INTRODUCTION

This document has been prepared by David Jarvis Associates Ltd on behalf of Tarmac Trading Ltd. Tarmac is a long-term landowner and steward in Hertfordshire and has been promoting a sustainable extension to Welwyn Garden City on land at Cole Green and Birchall Farm since 2006.

Scope

This report describes the Green Infrastructure (GI) strategy for Birchall Garden Suburb (BGS), a proposed urban extension to Welwyn Garden City, Hertfordshire. It includes a description of the existing green and blue assets within the BGS site and how they connect to the adjoining urban areas as well as the wider countryside. Reference to emerging local plan GI policy is also made.

The BGS site extends to some 260 hectares of land south east of Welwyn Garden City as shown on Figure 1. It straddles the boundary between the administrative areas of Welwyn Hatfield Borough Council (WHBC) and East Herts District Council (EHDC).

BACKGROUND

A proposal for an extension to Welwyn Garden City, based on Ebenezer Howard’s Garden City principles, was prepared by David Lock Associates in 2007. The resulting Visioning Statement and illustrative masterplan were supplied to WHBC and EHDC to inform their Local Plans.

The emerging masterplan has been the subject of a number of public consultation events hosted by the Company. These included a Community Planning Weekend held in November 2015 and a public exhibition in March 2016. The BGS site has also been the subject of a wide range of intensive environmental surveys over the past few years; information gleaned from this process has been used to guide proposed development and inform a GI strategy for the site.

Planning

The emerging WHBC and EHDC Local Plans will set out the planning framework for the period up to 2032 and 2033 respectively. Proposed allocations of 1200 and 1350 dwellings respectively have been proposed for the BGS site. The provision of GI within and across the Borough and District boundaries forms a key component of emerging Local Plan policy.

Green Infrastructure

The Hertfordshire Strategic Green Infrastructure Plan (incorporating the Green Arc area) was produced in 2011 and coincided with the publication of the Borough and District GI Plans. These provide a high level overview of existing GI assets and assess the ability of these to provide multiple environmental, social and economic functions.

The plans define eleven social and environmental functions that green infrastructure needs to perform. The functions were mapped and the results analysed to provide strategic GI proposals. Opportunities for enhancement and creation of GI were identified as well as a number of potential projects at County, Borough and District level:

County level

- Project 2- Woodland Arc;
- Project 5 –Mimram Valley Greenspace, including Panshanger Park;
- Project 6- Thames Tributaries, River Valleys and Corridors;
- Project 9 – Reconnect;
**Borough level**
- Project 2 - The Post-Industrial Heritage: promoting the former rail routes;
- Project 3 - River Valleys Project - Mimram and Lee;

**District level**
- Project 5 - Panshanger Park and Mimram Valley Greenspace.

The locations of these projects in relation to the BGS site are reproduced on Figures 2 and 3.

The projects:
- aim to improve the ecological quality of the river corridors and water management regimes, including storm water management, in order to contribute to regional and national objectives;
- address the fragmentation of existing woodland, the provision of alternative greenspaces, new woodlands and buffer planting in order to increase resilience to climate change, protect historic assets and help deliver Forestry Commission aspirations;
- identify the need for increased access and interpretation of environmental assets particularly with regard to former rail routes, the River Mimram and Panshanger Park; and
- aim to reconnect or reinstate public rights of way that have been lost or severed in order to improve the overall green infrastructure network.
EXISTING GREEN INFRASTRUCTURE

The methodology used to build on the strategic GI plans and define how the GI projects apply to the BGS site is summarised below:

- Desktop research to identify a study area and the location of existing GI assets;
- Review of environmental surveys carried out over the BGS site;
- GI assets mapped using a GIS-based layer system;
- Combining the mapping data to provide a base plan of all existing assets;
- Analysis and review against emerging planning policy and site based constraints; and
- Define a network of green and blue links between the GI assets.

The study area

The study area is shown on Figure 4. It includes the context of east Welwyn, Panshanger Park, the Lee and Mimram valleys and the countryside between Welwyn Garden City and Hatfield.

Existing GI Assets

The principal GI assets identified are:

- River systems, floodplains and associated wildlife habitat;
- Designated ecological sites;
- Ecological interest associated with the BGS site;
- General countryside and woodland;
- Off-road public rights of way; and
- Amenity provision.

River systems and floodplains

Welwyn Garden City is bound to the north by the River Mimram, and to the south by the River Lee as shown on Figure 4. These flow east, joining at Hertford, and together with the River Beane, which flows from the north through Hertford, continue as the Lee, travelling south through the Lee Valley Regional Park into London where it joins the Thames at Canning Town.
Designated ecological sites

The study area contains two statutory designated sites and other non-statutory designated sites as shown on Figure 5. The statutory sites are Tewinbury Site of Special Scientific Interest, which lies on the northern border of the study area, adjacent to the River Mimram, and The Commons Local Nature Reserve located on the southern edge of WGC.

Ecological interest associated with the BGS site

The BGS site contains ecological interest valued at County, and Local or Parish level. Land of low ecological value is also present, mainly associated with arable farmland and some areas of neutral grassland as shown on Figure 6.
General countryside and woodland

The rolling landscape between Welwyn Garden City and Hertford is a rural mixture of small settlements, agricultural land, woodlands and copses as shown on Figure 7. The area is bisected by the A414 dual carriageway which runs between the Rivers Lee and Mimram, passing to the south of Welwyn Garden City and Hertford.

The fragmentation of woodland habitat is clearly evident notwithstanding the strong links provided by the Lee and Mimram river corridors.

Off-road public rights of way

The study area is quite well served by public rights of way. Some of these are severed or restricted by major roads and others, such as the National Cycle Route (NCR) 61, provide good, extensive off-road access as shown on Figure 8.

Public access along the river corridors is poor and there is little opportunity to reach the rivers themselves. Public access within Panshanger Park is currently available via a mix of established rights of way and permissive routes.
Amenity provision

Outdoor recreational facilities comprise designated areas of Urban Open Land, formal parks, sports facilities, allotments, caravan parks and Panshanger Aerodrome. These are mostly located within the urban areas of Welwyn Garden City and Hertford, the main exception being Essendon Golf Course to the south of the River Lee.

Panshanger Park, a 404 hectare site owned by Tarmac, is currently being worked for gravel. Large areas of the site have been restored and approximately 200 hectares are open to the public. The park contains a mosaic of wildlife habitats such as lakes, river, woodland and reedbed. Tarmac is working with Herts Wildlife Trust and Hertfordshire County Council to manage the park.

Moneyhole Lane Park is a much valued local open space with playing fields, a play area, nature trail and general recreation facilities.

Holwell Hyde Lake. Proposed green links will improve connections to Moneyhole Lane Park and Panshanger Park.
PROPOSED GREEN INFRASTRUCTURE

The Lee and Mimram river valley corridors provide the focus for wildlife connectivity within the study area and beyond. The Lee valley corridor is connected directly to The Commons Wood, The Commons Local Nature Reserve and the BGS site via the Hatfield Hyde Brook. New SuDs related connections to this network would be provided in the southern part of the BGS site and would also connect to a separate unnamed tributary of the River Mimram, which extends into the BGS site south of Birchall Lane.

The indicative route of the green corridor, currently depicted in the Strategy Diagrams in the emerging Welwyn Hatfield and East Herts Local Plans, would be realised via a diverse network of access and wildlife links. These would permeate through the site, responding to the complex topography, the species present and the opportunities that have been identified to create new habitats along each corridor. The BGS GI will link existing areas of ecological value adjoining the site such as Panshanger Park in the east and The Commons LNR to the west.

The proposals will:

- Develop new parkland in the heart of the development providing attractive wildlife habitat and active as well as passive recreation opportunities;
- Develop ecologically diverse sustainable drainage systems around the periphery of the development to accommodate and manage storm water run-off from impermeable areas;
- Enhance the overall landscape character of the area through the provision of appropriate planting, particularly woodland, which strengthens and reinforces the local historic landscape character, creates attractive gateways to WGC, Hatfield and Hertford, and improves the overall setting of these urban areas.
- Identify and protect existing habitats of value through the use of management plans and appropriate public access regimes;
- Create additional wildlife habitat links between existing sites of ecological value within the site as well as those beyond it, such as The Commons LNR and Panshanger Park and the Lee and Mimram Rivers;
- Create new public rights of way which connect with existing routes in order to provide greater access to the countryside and natural greenspace;
- Enhance existing points along the A414 where there is access across/under the carriageway for people and wildlife; and
- Create a new linear park and green link which would run parallel to the A414, shown on Figures 11, 12 and 13. The link will include a belt of deciduous woodland habitat, which will be planted on sensitively designed bunds. This measure will also provide visual screening to and from the development and will reduce traffic noise to properties within the southern portion of the site.

Access and rights of way

New footpaths and bridleways will be created. Apart from providing additional access to the countryside, they will link existing public rights of way which already

Figure 10 Proposed access and rights of way