Quarry/ Lee Quarry
- Lumb
- North of Ramsbottom

5.39 The West Pennine Moors SSSI was notified in November 2016. It covers an extensive area of the west of the Borough and extends into the neighbouring Blackburn with Darwen and Bolton local authority areas. At the time of writing the designation was still to be approved and it has not been included in Figure 9.

5.40 The 52 Biological Heritage Sites cover 2,295 ha or 17% of the Borough and tend to be associated with upland or river valley. They cover a variety of habitats and collectively form a network of corridors and stepping stones, providing habitats and dispersal of species of biodiversity priority. A number of sites connect with the same or similar designation for neighbouring boroughs, namely Bury, Blackburn with Darwen, Hyndburn, Burnley, Calderdale and Rochdale.

5.41 Healey Dell Nature Reserve is the only Local Nature Reserve in Rossendale. It is south of Whitworth on the boundary with Rochdale and the site extends across the boundary.

5.42 There are 3 Ancient woodland sites near to the River Irwell at Edenfield. These are Lumb Wood, Great Hey Clough and Oxhey Wood.

Lancashire Ecological Networks

5.43 In Lancashire, ecological networks are being mapped, on behalf of the Lancashire Local Nature Partnership, in response to the recommendations contained in the 'Making Space for Nature' review and to assist local planning authorities to comply with the NPPF.

5.44 The Lancashire Ecological Network (the Network) seeks to identify linkages between known wildlife sites. The Network is mapped using existing data about wildlife sites, habitats and species preferences. This data is evaluated to identify areas of high 'landscape integrity' where habitats are in relatively natural condition and have lower levels of human modification. Habitat preference maps were created for two of the broad habitat groups:

- Woodland and Scrub; and
- Grassland.

5.45 A third habitat group covering heathland and wetlands is subject to further study by LERN and could be added to the rural network at a later date.

5.46 These habitat groups are likely to support species that are believed to have similar preferences and needs.

5.47 Mapping software was used to identify the best connections between core habitat sites for each species group using a series of steps:

- Identify core areas;
- Map habitat suitability; and
- Identify corridors connecting core sites based on the 'least cost path' between core areas.

5.48 For each of the three identified broad habitat groupings, the following components have been identified:

Core Areas

These are identified wildlife sites of at least county importance. All Core Areas are classified by the priority habitat groupings for which they are of importance. The following types of wildlife site are included in Core Areas:

- Natura 2000 ('European sites'), which are international designations (but no such designation in Rossendale)
- Biological Sites of Special Scientific Interest
- Biological Heritage Sites; and
- Local Nature Reserves of County importance.

Therefore, many existing designated sites form part of the ecological network.

Corridors

Corridors comprise continuous stretches of permeable habitat that can, over time, be utilised by species to move between Core Areas. They are classified by length (0 – 250m, 250m - 3km, 3 – 5km). Corridors can contain habitat features which also act as Stepping Stones. In general, shorter routes, and routes through higher quality habitat, are preferable for habitat connectivity as species are more likely to successfully move through sites. Long paths between sites may represent paths that are only accessible to some species.

Attention is focused on corridors of 3 kilometres or less as the corridors that are most likely to be contributing to movement of individuals and species. This distance represents an intermediate dispersal capability and is proposed as an interim standard for evaluating overall network condition and connectivity. This measure can be adjusted upwards or downwards for individual habitat types or for all habitat types as future research indicates is appropriate.

Mapping ecological corridors and protected sites allows areas that are potential stepping stones to be highlighted as high quality habitats occurring in long corridors. Stepping Stones include:

- District level wildlife sites and Local Nature Reserves (of district wildlife significance) and important road verges. These are classified in respect of the priority habitats they support.
- Areas of priority habitat, outside protected sites but within, or partially within, the ecological network corridor.

The Core Areas, Corridors of 3km or less and Stepping Stones are the Primary Features of the Network.

Conserving and enhancing the historic environment

Heritage

5.49 Rossendale has a number of heritage assets (Figure 5) including Listed Buildings, Conservation Areas, Registered Parks and Gardens and these all contribute to the local distinctiveness and character of the area. Rossendale's Core Strategy (2011 - 2026) Policy 16 stresses the importance that their settings are safeguarded.

5.50 There are 13 Grade II* Listed Buildings and these are:

- Old Baptist Chapel, Goodshaw Lane, Goodshaw;
- Rawtenstall Cenotaph, Library Gardens, Rossendale;
- Church of St Nicholas with St John, Church Street, Newchurch;
- Monument in churchyard of St Nicholas with St John, Church Street, Newchurch;
- Ewood Hall, Ewood Bridge, Haslingden;
- Waggoner Tunstead Farmhouse, Tunstead Road, Stackstead;
- The Laurels, Bankside Lane, Bacup;
- Carter Place Hall, Blackburn Road, Haslingden;
- Crawshaw Hall, Burnley Road, Crawshawbooth;
- Church of St John the Evangelist, Burnley Road, Crawshawbooth;
- Edenfield Parish Church, Market Street, Edenfield;
- Friends Meeting House, Cooperation Street, Crawshawbooth; and
- Grane Mill, Laneside Road, Haslingden.

5.51 The location of all Grade II Listed Buildings are shown on Figure 5.

5.52 There are nine Conservation Areas:

- Bacup Town Centre;
- Chatterton/Strongstry;
- Fallbarn;
- Goodshawfold;
- Higher Cloughfold;
- Irwell Vale;
- Loveclough Fold;
- Rawtenstall Town Centre; and
- Whitworth Square.

5.53 Whitworth Cemetery is a Registered Park and Garden.

Relevant Local Studies

5.54 A number of studies have been completed or are under preparation to inform Rossendale's Local Plan.

5.55 The studies are:

- Playing Pitch Strategy
  The document provides guidance and support to the local authority in order to understand and assess the need for playing pitches. It provides a strategic framework for the maintenance and improvement of existing outdoor sports pitches and ancillary facilities between 2016 and 2026, in line with population projections.

- Strategic Flood Risk Assessment Levels 1 and 2
  The SFRA is a planning tool that enables the LPA to select and develop sustainable sites with respect to flood risk throughout the on-going process of developing their spatial plans and policies for the district. It also makes a number of recommendations for reducing flood risk.

- Strategic Housing Market Area Assessment
  This Study identifies the Housing Market Area for Rossendale and the Full Objectively Assessed Need (FOAN) for housing within the area. This provides a range and recommendation for the number of new homes that need to be built each year.

- Strategic Housing Land Area Assessment
  This study assesses a range of sites that have been put forward as potential housing locations. Each piece of land is considered on the basis of a standard methodology and a recommendation made on its suitability for development.

- Retail and Leisure Study
  The purpose of this Study is to identify what the existing provision of retail and leisure facilities is within and close to Town Centres and to calculate existing and future demand. It will also advise on the location of town centre boundaries.

- Employment Land Availability Assessment
  The Employment Assessment identifies Rossendale's Functional Economic Area. It also provides a calculation of the amount of new employment land required in the Borough and assesses the quality of existing sites.

- Green Belt Study
  To inform the preparation of the Draft Local Plan, this study has been undertaken to provide an independent and comprehensive review of the performance of the Green Belt within the Borough. The Study assesses the extent to which the land within the Rossendale Green Belt performs against the purposes of Green Belts.

- Gypsy and Traveller Area Assessment
  This piece of work looks at the demand for Gypsy and Traveller pitches, including from ethnic Gypsies living in bricks and mortar. It then calculates the existing supply and identifies whether new sites are needed, both for permanent and transit sites.

Relevant Research

5.56 Following the wide scale of flooding in Cumbria during 2015, the Forestry Commission has undertaken opportunity mapping for flood protection in same area. It recognises that woodlands can reduce flood risk by:

- Reducing the volume of flood water at source by increasing evaporation;
- Slowing the rate of runoff from the land by increasing soil infiltration;
- Enhancing floodplain storage and delaying flood peaks by increasing hydraulic roughness; and

- Reducing sediment delivery and siltation.

5.57 The study recognises observed data is lacking but modelling studies demonstrate:

- Adjusting hydrology and hydraulic parameters can reduce downstream flood levels and delay peak flows;
- Woodland creation can reduce flood peaks by 4-8% (Pickering, Yorkshire, 68km2 catchment area); 0-13% (Hodder, Lancashire, 25km2 catchment area); -3 to 27% (River Tone) and 2-54% (Pont Bren, North Powys, 6km2 catchment area);
- The ability of woodland to reduce flood flows declines with flood size, although modelling suggests can influence 1 in 100 year or larger events; and
- The scope to alleviate flooding decreases for catchments over 100km2.

5.58 The location of woodland is a key factor influencing effectiveness and best on soils with high propensity to generate rapid runoff, along streams and in floodplains.

Duty to cooperate

5.59 Public bodies have a duty to cooperate on planning issues that cross administrative boundaries, particularly those which relate to the strategic priorities set out in paragraph 156 of the NPPF. The Government expects joint working on areas of common interest to be diligently undertaken for the mutual benefit of neighbouring authorities.

5.60 In this respect the following local authorities and advisory bodies have been contacted to establish their priorities for cross-border green infrastructure planning, highlighting any existing initiatives and opportunities;

- Rochdale Council;
- Bury Council;
- Blackburn with Darwen Council;
- Hyndburn Council;
- Burnley Council;
- Calderdale Council;
- Lancashire County Council;
- Greater Manchester Ecology Unit (GMEU) and;
- Environment Agency.

5.61 The key priorities highlighted by the consultation were:

Table 1: Consultation with Neighbouring Areas and Relevant Public Bodies

Organisation	Priorities

Organisation	Priorities
Rochdale Council	Consideration of upstream flood storage in Rossendale & 'slow the flow' measures to help address flood risk from River Spodden in Rochdale area; Promoting 'off-road' cycle route links south of Whitworth; Maintaining Pennine Bridleway link.
Bury Council	Consideration of upstream flood storage in Rossendale & 'slow the flow' measures to help address flood risk from River Irwell in Bury area (& Salford); Potential 'slow the flow' scheme on National Trust land on border of Rossendale and Bury; Promoting cross-border 'off-road' cycle route (NCN6); Promoting Irwell Sculpture Trail cross border;
Blackburn with Darwen Council	Incorporating cross-border LERN networks in Rossendale's planning policy. LERN networks from part of the Green Infrastructure & Ecological Networks SPD, Blackburn with Darwen Council. http://www.blackburn.gov.uk/Lists/DownloadableDocuments/Green-Infrastructure-and-Ecological-Networks-SPD.pdf
Hyndburn Council	Incorporating cross-border LERN networks in Rossendale's planning policy. LERN networks in Hyndburn Council's planning policy through draft Development Management DPD; Promoting cross-border 'off-road' cycle route (NCN6);
Burnley Council	Burnley GI Strategy (2013) forming part of the emerging Local Plan evidence base identifies the following cross-border links: Promotes recreational links from Burnley Borough to Limy Water valley (Rossendale); Promotes Pennine Bridleway link from Burnley Borough to Whitewell Brook Valley (Rossendale); Promotes recreational links from Burnley Borough to Limy Water valley.
Calderdale Council	Leeds City Region GI Strategy; Carbon capture: woodland, peat soil area of search Woodland: primary area of search; Live Moor/Learn Moor area of search Calderdale Habitat Network Mapping (ongoing project);

Organisation	Priorities
Lancashire County Council	LCC have prepared the LERN network and provide an advisory service to Local Authorities in Lancashire; See paragraphs 4.43 - 4.48 of report; LCC are also managing the planning and implementation of the East Lancashire cycleway through Rossendale
GMEU	Draft GM Spatial Framework refer to Policy GM7 Green Infrastructure and Figure 10.1 Cross-border designations: Sites of Biological Importance; CRoW Act 2000;
Environment Agency	Informal discussions with EA Managers about the deployment of natural flood risk management measures (such as "Slow the Flow", tree-planting, use of leaky dams using redundant tree material to restrain the flow of water in upper catchments, indicated that any land in the Irwell catchment would be a priority for implementation of such measures.

6.0 Methodology

6.1 This chapter outlines the approach used to define the environmental network across Rossendale.

6.2 The earlier chapters established the extent of Rossendale's existing environmental resource, policy in respect of environmental networks, the benefits of green infrastructure planning and the opportunities for cross-border links to neighbouring areas.

6.3 Based on this research and the diverse character of Rossendale, it is proposed that there are three components to the environmental network, covering three distinct but overlapping geographies and providing a coherent Borough-wide network between rural and urban land, namely:

- Rural network;
- Valley network; and
- Greenlands sites.

6.4 The components of the network relate to distinctive spatial scales, with rural and valley networks applying at the Borough-wide scale and the Greenlands sites at the neighbourhood scale.

Rural Network

6.5 The fairly extensive coverage of biodiversity designations across the rural area includes Sites of Special Scientific Interest, Biological Heritage Sites, Local Nature Reserves and Ancient Woodlands and these form part of the rural network. These are already given statutory protection and are recognised as national or local priorities. These are regarded as core areas.

6.6 The ecological element of the rural network also comprises two habitat groups proposed by Lancashire Environment Record Network (LERN), namely woodland and grassland. A third habitat group covering heathland and wetlands is subject to further study by LERN and could be added to the rural network at a later date.

6.7 The rural network also consists of the LERN corridors that connect the core areas following the principles of *The Natural Choice: Securing the Value of Nature* described at Chapter 3. Land in the corridors is not always currently managed for environmental objectives, so there is opportunity in local policy to promote restoration and enhancement of corridors.

6.8 These biodiversity designations and the LERN habitats and corridors form the basis for a rural environmental network ensuring connectivity across the Borough and extending into the neighbouring administrative areas, under the Borough's "duty to co-operate".

6.9 Work is also currently being undertaken by the Forestry Commission on river catchment management introduced from paragraph 5.56 and there would be opportunities for 'restoration areas' forming natural flood management in the rural network.

6.10 Chapter 6.0 advises of the spatial extent of the rural network and potential cross-border links into neighbouring areas. Gaps in the network are also highlighted.

Valley Network

6.11 The rural network covers much land in the open countryside. However, the study revealed a lack of connectivity between the settlements and the rural network, in terms of biodiversity, land use, access and movement. It is evident that the river valleys can provide connections.

6.12 The river valleys in Rossendale are one of the Borough's distinctive features and they provide an existing physical link between rural and urban areas. There is an opportunity to better promote these river valleys, their floodplains and the linear recreational corridors to provide the 'missing link' between rural and urban.

6.13 Following the same principles of the *The Natural Choice: Securing the Value of Nature* the valley network contains core areas such as Biological Heritage Sites, priority habitats, Local Nature Reserve and Greenlands sites (including parks and gardens), along with linear features such as rivers, floodplains and off-road multi-user routes forming 'corridors' between the core areas.

6.14 Despite these core areas and corridors, the valley network is disconnected in places and has areas in need of restoration including the need to address heavily modified watercourses, recreating the natural river floodplain in places, reconnecting wooded corridors interrupted by development or brownfield land and ensuring there are comprehensive and connected off-road multi-user routes.

6.15 The next chapter describes the valley network largely based on the five river valleys; Spodden, Irwell, Whitewell Brook, Limy Water and Ogden. It describes the core areas and corridors of each valley network and gaps in the network that will need addressing.

Greenlands Sites

6.16 The Greenlands sites are the designated 'open space' sites from the 1995 Local Plan and are currently protected from development. These sites are in or on the edge of settlements.

6.17 The majority of the 88 Greenlands sites are parks, playing pitches, cemeteries and allotments and will remain as green space and will form part of the environmental network.

6.18 The study assessed 24 Greenland sites which are understood to be under pressure from development. Council Officers confirmed that these sites had been or are currently subject to developer interest.

6.19 The sites tended to be amenity or semi-natural green space and they were assessed for their value in terms of green infrastructure and their potential to contribute to the environmental network. This Greenlands Sites assessment is reported in Appendix C and it followed a five stages outlined below.

Stage 1 - Site visit

6.20 A visit was undertaken to establish key site features including type of green or blue infrastructure (GI) present (woodland, scrub, grassland, water). Other factors considered were; site condition and access, presence of PRoW or informal footpaths, the relationship to neighbouring urban form or countryside and indication of any management of the site.

Stage 2 - Mapping GI type

6.21 For each site, the type of GI was mapped in a geographical information system (GIS) software package, in some cases a number of types GI applied to a site. The type of GI (referring to the primary description and purpose) is as per Appendix E definitions.

Stage 3 - Analysis of GI functions

6.22 Consultation was undertaken with the Council to agree an effective way of establishing each site's value in terms of GI. The GI functions most relevant to Rossendale were put forward:

- Aesthetics and visual character;
- Supporting heritage;
- Recreation;
- Green travel routes;
- Shading from the sun;
- Carbon storage;
- Trapping air pollutants;
- Habitat for wildlife;
- Connectivity for wildlife;
- Water interception; and
- Water infiltration.

Using GIS software, each site was analysed in terms of the number of GI functions it delivered. The approach to the GIS analysis is presented at Appendix C.

Stage 4 - Reporting

6.23 The outputs of the GIS analysis for each site was classified according to the numbers of GI functions. The classification was arranged into 3 categories:

- 8-11 functions;
- 5-7 functions; and
- 1-4 functions.

6.24 Reporting included a site description, list of the relevant GI functions, a commentary on the results and opportunities for any enhancement to the site.

Stage 5 - Recommendations

6.25 Based on the reporting stage, recommendations were made as to whether a site should be retained as Greenlands forming part of the network of environmental corridors or whether there is potential for release for development.

Limitations of the Greenlands Sites assessment

6.26 The method is factual, objective and was applied consistently across the 24 sites. It is able to highlight sites or part of a site that have a lower number of functions and that through land management could be enhanced for wider public benefit.

6.27 A site or part of a site with a low number of GI functions does not necessarily imply that it has low value and that it may be suitable for release from development. For example an amenity green space with limited tree cover may deliver a low number of functions but may meet local needs in terms of informal sport and recreation. The site may also provide an important water infiltration function in an area subject to surface water flooding.

6.28 A site or part of a site may be occupied by an allotment or similar garden amenity area that also has a low number of GI functions. This again does not necessarily imply a low value as it may meet local needs in terms of community cohesion, health and wellbeing and education which did not form part of the scope of Stage 3 – Analysis of GI functions (paragraph 5.22).

6.29 The outputs of the assessment would need to be considered in the context of other needs in Rossendale and evidence base studies for the Local Plan.

7.0 Recommendations

7.1 Rossendale's Core Strategy vision is for a high-quality natural environment to sustain quality of life in its communities. The vision recognises that a strong environmental network should be maintained. Policy 17 (Green Infrastructure) contains the following vision:

Rossendale's Green Infrastructure will be widely recognised as one of the Borough's key strengths, and will attract and support sustainable development and regeneration whilst delivering wider social, economic, environmental, health and climate change adaptation and mitigation benefits.

7.2 If the Core Strategy vision is incorporated into the emerging Local Plan for Rossendale, there is a significant opportunity for a comprehensive and connected environmental network that can deliver multiple socio-economic and environmental benefits.

7.3 The study aims to firstly identify the key components of the Borough's environmental network and advise on policy for its protection and enhancement, including measures to identify and address gaps in the network.

7.4 The second aim is to examine a number of the Greenlands sites which are under pressure for development; to assess their inherent green infrastructure functionality and to determine whether those sites contribute to the environmental network.

7.5 The chapter presents the three components of the environmental network, namely the rural network, valley network and Greenlands sites. Also reported are any gaps in these networks and the findings of the analysis of the green infrastructure functions for the Greenlands sites under development pressure. The chapter contains planning policy recommendations for promoting the environmental network.

7.6 The primary aim of the rural network is to provide the wider strategic linkages across Rossendale's countryside and into the neighbouring areas. The aim of the valley network is to provide the 'missing link' between the countryside and the urban area and connect some of the Greenlands sites together. The Greenlands sites provide an existing easily accessible resource to people and nature in or to the edge of the urban area.

7.7 A Key Diagram is provided (Figure 10) to show the spatial representation of the environmental network.

Rural Networks

7.8 In this section, the physical disposition of the elements of the rural network are described, namely; woodland, grassland and an outline for restoration areas for river catchment management. This is in addition to the core biodiversity designations named at paragraph 6.5. The Rural Network plan also confirms locations and key linkages to neighbouring local authority areas (Figure 11).

Woodland

7.9 The network extends from the core woodland areas in different parts of the Borough at Whitworth, Buckshaw Brow, Edenfield and the Ogden Reservoir Valley using the findings of the Lancashire Environment Record Network (LERN). Extending from the core areas are the stepping stone habitats, 0 to 250m corridors and 250m to 3km corridors (introduced from paragraph 5.43).

Whitworth

7.10 Healey Dell Local Nature Reserve (LNR) and Fern Isle Wood and Doctors Wood Biological Heritage Site (BHS) are the core woodland areas and a corridor is proposed between Whitworth and Spring Mill Reservoir to link the two sites. There are also links south across the border to Rochdale.

Buckshaw Brow

7.11 The core woodland areas at Deeply Valley and Sales Lane would be linked by wooded corridors. Both core areas have cross-border links with Rochdale and Bury respectively.

Edenfield

7.12 There are a number of core woodland areas in the area around Edenfield. These include; Dearden Clough (BHS), Hawks Clough Plantation (BHS), Lumb Wood, Great Hey Clough and Oxhey Wood (all ancient woodlands). These core sites would be linked by wooded corridors next to the A56, railway and River Irwell and wooded areas on intervening land.

Ogden Reservoir valley

7.13 The valley sides to the three reservoirs are characterised by a range of blocks of woodland (some designated BHS). The core area would be linked to the south by the wooded corridor at Ogden Brook and northwards across the boundary into Hyndburn.

Grassland

7.14 The network extends from the 21 core grassland areas and these are grouped into eight geographical areas. As with the woodland, the stepping stone habitats, 0 to 250m corridors and 250m to 3km corridors extend from the core areas.

North of Bacup

7.15 The two core grassland sites are known as Pat Moss and Whitegate Farm Meadows and Sow Clough Fields. They would be linked by neighbouring land and the corridors would also connect with two Greenlands sites (nos. 47 and 52) to the west of Bacup.

Spodden Valley

7.16 The core site is named Duckworth Bank, to the east of Shawforth and the corridor would extend along the eastern side of the valley and interface with Calderdale.

Buckshaw Brow

7.17 This is an extensive core site on the border with Rochdale. The corridor would have cross-border links with Rochdale and Bury.

East of Edenfield

7.18 This smaller site known as New Gate Valley Pastures is on the border with Bury and its corridor extends southwards.

South of Rawtenstall

7.19 There are two core sites known as New Barn Clough Fields and White Jones Fields respectively. They would be linked by a corridor on intervening land and the corridor would extend south towards Dearden Moor and north towards Townsend Fold. The corridor would have an interface with a Greenlands site (no. 34).

Irwell Vale

7.20 Three of the four core sites are interconnected and form part of the Former East Lancashire Railway from Ramsbottom to Accrington. The three are Ogden Valley (Raven Shore and Lower Cockham), East Lancashire Railway Helmshore to Lumb Hall and Stubbins Nature Reserve and Woodland. A short corridor links south across to Lower Red Lees, Buckden Wood and Ox Hey Wood. A further corridor is proposed to the west onto Holcombe Moor linking the sites in Irwell Vale. Another corridor would link to the north east connecting a further core site known as Blackburn Road Pasture.

East of Ogden Reservoir

7.21 This core site known as Edgerton Moss and Boardman Close is next to the boundary with Blackburn Borough. A corridor connects the site with a core site to the west in Blackburn.

North of Haslingden and Rawtenstall

7.22 There are seven sites in the uplands north of the two settlements and these are connected by a broad network of corridors. The same network connects north into Hyndburn Borough. The core sites are known as Top o' th' Bank Field, Brown Edge Fields, Cribden Moor and Mitchell's House Reservoir Clough.

7.23 Laund Banks, Crawshaw Hall Wood, Limy Water Fields and Goodshaw Baptist Chapel Grounds are all in the Limy Water valley.

Restoration Areas for Natural Flood Management.

7.24 The national awareness of flood risk has risen greatly in recent years, due to repeated storms and consequent flood damage to several communities in the north of England. Natural flood defence measures, sometimes branded "Slow the Flow", have become an accepted pro-active response to the risks from climate change. These include the use of leaky brash dams in upland streams, increased tree-planting in upper catchments and alongside watercourses, and improved agricultural soil management techniques such as subsoiling. These measures can reduce the intensity of peak flows in downstream communities at risk, reducing actual damage to property, and giving people additional time to respond to flood warnings.

7.25 Given that almost all Rossendale's rural area forms the catchment for downstream communities at some risk of flooding, both in the Borough and in Greater Manchester, the whole rural area should be seen as a priority area for natural flood management measures, both within the mapped network and outside. Using the ecological network concept diagram (Figure 1), the rural areas can be seen as "sustainable land use areas" and priority sub-catchments should be seen as "restoration areas".

7.26 Hydrological research is not yet sufficiently advanced to define priority sub-catchments in Rossendale Borough, but indications from Forestry Commission research are that sub-catchments under 100ha in size offer the most flood benefit from tree-planting.

7.27 As and when evidence comes forward, priority sub-catchments can be defined for inclusion in the rural network as restoration areas, but in the meantime, rural network policy should promote natural flood management throughout the rural areas.

Valley Networks

7.28 The valley networks are based on Rossendale's five main river valleys: Spodden, Irwell, Whitewell Brook, Limy Water and Ogden. The valley networks include the river corridors, floodplains, linear recreational routes and Greenlands sites (Figure 12).

Spodden

7.29 The Spodden valley network extends from Whitworth and heads northwards past Shawforth and then up to Bacup. The first main element of the Spodden valley network is the disused railway route north from Whitworth towards Bacup. This is in the process of being refurbished by Lancashire County Council (LCC) as a multi-user route for cyclists, horseriders, runners and walkers as part of the East Lancashire Cycleway "Valley of Stone".

7.30 The second element is the River Spodden where it joins the valley bottom just north of Shawforth and flows downstream towards the boundary with Rochdale. The third element is the eight Greenlands sites that associate closely with the network and they form the third element.

7.31 The East Lancashire Cycleway "Valley of Stone" extends from Healey Dell Nature Reserve at the south eastern Borough boundary towards Stubbylee Park in Bacup and the Irwell valley. Parts of the Cycleway in Whitworth and Shawforth follow residential roads where the former railway alignment has been interrupted and in addition there are two main gaps to the route at the site of the former Facit station and at Stubbylee Park. Part of the development of the "Valley of Stone" involves finding solutions to these gaps. The continuity and legibility of the route is being addressed by LCC through waymarking, community-led art work, streetscape improvements and crossing points for pedestrians and cyclists. Where land allows in the future, planting native hedgerows and trees species should be promoted both to aid the legibility of the route for people and as natural corridor for wildlife.

7.32 The course of the Spodden flows in narrow wooded corridors next to the A671 Market Street, through several Greenlands sites and then through Whitworth between business premises and residential properties. In places it is routed through culverts under roads and buildings.

7.33 The River Spodden is subject to both fluvial and surface water flooding and the Council's Strategic Flood Risk Assessment (SFRA) recommends the implementation of flood storage schemes to regulate the volume of water flowing downstream during high rainfall events. In terms of addressing some of the flood risk issues there are opportunities to create washlands and flood meadows outside developed areas.

7.34 An approach to such regulation is demonstrated downstream at Healey Dell Local Nature Reserve where there are a number of ponds forming part of the watercourse that retain water before discharging it downstream.

7.35 The section of the watercourse, south of Shawforth, flows through Greenlands sites (nos. 75 and 88) and opportunity to incorporate washlands or flood meadows should be considered.

7.36 Alternatively there would be opportunity to install underground detention basins in those sites, storing water during flood risk events. On completion of construction of such a structure, the surface level could be returned to its original green space function. There is precedent for this in Rossendale as United Utilities have an underground detention basin at Stacksteads between the River Irwell and the A681 Newchurch Road.

7.37 Greenlands site 75 and 88 are next to the A671 Market Street and proximity to the main road network could enable construction vehicles gain access to the sites.

Irwell

7.38 The Irwell valley network extends from north of Weir (settlement) southwards towards Bacup and then linking up Waterfoot, Rawtenstall and the Borough boundary with Bury. The valley network would include the River Irwell corridor, a section of the East Lancashire Cycleway route from Bacup to Rawtenstall and up to 14 Greenlands sites.

7.39 The course of the River Irwell is diverse covering agricultural land and then flowing into channelled and culverted sections past densely developed areas of housing, employment, retail, brownfield and Greenlands site.

7.40 The upper section of the Irwell from Weir to Higher Broad Clough passes through a Greenlands site (no. 43) and agricultural land. This section provides the most opportunity for washlands and flood meadows to help regulate the flow of water downstream in times of high rainfall.

7.41 South of Higher Broad Clough, the river enters a channel next to the A671 (Burnley Road) with sections of culvert and channels through Bacup. The river has very limited visual presence in the town but opportunities should be sought to restore its visibility in the public realm.

7.42 The section of the River Irwell between Bacup and Rawtenstall is largely in channel and meanders its way next to residential and employment development and Greenlands. The River passes next to several Greenlands sites and as with the River Spodden there would be longer term opportunities to construct underground detention basins and restore the green space function at surface level on completion of the asset.

7.43 Other enhancements and flood risk management measures to the River could be realised by contributions from promoters of nearby development. This would include the restoration of smaller watercourses from culverts or channels.

7.44 The section of the East Lancashire Cycleway "Valley of Stone Greenway" forming part of the valley network would run from Stubbylee Park to Cloughfold (east of Rawtenstall) linking up to seven Greenlands sites. Enhancements would include wayfinding, connections to the wider PRoW network, native tree and hedge planting to help with wayfinding and to contribute to wildlife corridors.

7.45 There are two major gaps on this section of the cycleway. There are two tunnel structures south of Waterfoot that require refurbishment to enable the cycleway to pass through. The second gap is a section of the cycleway that requires a new bridge over the River at Buckhurst Plant.

7.46 The remaining section of the River is from Rawtenstall to Stubbins returning to a meandering course next to several Greenlands sites, some pockets of development and agricultural land. There are further potential opportunities for washlands and flood meadows in the Greenlands sites and agricultural land.

Whitewell Brook

7.47 The Whitewell Brook valley network runs south from Clough Bottom Reservoir to the confluence with the River Irwell at Waterfoot. Key elements of this valley network would be the Whitewell Brook, the Greenlands site at Water, Whitewell Bottom and Waterfoot and the Pennine Bridleway (also known as the Mary Towneley Loop).

7.48 The upper section of the Whitewell Brook immediately south of Water flows next to agricultural land and provides the most opportunity for washlands and flood meadows. However, for much of the valley north of Waterfoot, the river is constrained into a channel next to 'ribbon' residential development so the upper section of the Brook should be prioritised.

7.49 In common with the other valley networks, the potential for detention basins (for storing water) under Greenlands sites next to the watercourse should be considered.

7.50 In Waterfoot a considerable section of the watercourse passes in culvert under mill buildings and industrial premises. Some of these buildings are vacant or redundant and should they become available for refurbishment or redevelopment, priority should be given to restoring the Whitewell Brook to the public realm.

7.51 The steep sided nature of the valley at Waterfoot creates surface water flooding issues. There are opportunities to help manage this by incorporating detention basins attracting excess surface water as part the public realm improvements to the Whitewell Brook.

7.52 The Pennine Bridleway provides walkers, fell runners and mountain bikers with access to the Borough's distinctive heritage, landscape character and biodiversity and connects with neighbouring Boroughs; Burnley in the north and Rochdale in the south.

7.53 The Pennine Bridleway is a key feature of the Whitewell Brook valley network connecting Clough Bottom Reservoir with Waterfoot, traversing the valley sides and linking the Greenlands sites. Enhancements should include signs (directional and interpretation), improved access such as stiles and gates for multi-use and landscape planting including hedgerows and hedgerow trees. Lateral links with the PRoW network in the valley should be promoted ensuring a comprehensive and connected system.

Limy Water

7.54 The Limy Water valley network extends south from Love Clough to the confluence with the Irwell at Rawtenstall. Key elements include Limey Water, the Crawshaw Hall Wood Biological Heritage Site and Rawtenstall Cemetery.

7.55 The source of Limy Water is in neighbouring Burnley Borough and the watercourse supplies Clowbridge Reservoir. South of the Reservoir much of the watercourse passes through a channelled course even through agricultural areas. Opportunities for reintroducing a more 'natural' course should be investigated together with washlands and flood meadows.

7.56 Further south at Crawshawbooth the course of Limy Water is constrained by the steepness of the valley sides and at Rawtenstall it re-enters a channelled course before entering a 500m long culvert under the A682 Burnley Road next to the town centre. This is a severe constraint on flood risk mitigation measures and therefore priority for flood risk management should be focussed on the upper sections of the valley.

Ogden

7.57 The Ogden valley network is the shortest of the five valley networks. It would extend from the Calf Hey, Ogden and Holden Wood Reservoirs, through the large Greenlands site (no. 86) and then would connect with the Irwell network at Irwell Vale. Key elements of the valley include the Ogden Water and another disused section of railway currently being refurbished as part of National Cycle Route 6. The Rossendale Way footpath follows the upper slope and would also form part of the Ogden valley network.

7.58 Lancashire County Council's priority for action is the refurbishment of the disused railway and where this is not possible, parallel footpaths, as a multi-user route for cyclists, horseriders, runner and pedestrians providing access from the boundary with Bury at Stubbins to Helmshore Museum and Haslingden Moor and ultimately linking on via NCN6 to Accrington.

7.59 Part of the former railway embankments are a network of Biological Heritage Sites described at paragraph 6.20. The interface between these sensitive ecological sites and the active recreational use of the Cycleway will need to be carefully managed through interpretation and appropriate site boundary treatments.

7.60 The Rossendale Way provides a circular route that roughly follows the Borough boundary. Locally it traverses the sides of the Ogden valley network and enhancements should include signs (direction and interpretation), improved infrastructure such as stiles and gates for multi-use and landscape planting including hedgerows and hedgerow trees. As recommended elsewhere lateral links with the wider PRoW network in the valley should be promoted ensuring a comprehensive and connected system.

Greenland Sites (under development pressure)

7.61 The Greenlands sites under development pressure were assessed for their environmental value, their green infrastructure (GI) functionality and their potential to contribute to the Environmental Network. This is reported in detail in Appendix C.

7.62 Some of the sites were characterised by one type of GI (eg. grassland) and are reported in paragraph 6.62. Other sites were characterised by more than one GI type and these are reported in paragraph 6.63.

7.63 The findings from the six sites characterised by one GI type were:

- Three sites with 5-7 functions; and
- Three sites with 1-4 functions.

7.64 The findings from the 18 sites characterised by more than one type of GI were:

- Four sites with 8-11 functions and 5-7 functions;
- Three site with 5-7 functions and 1-4 functions;
- Six sites with 8-11 functions and 1-4 functions; and
- Five sites with the range of 8-11 functions, 5-7 functions and 1-4 functions.

7.65 The assessment confirms that wooded sites have a higher environmental value, number of GI functions delivered and contribution to the wider environmental network.

7.66 Where there are local challenges such as fluvial or surface water flood risk, opportunities for planting up non-wooded areas with trees should be considered to help address those challenges but thisneeds to be balanced with need for grassland ecology sites.

7.67 Sites that serve a specific purpose such as outdoor sports facilities, allotments and community gardens and cemeteries should be retained subject to confirmation by the Council they meet local needs.

7.68 In terms of site condition, accessibility and relationship to neighbouring urban form, many of the sites are characterised by mature vegetation and have a semi-natural character. Some appear to be subject to limited maintenance and management. There is some PRoW or informal footpath access from neighbouring areas but these routes tend to be in poor condition. This affects access to the sites, which often have a lack of frontage and are located behind development.

7.69 As part of the valley networks, there is potential for improved access to Greenlands sites and for routes to connect them together giving opportunity for more active recreation. Routes can be enhanced through wayfinding, pedestrian crossings, streetscape improvements and entrance features to Greenlands sites.

7.70 The assessment has highlighted some sites of lesser environmental value as they deliver a more limited number of GI functions. These sites could be considered for release for development. A preliminary list of these sites is outlined below:

- Site 8 - Park Avenue/Criccieth Close, Haslingden;
- Site 18 - Laburnum Cottages, Goodshaw Chapel, Crawshawbooth;
- Site 33 - Playing field off Cherry Tree Lane, Rawtenstall;
- Site 36 - Playing Field to the rear of houses on Bacup Road, Rawtenstall;
- Site 38 – Playing Field, Cloughfold, Rawtenstall;
- Site 48 - Land south of Greave Clough Drive, Bacup;
- Site 50 - Land south of St Mary's Primary School, Bacup; and
- Site 67 - Waterbarn

7.71 However, the recommendations would need to be tested against the need for people to access green space in the local area.

7.72 Any development proposals would need to include a masterplan to demonstrate how the site layout could include measures to contribute to the functions relevant to the site listed at paragraph 1.9.

7.73 The assessment also highlighted a number of sites that were characterised by more than one type of GI. As an example this could result in part of a site delivering 8-11 functions, another part delivering 5-7 functions and a third part delivering 1-4 functions.

7.74 In these situations, part of a site could be considered for release from development. A preliminary list of these sites is outlined below:

- Site 32 - Fallbarn Crescent, Longholme;
- Site 49 - Land east of Rochdale Road, Bacup;
- Site 51 – Huttock Top, Bacup;
- Site 60 – Land off Wales Road, Waterfoot; and
- Site 69 – Brandwood.

7.75 However, a further constraints assessment would be required for these sites to ensure that the parts of the site to be retained as the Greenlands designation would be adequately protected from any proposed development.

7.76 The outputs of the Greenlands site assessment will form one part of the evidence base for the Local Plan. The Council will need to take a balanced view as to whether any Greenlands sites or part of any Greenlands sites should be released for development based on the other evidence base studies and consultation.

Planning policies

7.77 Robust planning policy will encourage development which delivers high standards of GI in Rossendale's Environmental Network. This will require commitments in the Local Plan and associated policies with the flexibility needed to guide and control delivery across a broad range of locations including development locations, footprints and types.

Rural Network

7.78 Local Plan policy should aim to conserve, protect and seek opportunities to enhance and manage the natural, heritage and recreational assets within the rural network, including measures which promote the conservation and enhancement of biodiversity and seeking opportunities to conserve, enhance and expand the rural network.

7.79 This can be achieved by formulation of policy for managing developments in or near the rural network and policy which promotes the management or enhancement of the rural network.

7.80 The rural network may be subject to planning applications for development such as renewable energy or utilities infrastructure. If these are acceptable in location and planning terms, opportunity should be taken to design the schemes in such a way as to enhance the rural network in and around the proposed development.

7.81 Local Plan policies should ensure that all new development in the rural network should contribute to the objectives of the Borough-wide rural network and result in a net gain in GI, as set out below:

- Maintaining and enhancing the core areas for biodiversity (the LERN network)
- Enhancing the corridors between core areas, specifically improving environmental management of land in the corridors;
- Returning watercourses to a natural state where practicable, including through deculverting and re-naturalisation of river banks and flood plains;
- Enhancing woodland networks including the protection and expansion of clough woodland;
- Enabling informal public access that does not disturb tranquility or priority species within the rural network, using existing footpaths, bridleways, cycleways and open access land, especially improving areas where access is discontinuous, insecure or unavailable to less mobile people;
- Retaining and enhancing distinctive rural industrial and archaeological heritage with green infrastructure measures; and
- Managing land to increase biodiversity, retain water, reduce run-off, mitigate climate change and improve water infiltration.

7.82 Any development with the objective of enhancing the rural network should be enabled by policy. This might include flood defence measures and creation of multi-user routes. Any such development would still be subject to policy requiring high standards of environmental assessment and design.

7.83 Any development which would harm the connectivity of the rural network would be resisted, including harm to the objectives of the rural network (see 7.8-7.27). Where development would harm the rural network, but the benefits arising from development outweigh the harm, appropriate compensatory measures could be secured through planning condition, in order to achieve a net improvement in green infrastructure for the rural network.

7.84 All new development in or near the rural network should seek to retain (or replace where loss is unavoidable) GI elements through an appropriate environmental assessment and design process:

- Watercourses
- Woodland, mature trees and hedgerows
- Local and UK BAP habitats and those supporting local and UKBAP priority species

7.85 Offsetting mechanisms are increasingly being adopted for urban development affecting biodiversity and for industrial processes which generate greenhouse gases. The rural network should be a priority area for investment of offsetting monies, since it can deliver multi-functional land use in addition to satisfying the purpose of the offsetting monies. This will require the Local Plan to include an offsetting policy for all developments (or for developments above certain thresholds). It would also require the Council to encourage offset providers to engage with landowners in the rural network.

7.86 The Central Lancashire Biodiversity and Nature Conservation SPD, covering Chorley, Preston and South Ribble Councils, embeds the LERN ecological networks in planning policy promoting the conservation and enhancement of biological diversity and seeking opportunities to conserve, enhance and expand ecological networks. Where a potential development site is located in the LERN network, the developer is required to make provision for the links through the site. In terms of the planning application process the SPD sets out the requirements for submission including scope of surveys of protected species and habitats. Where required, a survey and assessment of the impact on the relevant species or feature should be undertaken and submitted with the application. Where appropriate this report should include details of measures to be implemented to mitigate or compensate for adverse impacts. This ensures that the Local Planning Authority has sufficient information to make an informed decision about whether wildlife can be protected during development; and makes certain that there will be no adverse impact on local biodiversity as a result of the development.

7.87 A similar SPD would be appropriate in Rossendale, and could apply to biodiversity both in the rural and valley networks.

Valley Network

7.88 Local Plan policies should ensure that all new development in or within 100 metres[13] of the elements described earlier for the five valley networks (paragraphs 7.28 to 7.60), should contribute to the objectives of the Borough-wide valley network and result in a net gain in GI, as set out below:

- Addressing the gaps referred to in paragraphs 6.28 to 6.60;
- Retaining the open and continuous character of the valleys outside the settlements;
- Returning rivers to a more natural state where practicable, including through deculverting and re-naturalisation of river banks and flood plains;
- Enhancing woodland networks including the protection and expansion of clough woodland;
- Increasing public access to and along the valleys and between Greenlands sites, especially footpaths and cycleways in urban areas

[13] It is beyond the scope of the budget for this study to define precise boundaries for the valley network, so for the purpose of policy development, it is proposed that the network be defined by reference to the five named valleys and the environmental elements of those valleys which sustain their green infrastructure functions. It is equally difficult to define a distance beyond the valley network within which development may result in adverse effects on the network, but for the great majority of foreseeable developments TEP considers that effects are likely to be minimal beyond 100m distance.

where access is discontinuous, insecure or unavailable to less mobile people;
- Retaining and enhancing distinctive valley industrial heritage with green infrastructure measures;
- Managing land to increase biodiversity, retain water, reduce run-off, mitigate climate change and improve water infiltration; and
- Ensuring that the design of new developments maximises the benefits of locating close to waterways with high quality frontages addressing those waterways but also incorporating flood risk management measures;

7.89 Any development that enhances the valley network would be enabled by policy. This might include flood defence measures and creation of multi-user routes. Any such development would still be subject to policy requiring high standards of environmental assessment and design.

7.90 Any development which would harm the valley network would be resisted, including harm to the objectives of the valley network. Where development would harm the valley network, but the benefits arising from development outweigh the harm, appropriate compensatory measures could be secured through planning condition, in order to achieve a net improvement in green infrastructure for the valley network.

7.91 All new development in or near the valley network should seek to retain (or replace where loss is unavoidable) GI elements through an appropriate environmental assessment and design process:

- Watercourses
- Woodland, mature trees and hedgerows
- Local and UK BAP habitats and those supporting local and UKBAP priority species

7.92 The adoption of an offsetting policy for larger developments, as described for the rural network, would also enable diversion of funds under CIL or s106 contribution towards relevant projects in the valley network

7.93 The adoption of a Biodiversity SPD, as described for the rural network, would also benefit the valley network, contributing to enhancement of ecological networks advocated by NPPF.

Greenlands Sites

Retained Greenlands sites

7.94 Local Plan policies should ensure that all new development in or within 100 - 200 metres of a Greenlands site should result in contributions towards investment in that specific Greenlands site.

Greenlands Released for development

7.95 For Greenlands sites released for development, elements of environmental value should be retained and enhanced. A well-planned development can often retain or enhance GI functions provided by the site, for example by enhanced woodland, general amenity space, attenuation pond or creation of new wildlife habitat.

7.96 Where there are existing elements of limited value, developers should accommodate new green infrastructure on site and/or contribute to the enhancement of a neighbouring Greenlands site.

Evaluation and monitoring

7.97 Evaluation and monitoring of the application and impact of GI policies on the Environmental Network in the Local Plan will be vital in ensuring their continued effectiveness. Monitoring will be undertaken as part of the Council's annual Authority Monitoring Report.

Planning Conditions, Obligations and Tariffs

7.98 The Environmental Network and GI can be delivered as a co-product of investment in new or refurbished infrastructure. Development creates opportunities in the form of new or improved assets as well as threats related to the loss, damage or other alteration of environmental features. This justifies seeking contributions from developers to assist in both the continuing management of existing GI assets and in the creation of new assets – particularly where deficiencies have been identified.

7.99 Planning obligations traditionally take the form of Section 106 (s106) agreements. These are private agreements negotiated between local planning authorities and persons with an interest in a piece of land, and are intended to make acceptable development which would otherwise be unacceptable in planning terms.

7.100 As a means of supporting GI, s106 agreements can generate the finance and provide the land for the implementation of new green space assets and improvements to existing green space assets, but also critically can be used to fund endowments for long term management.

7.101 A review of how the Council applies contributions, specifically how Borough-wide spatial issues could be addressed through the agreements could be useful. A flexible approach to the application of such financial contributions to priority projects across the Borough rather than restricting their use to the particular locality of the development would be beneficial, although this will be a matter for the Community Infrastructure Levy (CIL).

Other Recommendations

Community and Voluntary Sector Engagement

7.102 The involvement of voluntary and community sector groups is essential for the delivery of Environmental Network and GI, particularly at the local level. Updates to the Borough's Community Strategy should make direct reference to green infrastructure and its multiple benefits.

7.103 Local communities are vital to the success of any plan or project, and their views should be sought at the earliest stages of development through to long term management and maintenance of sites. GI functions such as community cohesion, providing connections with nature, recreational choices and options for improving health will be best delivered where community needs and aspirations are considered and could include sponsoring a Greenlands site.

APPENDIX A: Study Brief

Introduction and Policy Background

Introduction

1.1 Rossendale Borough Council is seeking tenders from suitably qualified and experienced consultants to undertake an Environmental Corridor Study.

1.2 This document sets out the objectives and scope of the project and the key issues that should be addressed when preparing tenders for submission.

1.3 Rossendale Borough Council is preparing a new Local Plan. The Local Plan will focus primarily on:

- how much land is required for growth and where;
- the infrastructure requirements to deliver this; and
- what to protect – the environmental capacity of Rossendale to accommodate growth in the most sustainable manner

1.4 An Environmental Corridor Study will be an important part of the evidence base, providing the evidence to support designations within the Plan and relevant supporting policies.

National Policy

2.1 The National Planning Policy Framework ('NPPF') confirms that the Government attaches importance to open land and networks. Paragraph 17, which sets out the Government's 12 Core Planning Principles, states in bullet 9

"that some open land can perform many functions (such as for wildlife, recreation, flood risk Mitigation, carbon storage or food production"

2.2 Paragraph 73 indicates that Open Space can make an important contribution to health and well-being going on to state that:

"Planning policies should be based on robust and up-to date assessments of the need for open space…to determine what open space…provision is needed"

2.3 Paragraph 75 indicates the importance of Public Right of Way, in particular, enhancing networks.

2.4 Paragraphs 76 and 77 cover designation of Local Green Space. Establishing the value of these areas can cover a variety of purposes but they do not specifically need to be part of a network.

2.5 Paragraph 109 of NPPF is significant in its approach to biodiversity, indicating an intention of:

"establishing coherent ecological networks that are more resilient to current and future pressures"

2.6 Paragraph 113 sets out the importance of designating protected areas and having relevant policies to protect them that

"gives appropriate weight to their importance and the contribution that they make to wider ecological networks"

2.7 Paragraph 117 is particularly important to the concept of Biodiversity networks. The paragraph states that local authorities should *"promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets, and identify suitable indicators for monitoring biodiversity in the plan"*

It also identifies the importance of planning at a landscape scale across local authority borders and of identifying and mapping the components of ecological networks and how the different elements are linked. The preservation, restoration and recreation of both habitats and networks is also highlighted.

2.8 The NPPF Glossary identifies Ecological Networks as *"linking sites of biological importance" while Ecosystem Services are described as "The benefits people obtain from ecosystems such as, food, water, flood and disease control and recreation"*

National Planning Practice Guidance (NPPG)

2.9 NPPG includes a whole section on the Natural Environment which includes a section on Green Infrastructure and Ecological Networks. The multiple benefits of Green Infrastructure and wider cross-border linkages are emphasised. A link to Paragraph 2:12 of the June 2011 Natural White Paper Paragraph 2:12 provides a context for understanding the different components of Ecological Networks.

Local context

2.10 Rossendale Core Strategy (adopted November 2011) provides the local policy context. Policies 17 "Rossendale Green Infrastructure" and 18 "Biodiversity, Geodiversity and Landscape Conservation" provide relevant policy context. Policy 19 "Climate Change and Low and Zero Carbon Sources of Energy" provides a context for the broader benefits of green infrastructure in addressing flood risk and climate change adaptation.

Rossendale Green Infrastructure - Background

Studies

3.1 A comprehensive Open Space Study was prepared for the Council by Groundwork in 2006. This was last updated in 2008. This looked at the complete range of open spaces from children's play areas to urban squares.

3.2 A new Playing Pitch Strategy was completed by consultants KKP in April 2016. This concludes that all existing pitches should be retained. Work is currently ongoing by consultants JBA on a Strategic Flood Risk Assessment (Levels 1 and 2). Mapping from this work can be made available to employed consultants.

3.3 For the preparation of the abandoned Site Allocations and Development Management Document a comprehensive Landscape Character Assessment review was undertaken by Penny Bennett Associates. This was undertaken Borough wide but there were also a large number of individual site assessments. The Character Assessment work builds on previous work by Julie Martin Associates.

3.4 Earlier work on Green Infrastructure is included in the Core Strategy Figure 24. Lancashire Environment Record Network (LERN) can provide a number of documents that are germane to the Study, most particularly information on Biological heritage Sites (BHS) and the Ecological Network mapping prepared by the Lancashire Local Nature Partnership (the ecological network mapping and documentation are available from: https://ftps.lancashire.gov.uk/ Username: LERN2 Password: 78p873Rw). LERN holds a large amount of information on the distribution of habitats and species, including 'priority species' and other notable species. Information held by LERN will be available to the chosen consultant to inform their work on the project.

Background

3.5 Rossendale contains 3 SSSI's (designation of a large cross-border SSSI for the West Pennine Moors is currently ongoing), 7 Local Geodiversity sites, 52 Biological Heritage Sites (County Importance) and one Local Nature Reserve. There are also a number of sites of District value.

3.6 The Core Strategy incorporates previous Local Plan policy E1 on "Greenlands" (see Appendix 2). These are non-designated areas of open space including a mix of recreational areas and cemeteries but also a mixture of areas of open space and woodland within urban areas that have been protected from development. There is development pressure on a number of these sites. Responses by the public to previous consultations have indicated that some "Greenlands" are considered to have community benefit both for the wildlife they contain as well as the informal recreational opportunities they present.

3.7 While there are a significant number of Biological Heritage Sites, information on their positive management for ecological value has often been limited or non-existent.

3.8 Flood risk is a major concern in Rossendale. The topography means that surface water flooding is a particular issue, with rapid run-off from the hillsides feeding into the River Irwell and its tributaries and the River Spodden. A number of major flood risk incidents have occurred, most recently on Boxing Day 2015 when hundreds of properties were flooded. The rapidly rising rivers of Rossendale also contribute to flooding problems downstream in Bury, Rochdale and Salford.

3.9 Rossendale contains two Air Quality Management Areas, both of which are traffic related. These are in Rawtenstall Town Centre and Sykeside roundabout, Haslingden.

The Environmental corridor Assessment – Project Brief, Specification and Requirements

Project objectives and scope

4.1 The overall aim of the project is to provide Rossendale BC with a definition of Environmental Corridors and the key components of these within the Borough plus any key cross-border links. This should be based on an agreed methodology reflecting current good practice. The assessment should provide clear and robust conclusions that will form a critical part of the Local Plan evidence base and inform the development both of policy and allocations.

4.2 The project will be split into two distinct stages:

Part 1 – Methodology

4.3 Part 1 of the project will be to use mapping, GIS records and written text to develop a methodology which

- identifies the key components contributing to the definition of Environmental corridors including a clear justification of why they have been selected;
- Identifies where there are any significant gaps in networks;
- Identifies the key functions played by different individual components as well as corridors for biodiversity, flood alleviation, carbon storage and recreation including where multiple benefits occur; and
- Identifies and evidences the principle cross-border linkages to neighbouring areas

The methodology should be compliant with the National Planning Policy Framework (NPPF) and Planning Practice Guidance (NPPG) and will outline the assessment criteria and ranking system that will be used to judge performance against the Study purposes. It should draw on best practice, the experience of the consultants and

have regard to the views of neighbouring local authorities and other relevant stakeholders.

4.4 The methodology should draw on the background evidence and relevant studies undertaken in neighbouring areas including:

- The work undertaken by LERN and Lancashire Wildlife Trust in mapping Ecological Networks;
- The methodologies and conclusions of work on Green Infrastructure prepared for the Greater Manchester Spatial Framework;
- The Burnley Local Plan Green Infrastructure Study;
- Studies on natural capital undertaken on behalf of Environment Agency and DEFRA within Greater Manchester;

4.5 Land should be assessed for its performance against individual criteria as well as cumulative benefits. It is critical that the methodology identified results in clear and meaningful conclusions about the relative value of land from an Environmental Corridor perspective such that decisions can be made about appropriate boundaries.

Part 2 – Identification and assessment of Environmental Corridors

4.6 At this stage, working through the methodology agreed as Part 1, the chosen consultant will:

- identify and delineate the key components of Environmental Corridors;
- review and evaluate each identified land parcel against the Methodology, both for its individual significance and for the contribution it makes to networks;
- Identify any “gaps” in networks and if and how these can be addressed;
- consider the impacts of the proposals outside the borders of the two authorities including how they link into sub-regional networks , and
- present clear, comprehensive and fully justified conclusions including advice on policy development.

4.7 The required output will be a sound, consistent and defensible assessment of parcels of land of environmental value (especially “stepping stones”), ranking their value and how they are or could be linked together within corridors. Transparency is critically important to ensure that any reader of the assessment report can see and understand how Environmental Corridors have been selected. The Councils will expect that the assessments are informed primarily by a desk top study supplemented by site visits to a range of key locations to “ground truth” the findings.

4.8 Where a land parcel currently designated as “Greenland” in the Core Strategy has been identified as not contributing significantly to the purposes of Environmental Corridors, clear recommendations should be provided on whether the land may be suitable for release for development. Commentary should be included on any mitigation that should be considered by the Local Planning Authority to minimise impact.

4.9 The work will form one piece of the Evidence Base for the Local Plan. Identification of land parcels as suitable for release does not mean that they will be automatically allocated for development. It is the role of the Local Planning authority, taking into account the views of consultees including neighbouring authorities, to decide on whether “Greenlands” should be allocated.

Part 3- Preparation of Final Report

4.10 The findings of the Study should all be assembled into a draft Final Report for consideration by the Council with a Final Report issued when the draft Report has been agreed.

Engagement

5.1 The chosen consultant should ensure that Rossendale BC, neighbouring authorities and other stakeholders are fully engaged throughout the project. As a minimum the chosen consultant will be expected to:

- Work closely with a project steering group throughout the project. The steering group will comprise officer representatives;
- Engage with relevant neighbouring local authorities and other stakeholders. This wider involvement is essential and will need to be accurately recorded for demonstrating Duty to Co-operate requirements. As a minimum the consultant will be expected to share the draft methodology, actively seek comments and carefully consider and record whether and how to accommodate any comments received.
- Undertake a presentation for Members if required.

APPENDIX B: Schedule of Greenlands Sites

Appendix B – Schedule of Greenlands Sites

Site Reference	Site name	Development pressure	Area (hectares)
1	Land east of Blackburn Road, Haslingden	0	3.56
2	South Shore Street, Haslingden	0	6.81
3	Prospect Hill, Haslingden	0	1.26
4	Greenfield Memorial Gardens	0	0.89
5	Lane Side Playing Field	0	1.44
6	Moorland Rise, Haslingden	0	2.22
7	Victoria Park, Haslingden	0	4.33
8	Park Avenue / Criccieth Close, Haslingden	1	1.26
9	Flax Moss Sports Ground, Helmshore	0	8.08
10	Rear of Helmshore Road	1	0.49
11	St Veronica's Roman Catholic Primary School	0	0.43
12	Helmshore Primary School	0	1.96
13	Helmshore Road / Fair Hill	0	0.73
14	Haslingden Cricket Club, Bent Gate	0	2.63
15	Loveclough Park, Goodshaw	0	0.88
16	Loveclough Recreation Ground	0	1.07
17	Goodshaw Baptist Church	0	0.85
18	Laburnum Cottages, Goodshaw Chapel	1	0.83
19	Crawshawbooth Primary School	0	3.24
20	Land to the north of Adelaide Street	1	3.53
21	Land to the east of Poplar Terrace, Hollin Way	0	0.24
22	Rush Bed	0	0.59
23	Reeds Holme Recreation Ground	0	0.81
24	Rossendale Dry Ski Centre	0	2.89
25	Whitaker Park	0	8.48
26	Rawtenstall Cemetery and Constable Lee	0	9.04

	St Paul's Primary School		
27	Alder Grange Community and Technology School	0	4.79
28	New Hall Hey Cricket Ground	0	1.51
29	Land west of Bury Road	0	2.03
30	Land south of Hardmans Business Centre, New Hall Hey	0	1.35
31	Land west of Hurstwood Court, New Hall Hey	0	1.01
32	Fallbarn Crescent, Longholme	1	5.94
33	Playing field off Cherry Tree Lane	1	1.19
34	Lower Clowes, Townsendfold	1	2.03
35	Worswick Memorial Cricket Ground	0	1.40
36	Playing Field to the rear of houses on Bacup Road	1	1.13
37	Lower Cloughfold	1	6.26
38	Playing Field Cloughfold	1	3.33
39	Tricketts Memorial Gardens	1	3.95
40	Dark Lane Football Ground, Staghills	0	1.17
41	Marl Pits Spots Complex	1	21.12
42	Burnley Road / Heald Lane, Weir	0	0.78
43	Irwell Spring adjacent to Bent Estate, Weir	0	2.27
44	West View Football Ground, Bacup	0	1.07
45	Lane Head Cricket Ground, Bacup	0	1.93
46	Land east of Lane Head Lane, Bacup	0	1.23
47	Maden Recreational Ground, Bacup	0	7.05
48	Land south of Greave Clough Drive	1	0.72
49	Land east of Rochdale Road, Bacup	1	6.29
50	Land south of St Mary's Primary School, Bacup	1	3.90
51	Huttock Top, Bacup	1	10.48

52	Land north of Osborne Terrace	1	4.63
53	Rockcliffe Meadows 2/3, Bacup	0	1.47
54	Rockcliffe Meadows 1/3, Bacup	0	0.86
55	Land east of Riverside Mill, Rockcliffe	0	1.05
56	Stubbylee Park, Bacup	0	9.81
57	Fairwell Cemetery, Bacup	0	7.89
58	Burnley Road East, Whitewell Bottom	0	0.33
59	Land off Taylor Avenue, Waterfoot	1	2.39
60	Land south of Wales Road, Waterfoot	1	1.26
61	Bridleway / New Road, Waterfoot	0	1.22
62	Edgeside Park	0	5.44
63	Swiss Clough and Booth Fold, Waterfoot	1	2.35
64	St Peter's Roman Catholic Primary School	0	1.33
65	Greenbridge Picnic Area, Cowpe	0	0.30
66	Cowpe Play Area	0	1.39
67	Brandwood	1	2.45
68	Rose and Bowl, Bowling Green	0	0.21
69	Waterbarn Recreation Ground	1	1.13
70	Holy Trinity Primary School	0	1.66
71	Tunstead Recreation Ground	0	1.08
72	St Joseph's Primary School	0	0.81
73	Britannia Community Primary School	0	1.61
74	St John with St Michael Primary School	0	0.77
75	Leavengreave Playing Field and surrounding area	0	2.29
76	Land adjacent to the leisure centre	0	0.39
77	Memorial Park	0	0.36
78	The Riverside Whitworth Civic Hall and Bowling Green	0	0.29
79	John Street Playing Field	0	0.63

80	Rawstron Street Football Ground and Bowling Green	0	1.69
81	Whitworth Community High School	0	4.20
82	Healey and Whitworth Reservoir	0	0.99
83	Fearns Community Sports College	0	2.67
84	Dean Lane, Water	0	0.27
85	New Line, Britannia	0	3.70
86	Swinnel Brook	1	18.32
87	Rossendale Valley	1	20.34
88	River Spodden	0	2.19
	Total		249.54

Note – Development Pressure Site column

0 – denotes not subject to development pressure

1 – denotes subject to development pressure

APPENDIX C: Greenlands Site Assessment

See separate pdf file

APPENDIX D: GREEN INFRASTRUCTURE TYPE DEFINITIONS

Type	Definition	Definition Source
Agricultural land	Land managed for agriculture, including improved grassland, crop production fields and hedgerows. Potentially irregular field margin trees may be included.	Liverpool Green Infrastructure Strategy (LGIS) 2010
Allotment, community garden or urban farm	All allotment and community gardens including any on private or community owned land as well as those on Council land. May also include urban farms.	Burnley Borough Council Green Spaces Strategy (BBC GSS) 2005
Cemetery, churchyard or burial ground	Cemeteries and churchyards including disused churchyards and other burial grounds.	BBC GSS 2005
General amenity space	Areas of mown grass commonly but not exclusively found in housing areas. Includes informal recreation green spaces and village greens.	BBC GSS 2005
Grassland/ heathland or scrubland	Grassland which is not agriculturally improved. Could include established vegetation on reclaimed derelict land which is not part of a formal recreation green space. Includes downlands, meadows and commons below the Moorland Line. Likely to include some commons within urban areas. Scrubland areas predominantly consist of shrubs, with grasses and herbs also present.	LGIS 2010
Green routes	Includes towpaths along canals, greenways, disused railway lines, riverside paths and all public rights of way as marked on the Definitive Map for the borough.	BBC GSS 2005
Outdoor sports facility	Includes towpaths along canals, greenways, disused railway lines, riverside paths and all public rights of way as marked on the Definitive Map for the borough.	BBC GSS 2005
Private domestic garden	Privately owned green space within the curtilage of individual dwellings, which is generally not publicly accessible.	LGIS 2010
Water body	Expanses of open water, including large lakes, small ponds and reservoirs	LGIS 2010

Watercourse	All areas of running water, including large rivers, small streams, culverted watercourses, canals and aqueducts.	LGIS 2010
Wetland	Land dominated by wet habitats, including fen, marsh, bog and wet flush vegetation.	LGIS 2010
Woodland	Tree-covered land greater than 0.5ha and at least 20 metres wide whose “canopy cover” or “canopy closure” extends to 20 per cent or more of the land area (or has the potential to achieve this).	Forestry Commission, National Forest Inventory

APPENDIX E: GREEN INFRASTRUCTURE FUNCTION DEFINITIONS

	Function	Definition
1	Aesthetics and Visual Character	Aesthetics improve the image of an area for people as they arrive, and for those who reside there. Examples may include street trees, trees along major roads, etc. Applies equally to towns, cities and the rural landscape. Green infrastructure can make the town/village etc. a more attractive place to live and visit. The improved aesthetic which green infrastructure can provide will be reflected in surrounding property prices. (CABE, 2005)
2	Supporting Heritage	A site, place, area or landscape positively identified as having a degree of significance meriting consideration in planning decisions. Heritage assets are the valued components of the historic environment. They include designated heritage assets and assets identified by the local planning authority during the process of decision making or through the plan making process (including local listing) and conservation areas. The improved aesthetic which green infrastructure can provide to the setting of heritage assets.
3	Recreation – Public	Public use for recreational purposes (formal/informal and active passive) is free and on demand.
4	Green Travel Route	On road and off road routes through greenery for pedestrians and cyclists (for recreational purposes as well as for getting between places), can include public rights of way, Sustrans, and private routes which are not on roads. Useful in urban areas and often located close to large centres of population. Also includes the green infrastructure which surrounds green travel routes, making them an attractive alternative route.
5	Shading from the Sun	Shading of people, buildings, and surfaces from solar radiation to reduce temperatures and increase comfort levels. Usually provided by trees and taller plants and vegetation. This function will become more critical as we have to adapt to a changing climate. Green infrastructure which provides shade will also be important for protecting agricultural land and other species from solar damage. (Huanget al. 2006, Parker, 1981)

6	Carbon Storage	Removing carbon from the atmosphere and storing it in plants, trees and soils. Trees and peat soils are particularly important types of green infrastructure for storing carbon. Varying types of green infrastructure will take different amounts of time to sequester carbon; some types of green infrastructure are slow growing in nature and therefore will take longer to sequester carbon. Stored carbon in trees will stay locked away inside the wood if felled. (Milne & Brown, 1995)
7	Trapping Air Pollutants	Removal of pollutants, especially ozone, nitrogen dioxide and particles from the air, through uptake via leaf stomata and deposition on leaf surfaces. Once inside the leaf, gases diffuse into intercellular spaces and may be absorbed by water films to form acids or react with inner leaf surfaces. This function is usually associated with more urban areas, especially close to travel routes. (Hill, 1971, Beckett et al., 1998, Smith, 1990 Hewitt et al., 2005)
8	Habitat for Wildlife	Providing a habitat for wildlife – a place to live with a source of food. Different types of green infrastructure will provide habitats for a widely different range of species. The range of species will also be dependent on other factors such as climate and disturbance. (Tree People, 2009)
9	Connectivity for Wildlife	Conduit of green and blue spaces through which wildlife can disperse to and from habitat spaces. This function will increase in importance in the future; species will need the capacity to move upwards and northwards as the climate changes. Connectivity is vital for this function. Different types of green infrastructure will provide a corridor for a widely different range of species. Range of species will also be dependent on other factors such as climate and disturbance. (Benedict & McMahon, 2006)
10	Water Interception	Interception of rainwater before it reaches the ground, e.g. by the leaves of trees and plants. This will slow the flow of water to the ground. All types of green infrastructure will intercept water in some way, though certain types with a greater leaf area will intercept a greater amount and slow its flow to greater extent. This can help to reduce the risk of flooding. (Centre for Urban Forest Research, 2002)

11	Water Infiltration	Vegetation and roots aid in the movement of rainwater and floodwater into the ground. Green infrastructure will help water to drain naturally into the soil. Includes both surface infiltration and deep infiltration. Green infrastructure is a permeable surface as opposed to hard surfacing such as concrete. It aids in the natural passage of water to the ground –helping reduce the risk of flooding. (Centre for Urban Forest Research, 2002)

APPENDIX F: CRITERIA FOR GREEN INFRASTRUCTURE FUNCTIONS

See separate pdf file

APPENDIX G: RELEVANT PLANNING POLICY

National Policy

The NPPF directs local authorities to make every effort to allocate land for development where it is of low environmental value. It also requires efforts to promote healthy communities, meet the challenge of climate change and flooding and conserving and enhancing the natural and historic environment through the planning process. The following NPPF policies influence the objectives and outcomes of this study:

Core land use principles

Para 17: Within the overarching roles that the planning system ought to play, a set of core land-use planning principles should underpin both plan-making and decision-taking.

The seventh and ninth principle (part) state respectively that:

- *contribute to conserving and enhancing the natural environment and reducing pollution. Allocations of land for development should prefer land of lesser environmental value, where consistent with other policies in this Framework;*
- *encourage multiple benefits from the use of land in urban and rural areas, recognising that some open land can perform many functions (such as wildlife, recreation, flood risk mitigation, carbon storage, or food production).*

Promoting healthy communities

Para 73 (part): *Access to high quality open spaces and opportunities for sport and recreation can make an important contribution to the health and well-being of communities.*

Para 75 (part): *Planning policies should protect and enhance public rights of way and access. Local authorities should seek opportunities to provide better facilities for users, for example by adding links to existing rights of way network including National Trails.*

Meeting the challenge of climate change, flooding and coastal change

Para 94: *Local planning authorities should adopt proactive strategies to mitigate and adapt to climate change, taking full account of flood risk, coastal change and water supply and demand considerations.*

Para 99: *Local Plans should take account of climate change over the longer term, including factors such as flood risk, coastal change, water supply and changes to biodiversity and landscape. New development should be planned to avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the planning of green infrastructure.*

Conserving and enhancing the natural environment

Para 109: The planning system should contribute to and enhance the natural and local environment by:

- *recognising the wider benefits of ecosystem services;*
- *minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;*

Para 110: *In preparing plans to meet development needs, the aim should be to minimise pollution and other adverse effects on the local and natural environment. Plans should allocate land with the least environmental or amenity value, where consistent with other policies in this Framework*

Para 114: *Local planning authorities should ….set out a strategic approach in their Local Plans, planning positively for the creation, protection, enhancement and management of networks of biodiversity and green infrastructure;*

Para 117: *To minimise impacts on biodiversity and geodiversity, planning policies should:*

- *identify and map components of the local ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them and areas identified by local partnerships for habitat restoration or creation;*
- *promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets, and identify suitable indicators for monitoring biodiversity in the plan;*

Conserving and enhancing the historic environment

Para 126: *Local planning authorities should set out in their Local Plan a positive strategy for the conservation and enjoyment of the historic environment, including heritage assets most at risk through neglect, decay or other threats. In doing so, they should recognise that heritage assets are an irreplaceable resource and conserve them in a manner appropriate to their significance.*

Para 132: *When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation. The more important the asset, the greater the weight should be. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting.*

Local Policy

Rossendale's Core Strategy's vision is for a high-quality natural environment to sustain quality of life in its communities. The vision recognises that a strong environmental network should be maintained. Relevant policies are outlined below.

Policy 1: General Development Locations and Principles

The Council will seek to maintain Rossendale's distinctive environment through implementing the following approach for all types of development. The greatest amount of new development should take place in Rawtenstall with the majority of other development taking place in Bacup and Haslingden.

Policy 14: Tourism

Tourism, and in particular the active sports industry, is important to Rossendale, and is a key opportunity for the whole Borough. Tourism growth will capitalise on leisure pursuits and the unique sense of place within the Valley, including its heritage assets, giving particular emphasis to the east of the Borough.

Policy 17: Rossendale's Green Infrastructure

The Council will promote the protection, enhancement and where appropriate the expansion of the Green Infrastructure network in the following ways:

1. Identification and illustration of the Green Infrastructure network

2. Preparation of more detailed policies through the future Site Allocations DPD, assisted by the definition of key national, regional and the most significant local sites on the Proposals Map.

3. As part of the Council's response to climate change, new developments will be required to maximise the environmental risk management benefits of Green Infrastructure where possible through:

a. Flood risk management (utilising Sustainable Drainage Systems)

b. Providing shade, cooling and carbon storage through the planting of appropriate vegetation and tree species

c. Contributing to a reduction in air, water, noise and light pollution.

4. Manage and appropriately enhance existing Green Belt, open spaces, river corridors, urban green corridors and woodlands and continue to protect Greenlands (policy E.1 as designated in the

Rossendale District Local Plan 1995). Where redevelopment takes place to enhance Green Infrastructure, the Council will seek to ensure that where necessary, opportunities are taken to address any issues of land instability or surface hazards resulting from historic mining activity.

5. Resist the fragmentation of the network by new development, and pursue the implementation of Natural England's Access to Natural Greenspace Standards (ANGSt) over the lifetime of the Core Strategy.

6. Expect new developments to contribute to the provision of recreational green space, and to incorporate improvements to the quality of, and access to, existing Green Infrastructure in accordance with local circumstances.

7. Support the improvement of and access to the Public Rights of Way network (in particular the Pennine Bridleway, Rossendale Way, Irwell Sculpture Trail, Shoe Trail and National

Cycle Routes) and other linear corridors in line with Policy 9 and maximise the potential of Green Infrastructure to support sustainable and active tourism, in conjunction with the Adrenaline Gateway project.

Policy 18: Biodiversity, Geodiversity and Landscape Conservation

The Council will seek to avoid any harmful impacts of development on all aspects of Rossendale's natural environment – including its biodiversity, geodiversity and landscape assets, priority habitats and species and statutory and locally designated sites. Current and future biodiversity and geodiversity assets will be given full and appropriate protection, and enhanced where possible.

Policy 19: Climate Change and Low and Zero Carbon Sources of Energy (part)

Section Two: All Other Developments

The Council will promote mitigation of climate change by:

4. Conserving and enhancing the Borough's peatlands.

5. Expecting new developments to incorporate climate change benefits (such as tree planting) on site, or where this is not appropriate to make contributions towards mitigating climate change elsewhere through planning obligations.

The Council will promote adaptation to climate change by the following measures:

7. New development should not be located in areas considered to be at a high risk of flooding in accordance with the Rossendale Borough Council SFRA. Where development cannot be accommodated in areas of low flood risk and this is demonstrated to the Council, it will only be acceptable where appropriate mitigation is undertaken and demonstrated that the development is not at an unacceptable risk of flooding and will not increase flood risk elsewhere.

8. Expecting new developments to implement Sustainable Drainage Systems (SuDS) - such as incorporating permeable paving, swales, soakaways and conserving floodplains where appropriate, and minimise the use of impermeable surfacing in order to slow down the passage of rainwater into waterways and contribute to flood prevention.

FIGURES

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