



Tarmac Trading Limited

Birchall Garden Suburb

Welwyn Garden City

Environmental Impact Assessment
Scoping Report

10 December 2015

David Lock Associates
Town Planning and Urban Design

CONTENTS

1.0	INTRODUCTION	2
2.0	THE SITE AND THE PROPOSED DEVELOPMENT.....	5
3.0	PLANNING POLICY CONTEXT	10
4.0	SOCIO-ECONOMIC EFFECTS.....	10
5.0	TRANSPORT	11
6.0	AIR QUALITY	12
7.0	NOISE.....	13
8.0	LANDSCAPE AND VISUAL EFFECTS.....	14
9.0	ECOLOGY	15
10.0	CULTURAL HERITAGE.....	15
11.0	AGRICULTURE AND SOIL RESOURCES	16
12.0	WATER RESOURCES.....	16
13.0	GROUND CONDITIONS	17
14.0	UTILITIES	19
15.0	CONCLUSION.....	19

APPENDICES

1	SITE LOCATION PLAN
2	DRAFT PARAMETER PLAN

1.0 INTRODUCTION

- 1.1 This report presents the proposed scope of an Environmental Impact Assessment (EIA) of a comprehensively planned, large scale, mixed use development to the south east of Welwyn Garden City, to be known as Birchall Garden Suburb (the “Proposed Development”). The report has been prepared on behalf of Tarmac Trading Limited as the promoter of the Proposed Development.
- 1.2 The report is being submitted to Welwyn Hatfield Borough Council (WHBC) and East Hertfordshire District Council (EHDC) with a request for the councils’ single EIA Scoping Opinion under Regulation 13 of the *Town and Country Planning (Environmental Impact Assessment) Regulations 2011* (the EIA Regulations). In issuing that Scoping Opinion, the councils will take into account the views of consultees on the proposed scope of the EIA presented in this report.
- 1.3 A separate request for an EIA Scoping Opinion is being submitted to Hertfordshire County Council as mineral planning authority in relation to the proposed prior extraction of minerals from part of the Site. Further details on that proposal are presented in section 2 of this Scoping Report (see para. 2.14 below).
- 1.4 The EIA Regulations require that any development proposal falling within the description of a “Schedule 2 development” will be required to be the subject of EIA, where such development is likely to have “significant” effects on the environment, by virtue of factors such as its nature, size or location (as screened under Schedule 3 of the Regulations). An EIA of this Proposed Development is considered to be necessary, given that it is a large scale “urban development project” (part 10(b) of Schedule 2), which is likely to have “significant” environmental effects.
- 1.5 David Lock Associates (DLA) will co-ordinate the EIA. DLA is a town planning and urban design consultancy and a member of the Institute of Environmental Management and Assessment (IEMA) - an organisation established to promote best practice in EIA and related disciplines. This EIA will be undertaken in accordance with the best practice guidelines issued by the IEMA.
- 1.6 In co-ordinating the EIA, DLA will manage the inputs of several specialist consultancies undertaking assessments of particular effects of the Proposed Development. The table overleaf sets out the proposed structure of the report of the EIA – the Environmental Statement (ES), identifying the consultancy assessing each proposed EIA topic and contributing each respective ES chapter:

Chapter	Topic	Author
1	Introduction	David Lock Associates
2	The Site and the Proposed Development	David Lock Associates
3	Planning Policy Context	David Lock Associates
4	Socio-Economic Effects	David Lock Associates
5	Transport	David Tucker Associates
6	Air Quality	Peter Brett Associates
7	Noise	Cole Jarman
8	Landscape and Visual Effects	David Jarvis Associates
9	Ecology	Philip Parker Associates
10	Cultural Heritage	Phoenix Consulting and Heritage Collective
11	Agriculture and Soil Resources	Land Research Associates
12	Water Resources	THDA
13	Ground Conditions	Royal HaskoningDHV
14	Utilities	THDA
15	Conclusion	David Lock Associates

- 1.7 Energy conservation, water management and waste minimisation are proposed to be addressed in a freestanding Energy, Water and Waste Strategy.
- 1.8 A second volume of the ES (Volume 2) will contain the plans and appendices cited in Volume 1 (the main text). A separate Non-Technical Summary will present the principal findings of the EIA in a form that may be more readily understood by lay people.
- 1.9 The individual topic chapters in Volume 1 (chapters 4 to 14) will be structured as follows:
- **Introduction** – identifying the topic under consideration
 - **Assessment Methodology** – setting out the scope and method of the assessment, identifying the criteria used to assess the significance of the effects of the Proposed Development and recording any uncertainties or limitations encountered
 - **Relevant Policy** – summarising policy, legislation and guidance relating specifically to the topic under consideration

- **Baseline Conditions** – providing a description of the baseline conditions pertinent to that topic, including by indicating any likely significant changes in those conditions into the future if the Proposed Development does not proceed (“the projected future baseline”)
- **Potential Effects** – identifying likely significant effects in the absence of mitigation measures, during both the construction and post-completion stages of the Proposed Development
- **Mitigation Measures** – proposing any measures which are necessary to avoid or reduce any significant potential adverse effects, beyond the measures inherent within the Proposed Development
- **Residual Effects** – identifying any residual effects of the Proposed Development, taking account of the mitigation measures proposed and assessing the significance of those residual effects
- **Cumulative Effects** – setting out any effects which might arise from the Proposed Development in combination with other nearby reasonably foreseeable development proposals, specifically those set out in the table below:

Development proposals to be taken into account in the assessment of cumulative effects		
Welwyn Hatfield Borough Council Emerging Local Plan		
Panshanger Aerodrome	WGC4	700 homes
East Herts District Council Emerging District Plan		
Land West of Hertford	HERT3	550 homes
Other nearby reasonably foreseeable development proposals		
Land South of Birchall Lane	Planning application ref. 3/1124/15 (Hertfordshire County Council)	Proposed intensification of use of inert waste recycling facility

- 1.10 At the request of the highway authorities, the transport assessment will take account of a wider range of reasonably foreseeable projects included in relevant transport models. The noise and air quality assessments, insofar as they are underpinned by data arising from the transport assessment, will also where appropriate take account of that wider range of projects.

- 1.11 In accordance with best practice in EIA, the significance of particular effects of the Proposed Development is determined by the interaction between the magnitude of predicted impacts and the sensitivity of the receptors affected by those impacts. Four levels of significance will be identified: “major”, “moderate”, “minor” and “negligible”. Any beneficial effects will be noted, as well as adverse ones. Where any temporary, short- or medium-term, indirect, secondary or interactive effects are predicted, these too will be recorded. All assessments of the significance of effects will take account of proposed mitigation measures, although any significant potential effects in the absence of such measures will also be identified.
- 1.12 The remaining sections of this EIA Scoping Report reflect the proposed structure of the ES set out in the table under paragraph 1.6.

2.0 THE SITE AND THE PROPOSED DEVELOPMENT

The Site

- 2.1 The Site extends to some 260 hectares (around 640 acres) of land to the south east of Welwyn Garden City. The plan at **Appendix 1** shows its location and boundary.
- 2.2 The Site lies to the north and west of the A414 Hertford Road, including land on both sides of the B195 Birchall Lane / Cole Green Lane and straddling the boundary between the administrative areas of WHBC and EHDC. The part of the Site within the administrative area of EHDC is known as **land at Birchall Farm** and the part within the administrative area of WHBC is known as **land at Cole Green**.
- 2.3 The Site is bounded generally by the A414 to the south and south east; field boundaries to the north east; Panshanger Aerodrome and Moneyhole Lane Park to the north; the current edge of Welwyn Garden City including Commons Wood Nature Reserve (a Local Wildlife Site) to the west; and Commons Wood and an inert waste recycling facility operated by B.P. Mitchell known as Burnside to the south west. The B195 Birchall Lane bisects the Site and an inert waste recycling facility, currently operated by Eco Aggregates, is located to south of Birchall Lane on an area of land outside the Site that comprises a former landfill.

Land at Birchall Farm

- 2.4 The land to the north of Birchall Lane within the administrative area of EHDC predominantly comprises arable farmland bordered by two areas of woodland known as Henry Wood and Rolls Wood; and is enclosed by hedgerows and trees. Birchall Farmhouse and its associated farm buildings (Grade II Listed) lie within this part of the Site. A pair of semi-detached houses on the north side of Birchall Lane is outside the Site.
- 2.5 Land south of Birchall Lane also within the administrative area of EHDC comprises arable fields to the east of Holwell Park Wood; and a civic waste and recycling centre (civic amenity site) leased to Hertfordshire County Council is located on the eastern boundary with access onto the A414.

Land at Cole Green

- 2.6 Much of this part of the site is a former quarry, which ceased operating in the early 1980s, following which it was filled and restored to pasture; and is now used for equestrian grazing. Surrounding land to the east, south and west of the restored site was never excavated (apart from a very small borrow pit by the A414) and is farmland. The Cole Green landfill has been monitored for over 30 years. Over that time, a large quantity of data on groundwater, surface water and landfill gas has been amassed. Any effects of the landfill on the local environment are therefore known and managed.
- 2.7 An existing fishing lake under tenancy with the Welwyn Garden City Angling Club is located on the western boundary of the land at Cole Green, within the Site. Outside the Site, a detached house lies immediately north of that lake and Holwell Hyde Farm (Grade II Listed) lies to the west of the lake.

Topography and connections

- 2.8 To the north of Birchall Lane, the land is relatively flat at around 75m Above Ordnance Datum (AOD). To the south of Birchall Lane, the land rises in the area of the landfill before falling away towards the River Lea, the course of which runs around 275m to the south of the Site's southern boundary. The 60m AOD contour traverses the southern edge of the Site.

2.9 A number of Public Rights of Way traverse the Site that are set out in the table below:

Land at Birchall Farm	
Public footpaths	Hertingfordbury 023 (connecting Welwyn Garden City to Panshanger Lane) Hertingfordbury 014 (connecting the B195 with the A414 to the south-east) Hertingfordbury 028 (connecting the civic amenity site with the National Cycle Route and Hertingfordbury 027) Tewin 021 (connecting Panshanger Airfield with Panshanger Lane)
Bridleways	WGC 069 (runs along the south-western boundary)
National Cycle Route	Route 61 Hertfordshire Greenways
Land at Cole Green	
Public footpaths	Essendon 024 and WGC 065 (connecting Welwyn Garden City to the south-western boundary of the Site)
B.O.A.T	WCG 064 (connecting Holwell Hyde Lane to Essendon 023) Essendon 023 (connecting the A414 to the fishing lake)
National Cycle Route	Route 61 Hertfordshire Greenways

The Proposed Development

2.10 The extent of the Site broadly reflects the area proposed to be allocated for development in the emerging Local Plan being prepared by WHBC (site WGC5) and the majority of land proposed to be covered by the Broad Location of Development identified by EHDC in its emerging Plan (EWEL1).

WGC5

2.11 The north western half of site WGC5 was identified by WHBC in its Draft Local Plan (2015) as a “more favourable” location for around 700 dwellings. At that time, WHBC considered that there was too much uncertainty to develop the southern eastern part of the site (with an estimated capacity for some 500 homes), due principally to the extent to which it was judged developable as a consequence of potential contamination from the landfill on the adjoining land. However, a letter dated 18 June 2015 from the Environment Agency to WHBC confirmed that the Agency did not have any objection in principle to this whole site coming forward as a site allocation. The estimated capacity for WGC5 is for some 1,200 homes and WHBC has indicated in its Draft Local Plan that if WGC5 were to come forward for development, this would need to address the provision of green infrastructure, the delivery of a primary school and the provision of a buffer around the adjacent waste management facility at Burnside (see para. 2.3 above).

EWEL1

2.12 Land at Birchall Farm is located within EHDC's proposed Broad Location for Development (EWEL1) that also includes land in separate ownership to the east of the Site and west of Panshanger Lane and the A414. EWEL1 is identified in the Draft District Plan (2014) for approximately 1,700 homes; a primary school to serve the development; a secondary school to serve the development and the wider area; a small employment area; a neighbourhood centre that could include local retail, health services and community facilities; local green infrastructure including play areas; sustainable drainage and provision for flood mitigation; and treatment of the Cole Green Way.

The Proposed Development in focus

2.13 The Proposed Development broadly reflects the proposals for the Site in the two emerging Local Plans. A working draft Parameter Plan is presented at **Appendix 2**. This continues to be refined in the light of ongoing technical work, as well as continuing stakeholder and community engagement. A further iteration of that plan will provide the basis for the EIA and would be the subject of a condition on any grant of planning permission requiring the delivery of the Proposed Development in accordance with that plan. The Proposed Development comprises:

- Up to around 2,500 dwellings
- Sites for two primary schools, one of which could be co-located with a site for a secondary school
- Two mixed use local centres, which could include land uses within the following Use Classes: A1-A5 (local retail and related uses); B1 (business uses); C1 (hotels); C2 (residential institutions, including care accommodation); C3 (housing); D1 (non-residential institutions, including health services and community facilities); and D2 (assembly and leisure uses, including local indoor sports facilities)
- Employment land, accommodating B1 (business) uses
- A potential gypsy/traveller site, indicatively accommodating twelve pitches
- Playing fields, sports pitches and play areas
- Informal open space
- Allotments / community orchards
- New access points from the A414 and the B195 Birchall Lane
- Improved access arrangements from Cole Green Lane
- Proposed new footpaths and cycleways

- Drainage and utilities infrastructure
- 2.14 It is intended to submit matching outline planning applications to both WHBC and EHDC for the whole of the Proposed Development. A third planning application to Hertfordshire County Council as mineral planning authority will seek permission for the prior extraction of sand and gravel on that part of the land at Birchall Farm located to the north of the B195 Birchall Lane, where such deposits are present. Their extraction prior to development is supported by planning policy, in preventing their sterilisation. Such extraction and the subsequent restoration of the land to accommodate the Proposed Development will be the subject of a separate EIA (see para. 1.3), with which this EIA will be closely co-ordinated.
- 2.15 An important aspect of that co-ordination is the proposed consideration of that prior mineral extraction and subsequent restoration within this EIA as part of the assessment of baseline conditions. Three specific baseline scenarios will be assessed:
- i) current conditions;
 - ii) where significantly different from scenario i) above, conditions at the projected end date of the delivery of the Proposed Development (2031; see para. 2.17 below) in the absence of the Proposed Development; and
 - iii) again, where significantly different from scenario i), conditions following prior mineral extraction and subsequent restoration.
- 2.16 The EIA will assume the construction of the Proposed Development would commence in 2018, with the Proposed Development being completed by 2031, which is the end date of both the emerging Local Plans. This delivery timescale requires annual housing completions to average just under 200 dwellings, which is realistic and readily achievable in the light of build rates experienced on developments of comparable scale elsewhere. Importantly, the commencement of the Proposed Development is not dependent upon the timing of prior mineral extraction and subsequent restoration north of Birchall Lane, as the remaining large part of the Site is not underlain by viable mineral deposits requiring prior extraction. However, as the EIA Scoping Report for that proposed extraction explains, development north of Birchall Lane would commence prior to extraction and restoration being completed in that part of the Site. This EIA will therefore include an assessment of the potential effects arising from parallel extraction/restoration and development.

- 2.17 The EIA Regulations require any alternatives to the Proposed Development that have been studied by the prospective applicant to be outlined and the reasons for their rejection to be set out. The advanced stage of the emerging Local Plans, which identify the Site for the development being proposed, means it is not appropriate for the applicant to study potential alternative sites. However, the EIA will include a consideration of potential alternative forms of development on the Site, with reference to the evolution of the design of the Proposed Development. The ‘no development’ scenario will also be addressed in the EIA through the proposed topic-level assessment of the “projected future baseline” (see para. 1.9 above).

3.0 PLANNING POLICY CONTEXT

- 3.1 This third chapter of the ES will introduce planning policy of relevance to the Proposed Development as a whole. This includes relevant parts of the Government’s *National Planning Policy Framework* (NPPF; March 2012) and *Planning Practice Guidance* (PPG; last updated in October 2015), as well as applicable saved policies within the current *Welwyn Hatfield District Plan* (2005) and the *East Herts Local Plan Second Review April 2007*, in addition to pertinent elements of the emerging new Local Plans for both EHDC and WHBC, which reached Preferred Options stage in the case of EHDC in March 2014 and informal Draft (Regulation 13/18) stage in the case of WHBC in January 2015.
- 3.2 Relevant policy specific to particular assessment topics will be outlined in the “Relevant Policy” section of each topic chapter (see para. 1.9 above).
- 3.3 The conformity of the Proposed Development to relevant planning policy, as well as the weight to be placed on different elements of the policy framework, will be addressed in the freestanding Planning Statement.

4.0 SOCIO-ECONOMIC EFFECTS

- 4.1 The socio-economic assessment of the Proposed Development will analyse its effects on the following:
- the local population, including its age structure;
 - the local housing stock, including housing affordability;
 - the local economy, including temporary construction jobs, permanent on-site employment, additional expenditure generation, labour market implications and fiscal impacts;

- local social and community infrastructure, including:
 - education capacity at nursery, primary and secondary levels;
 - healthcare capacity at GP, dental and hospital levels;
 - recreational capacity, including in respect of parks, green space, play areas and sports facilities; and
 - the capacity of other community services, including adult social care, community learning, libraries and youth services; and
 - retail provision and investment in nearby existing centres.
- 4.2 Baseline socio-economic conditions will be assessed by consulting widely recognised sources of reliable socio-economic data, for example the Census, Labour Force Survey and NOMIS, as well as such data generated at local authority level. The socio-economic effects of the Proposed Development will be assessed by applying recognised multipliers, such as those used by the Homes and Communities Agency (HCA) in respect of employment densities and those used by healthcare stakeholders in relation to effects on healthcare capacity.
- 4.3 The socio-economic effects of the Proposed Development are anticipated to be largely beneficial, subject to the timely delivery of additional social and community infrastructure made necessary by the Proposed Development, to avoid undue pressure being placed on existing local infrastructure. That timely delivery can be secured by suitably worded conditions on any grant of planning permission, as well as appropriate thresholds for infrastructure delivery/contributions through planning obligations attached to any permission.

5.0 TRANSPORT

- 5.1 A substantial amount of work has already been undertaken in assessing the transport effects of the Proposed Development. This work, which has been informed by discussions with representatives of Hertfordshire County Council, WHBC, EHDC and other stakeholders, has included the collection of extensive baseline data (including traffic surveys), an understanding of the detailed proposed modifications to the B195 Birchall Lane and the scoping of a full Transport Assessment of the Proposed Development.
- 5.2 The assessment of transport effects within the EIA will be based upon the former Institute of Environmental Assessment (IEA)'s *Guidelines for the Environmental Assessment of Road Traffic* (1993). In accordance with that guidance, the effects of the Proposed Development on the following environmental considerations will be assessed:

- pedestrian and cyclist severance and delay;
- pedestrian and cyclist amenity;
- pedestrian and cyclist fear and intimidation;
- accidents and safety;
- driver severance and delay; and
- hazardous and dangerous loads.

5.3 The data for undertaking these assessments will be sourced from the wider Transport Assessment (TA), which will be appended to the ES. Geographically, the traffic assessment within the TA will include routes to the west of the Site (up to and including the A1(M)) and the A414 to Hertford. The extent of the assessment will be further refined as the assessment progresses.

6.0 AIR QUALITY

6.1 Air quality assessments were undertaken in April and June 2014 on areas of the Site adjacent to the inert waste recycling operations at Burnside and Eco Aggregates.

6.2 The air quality assessment for this EIA will assess two air quality issues that could potentially arise: the impact of the Proposed Development on local air quality; and the suitability of the Site for the predominantly residential development that is proposed.

6.3 The impact of the Proposed Development on local air quality may arise from dust and particulate matter (PM₁₀) generated during construction, as well as nitrogen dioxide and PM₁₀ arising from road traffic emissions associated with additional traffic generated. The suitability of the Site for predominantly residential development is influenced by the impacts of existing emission sources on the Site; in particular, local road traffic emissions, as well as emissions from the Burnside and Eco Aggregates sites.

6.4 Dust and particulate matter associated with construction will be assessed with reference to the Institute of Air Quality Management (IAQM)'s *Guidance on the Assessment of Dust from Demolition and Construction* (February 2014), which is accepted as industry standard guidance on this subject. Air quality impacts arising from road traffic will be assessed using data from the Transport Assessment and with reference to guidance issued by the IAQM and Environmental Protection UK (EPUK) in their document *Land-Use Planning & Development Control: Planning for Air Quality* (May 2015).

- 6.5 Air quality dispersion modelling will be used to predict concentrations within the Site to assess its suitability for predominantly residential development and also at off-site receptors to assess the impacts of additional traffic associated with the Proposed Development. WHBC's and EHDC's Environmental Health officers will be consulted concerning detailed aspects of the proposed methodology for the air quality assessment.
- 6.6 Although background concentrations of nitrogen dioxide in the environs of the Site are low, EHDC declared an Air Quality Management Area (AQMA) in central Hertford in 2010 and amended that area in 2012. The effects of the Proposed Development on nitrogen dioxide concentrations within that AQMA will be assessed; however, such effects are considered unlikely to be significant.

7.0 NOISE

- 7.1 A noise assessment was undertaken in April 2014 on areas of the Site adjacent to Burnside and a separate noise assessment was undertaken in July 2014 on areas of the Site adjacent to Eco Aggregates. The potential changes in operation at the Eco Aggregates site will be investigated and the existing assessment updated.
- 7.2 The scope of the noise assessment for this EIA will include changes in noise levels due to road traffic arising from the Proposed Development as well as the temporary effects of construction activity. Where any proposed land uses would potentially include noise generating activity, this will also be assessed in relation to existing and proposed receptors, specifically noise breakout from employment use / local centre buildings as well as noise from external school playground areas.
- 7.3 Noise limits for future mechanical services plant will also be set; however, details for such equipment would not be available for assessment until the detailed design stage.
- 7.4 For the land uses proposed, it is not expected that any significant vibration generating activity will be created and therefore vibration would not require detailed assessment.
- 7.5 The assessment will also determine the suitability of the Site for the land uses proposed, with reference to existing sources of noise including the A414, B195, Burnside, Eco Aggregates and the civic amenity site adjoining the A414, as well as proposed noise sources such as school playgrounds and employment uses. The suitability of the proposed gypsy/travellers site will also be considered as part of the assessment, including relative to the A414 and the civic amenity site.

- 7.6 Vibration from any of these sources is not expected to be significant enough to warrant detailed assessment of the proposed land uses in the specific locations put forward. It is therefore not proposed to assess vibration in detail in this EIA. Equally, vibration resulting from construction activity would be minimised by standard mitigation measures, such that it is not proposed to undertake a detailed assessment of construction-stage vibration.
- 7.7 The assessment will be informed by noise survey data gathered at suitable locations around the Site and guided by the Noise section of the Government's *Planning Practice Guidance*. WHBC's and EHDC's Environmental Health officers will be consulted concerning detailed aspects of the methodology for the noise assessment.

8.0 LANDSCAPE AND VISUAL EFFECTS

- 8.1 The scope of this element of the assessment of the Proposed Development will include its effects on landscape character and on visual amenity.
- 8.2 Effects on landscape character will be assessed with reference to the Landscape Institute's and the IEMA's *Guidelines for Landscape and Visual Impact Assessment: Third Edition* (GLVIA3; April 2013). Relevant published landscape assessments will be analysed and field survey work will be undertaken to identify and describe the landscape character of the Site and its environs; and to assess the effects of the Proposed Development on that character.
- 8.3 The effects of the Proposed Development on visual amenity will also be assessed with reference to GLVIA3. A computer-generated Zone of Theoretical Visibility (ZTV) will identify the areas from which the Site is potentially visible and enable a rigorous assessment of the effects of the Proposed Development on that extent of visibility. Suitable viewpoints for this assessment will be selected in consultation with relevant WHBC and EHDC officers, while the night-time visual effects of the Proposed Development will also be assessed, mindful that the Proposed Development would involve the introduction of artificial lighting into currently unlit areas.

9.0 ECOLOGY

- 9.1 Surveys of wildlife habitats and particular species on the Site will be completed in early 2016. On the basis of the extensive survey work undertaken to date, great crested newts, bats and badgers are likely to be the most significant ecological constraints to the Proposed Development, being statutorily protected species and requiring Natural England licences for necessary mitigation proposals. However, the Proposed Development has been designed to avoid the habitat areas of highest value, which are generally the woodlands.
- 9.2 The ecological effects of the Proposed Development will be assessed with reference to the Institute of Ecology and Environmental Management (IEEM)'s *Guidelines for Ecological Impact Assessment in the United Kingdom* (2006). The methodology prescribed by that widely used guidance will provide for a comprehensive assessment of the effects of the Proposed Development on ecological sites, wildlife habitats and particular species.
- 9.3 A separate Arboricultural Assessment will be appended to the ES, informed by a tree survey of the Site undertaken to British Standard specifications (BS 5837: 2012)

10.0 CULTURAL HERITAGE

- 10.1 Detailed archaeological evaluations of the Site have already been undertaken, which have included a desk-based assessment, geophysical surveys and, for land at Birchall Farm, trial trenching. A programme for trial trenching on land at Cole Green is agreed with Hertfordshire County Council and trenching there is now underway.
- 10.2 These evaluations will inform a detailed assessment of the effects of the Proposed Development on heritage assets within the Site and in its environs. This cultural heritage assessment will take into account potential effects on the settings of Hatfield Park (Grade I Historic Park and Garden) and within it the Grade I Listed Hatfield House, as well as Panshanger Park (Grade II* Historic Park and Garden) and several other Grade II Listed Buildings and Conservation Areas close to the Site.
- 10.3 The assessment of the effects of the Proposed Development on heritage assets will focus in particular upon its potential effects on the settings of Birchall Farmhouse, its barn and stables (all Listed Grade II) within the Site and Holwell Hyde Farm (again Listed Grade II), on Holwell Hyde Lane to the west of the fishing lake.

11.0 AGRICULTURE AND SOIL RESOURCES

- 11.1 The scope of this element of the EIA will include an assessment of the effects of the Proposed Development on agricultural activity within the Site and its environs, on the national resource of the best and most versatile agricultural land (grades 1, 2 and 3A) and on the functions of soils within the Site.
- 11.2 Effects on agricultural activity will be ascertained through interviews with agricultural users. Effects on the best and most versatile land resource will be assessed through analysis of published data and through a detailed soil survey to a depth of at least 1m at the alternate intersects of a 100m grid across the Site.
- 11.3 Effects on soil functions will be appraised through study of published data and information obtained through the detailed soil survey. In relation to soil matters, there is a possibility that excess topsoil will be exported from the proposed mineral extraction area at Birchall Farm to the former landfill area to the south. The beneficial effects of any such topsoil relocation on soil quality within that area will be assessed in the EIA.

12.0 WATER RESOURCES

- 12.1 The scope of this part of the EIA will include assessments of the effects of surface water run-off arising from the Proposed Development on the integrity and quality of local surface waterbodies and on the quality of local groundwater; the risk of pollution from discharges of waste water and spillages; and effects on flood risk.
- 12.2 As identified by EHDC's Draft District Plan, upgrades to the Rye Meads Sewage Treatment Works (STW) are required to support the levels of growth planned for East Hertfordshire District. This STW also serves residents in Welwyn Garden City and its improvement has also been identified by WHBC as an important infrastructure requirement to support new development within its administrative area. Both EHDC and WHBC acknowledge that improvements to the sewerage and waste water treatment provision within the wider area will be needed to facilitate a significant amount of the growth being planned for this part of the county.

- 12.3 The Site is located in the Rye Meads STW catchment and is served by a separated foul and surface water sewer system. Should the planned improvements to sewerage and waste water treatment not take place in time to meet additional demand, Tarmac commissioned THDA to submit a Developer's Enquiry to Thames Water Utilities (TWU) in order to understand the implications of the Proposed Development. The outcome of that enquiry confirmed that although the existing network currently has insufficient capacity for the Proposed Development, there are two suitable upgrade options, each of which can ensure the Proposed Development can be delivered in the timeframe intended. These two options are set out below:

Option 1 – provide an additional pipe of 1200 mm diameter immediately downstream of the Site for a total length of 342m.

Option 2 – construct an off-line storage tank with a volume of 180m³ with an adopted return pump arrangement, connecting to the sewer near Poplars Green Lodge. The volume would need to be stored for a maximum of 3.5 hours, which is the time taken for the trunk sewer to return to dry weather flow conditions following the critical duration 1 in 20 year return period event, before being pumped back to the trunk sewer during dry weather flow.

- 12.4 A formal Flood Risk Assessment (FRA) will be appended to the ES. This will comprise a multi-modal appraisal of potential flood risk mechanisms across the Site, including fluvial flow, groundwater, overland flow, sewer flooding and artificial sources of flood risk.
- 12.5 This part of the EIA will take account of best practice guidance in assessing the effects of development proposals on the water cycle, as well as relevant data and documentation published by the Environment Agency, Thames Water Utilities, Hertfordshire County Council, WHBC, EHDC and other organisations.

13.0 GROUND CONDITIONS

- 13.1 This part of the EIA will assess the Site's geology, hydrology, hydrogeology, land contamination, ground stability, potential mineral resources and possible construction hazards, including unexploded ordnance.

-
- 13.2 To confirm the deliverability of the Proposed Development, Royal HaskoningDHV has been commissioned to undertake an intrusive investigation of the ground conditions of the landfill and its neighbouring land. Royal HaskoningDHV has formulated a phased investigation strategy for the Proposed Development. The first phase of that investigation comprised a desk study for land at Cole Green. The final version of this survey was submitted to WHBC and EHDC in January 2013.
- 13.3 A preliminary intrusive site investigation was subsequently undertaken across previously unworked areas of land being promoted for development at Cole Green, which reported back to WHBC in April 2014. Investigation of the unworked areas adjacent to the landfill involved boreholes, trial pits and the installation of combined groundwater and gas monitoring instruments to facilitate the collection of soils and groundwater samples and the monitoring of ground gases. The study concluded that the landfill is not a constraint to the development of the previously unworked areas of land for housing. An update to the investigation of the previously unworked areas was finalised and sent to WHBC in October 2014.
- 13.4 Further intrusive investigations were then undertaken across the rest of the Site, which involved the collection of soil samples from the shallow sub-surface of the landfill to understand its composition, the installation of gas monitoring equipment beyond the landfill to understand the potential for ground gas being generated from the landfill area itself, and a desk study review for land at Birchall Farm, followed by investigation involving boreholes, trial pits and the installation of combined groundwater and gas monitoring instruments to facilitate the collection of soils and groundwater samples and the monitoring of ground gases. These assessments were submitted to WHBC, EHDC and the Environment Agency in October 2014.
- 13.5 These studies have confirmed that the Proposed Development can be delivered on the Site. The reports of those studies will be appended to the ES.
- 13.6 Intrusive site investigations undertaken to date have concluded that land at Birchall Farm is underlain by mineral resource which is proposed to be extracted prior to the delivery of the Proposed Development (see section 2 above), while land south of Birchall Lane and south and west of the former quarry does not contain viable mineral reserves. The risk of unexploded ordnance on the Site is generally low, albeit slightly higher on land at Birchall Farm. The reports of those studies will also be appended to the ES.

14.0 UTILITIES

14.1 This element of the EIA will include an assessment of the effects of the Proposed Development on existing utilities infrastructure in the area (including a telecommunications mast on land at Birchall Farm and a foul sewer under that land) and on the demand for various utilities. The capacities of utilities infrastructure will be assessed, as will the need for diversions and upgrades to serve the Proposed Development.

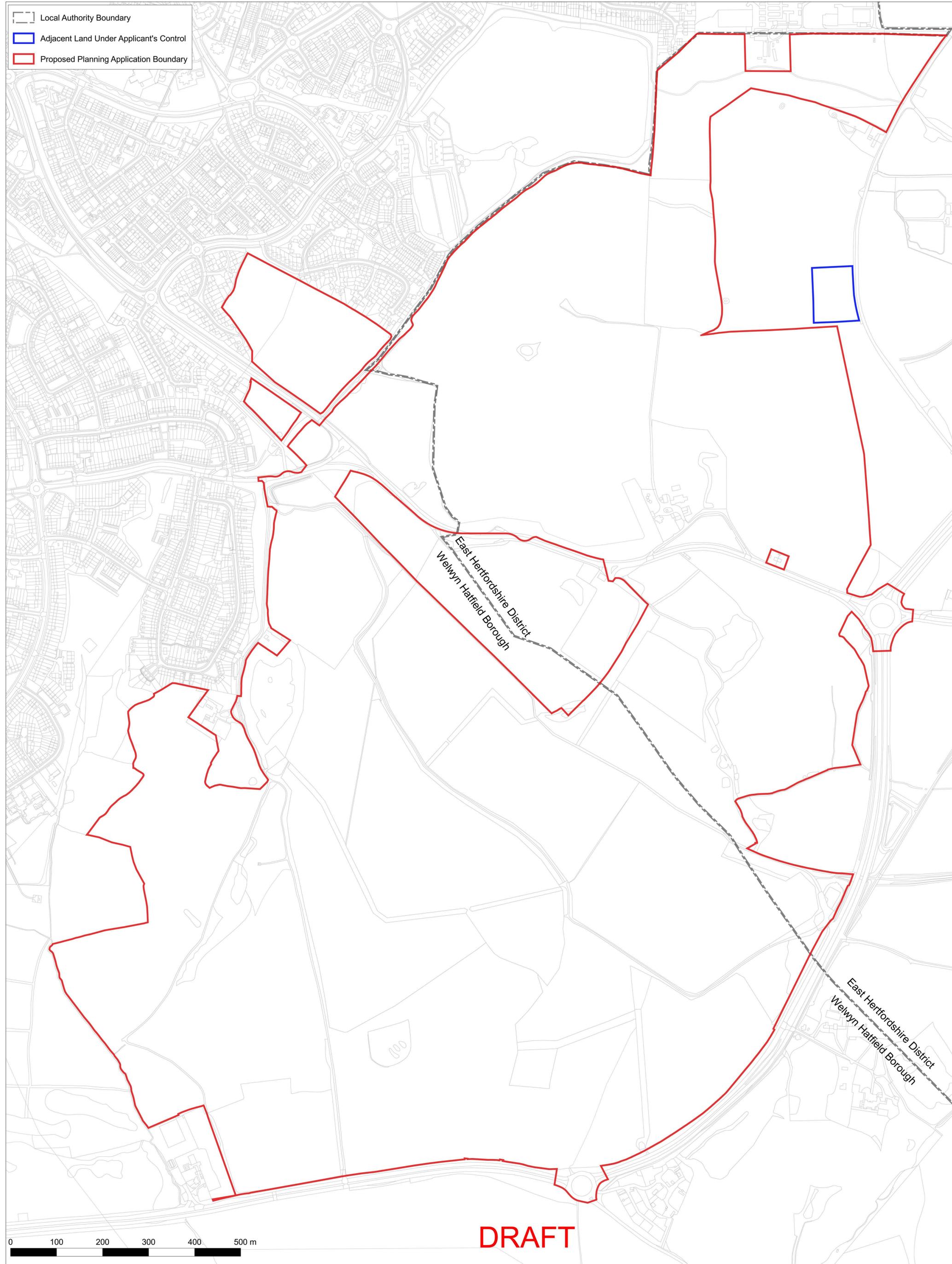
14.2 The utilities to be assessed will include electricity, gas, potable water, telecommunications and pipelines. Relevant service providers will be contacted as part of the assessment and their service plans reviewed.

15.0 CONCLUSION

15.1 A concise concluding chapter of the ES will summarise the main effects of the Proposed Development, identify any significant effects transcending the assessed topics and determine the overall balance between adverse and beneficial effects.

APPENDIX 1: SITE LOCATION PLAN

-  Local Authority Boundary
-  Adjacent Land Under Applicant's Control
-  Proposed Planning Application Boundary



DRAFT

0 100 200 300 400 500 m

Note:
This drawing is for information purposes only and not for use in construction.
Do NOT scale from this drawing.
All Dimensions are to be checked on site and any discrepancies should be immediately reported to the originator of the drawing.
All Information is copyright protected and may not be used or reproduced without prior permission.

© Crown copyright and database right 2013
All rights reserved
Ordnance Survey Licence number 10002533



Birchall Garden Suburb
Site Location Plan

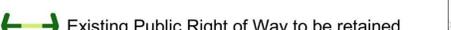
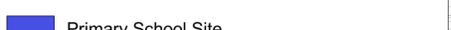
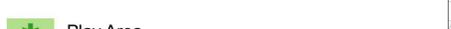
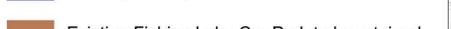
Date
27/11/2015
Drawn
MRP
Designed: WC
Approved: JMT

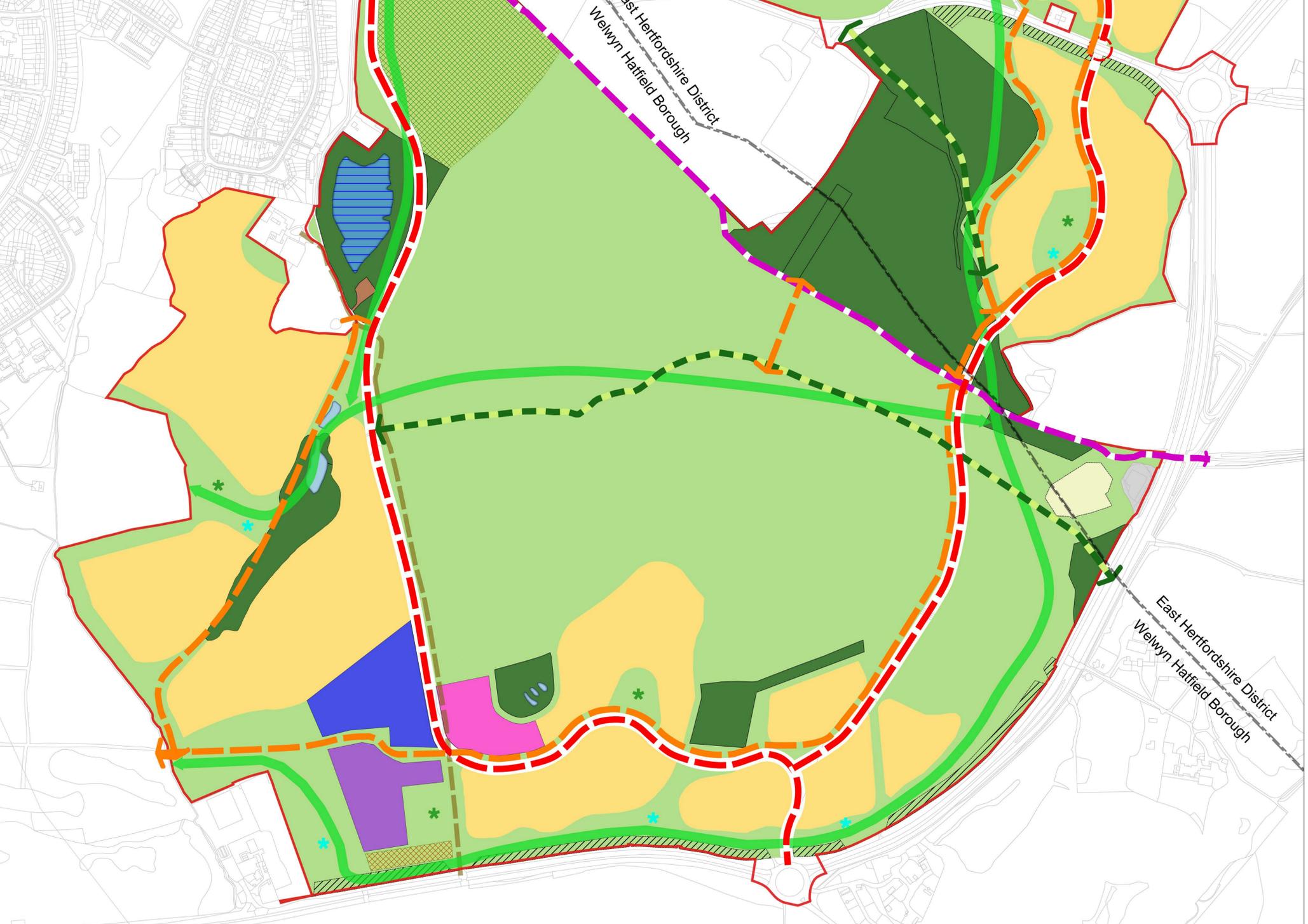
Scale
1:2,500@ A0
Drawing Number
LAF019-116

Revision
B



APPENDIX 2: DRAFT PARAMETER PLAN

-  Proposed Planning Application Boundary
-  Adjacent Land Under Applicant's Control
-  Local Authority Boundary
-  Primary Infrastructure
-  Proposed Footpath/Cycle Link
-  National Cycle Route
-  Existing Public Right of Way to be retained
-  Byway Open to All Traffic
-  Strategic Green Infrastructure Link
-  Residential
-  Local Centre
-  Primary School Site
-  Secondary School Site
-  Employment
-  Gypsy/Travellers Site
-  Existing Civic Amenity Site
-  Playing Fields
-  Informal Open Space
-  Allotment/Community Orchard
-  Play Area
-  Existing Woodland to be retained and managed
-  Proposed Woodland Planting
-  Existing Fishing Lake to be retained
-  Existing Fishing Lake Car Park to be retained
-  Existing Waterbody to be retained
-  Indicative Location of Drainage Basin



DRAFT

Note:
This drawing is for information purposes only and not for use in construction.
Do NOT scale from this drawing.
All Dimensions are to be checked on site and any discrepancies should be immediately reported to the originator of the drawing.
All Information is copyright protected and may not be used or reproduced without prior permission.

© Crown copyright and database right 2013
All rights reserved
Ordnance Survey Licence number 10002533



Birchall Garden Suburb
Parameter Plan

Date
27/11/2015
Drawn
MRP
Designed: WC
Approved: JMT

Scale
1:2,500@ A0
Drawing Number
LAF019-PP-001

Revision
A





DAVID LOCK ASSOCIATES LIMITED
50 NORTH THIRTEENTH STREET, CENTRAL MILTON KEYNES, MK9 3BP
TEL: 01908 666276 FAX: 01908 605747 EMAIL: mail@davidlock.com
www.davidlock.com