SECTOR ANALYSIS:

CONSTRUCTION AND DEVELOPMENT

Sector Lead: Helen Doran

January 2004

Summary

This paper provides an analysis of the impact of the construction and development sector upon the delivery of nature conservation objectives in England. In this context, the construction and development sector is defined as including planners, developers, clients, designers, contractors and professional bodies involved in the development, design and/or construction of domestic, commercial and industrial premises, and of civil engineering infrastructure.

It examines the key socio-economic and political factors that shape the construction and development sector, including DTI and ODPM initiatives, for example the reform of the planning system and the Sustainable Communities Plan, implementation of the sustainable construction strategy and industry-based environmental initiatives.

It describes the roles of the key players within the sector, including ODPM's Planning Directorate, DTI's Construction Directorate, the distinctive place of large and small companies and the role of representative umbrella organisations (such as the House Builders Federation and the Construction Confederation).

The paper analyses the nature conservation impacts of the construction and development sector, both positive and negative. These are wide-ranging and significant, including both the direct loss of land of nature conservation value and numerous indirect negative effects on sites and features of importance. It also highlights opportunities for enhancement and the creation of new wildlife habitats.

From this analysis are derived our objectives for the sector and we list the three priority actions for the period 2004 - 2005.

D1: Maximising recognition of nature conservation objectives and UK Biodiversity Action Plan (BAP) targets in the Government's Modernising Planning agenda and proposed reforms, ensuring that the planning system's contribution to biodiversity is recognised in the new suite of planning policy statements (PPS).

D2: Providing a strategic input to the regional and local planning process, through the development and maintenance of strategic relationships with regional and local bodies and community groups.

D3: Working with DTI to implement the themes for action in the sustainable construction strategy *Building a better quality of life* (DETR, April 2000). Influencing and assisting the construction industry (clients, designers and contractors) in meeting biodiversity actions, set out by government and English Nature, to encourage best practice in the design and management of construction projects.

To deliver these actions, we identify the key organisations and the actions needed to achieve effective influence over policy and delivery.

English Nature's Vision of Sustainable Construction and Development

Planning system: recognition of the need for positive planning so biodiversity and natural greenspace are protected and enhanced. New development contributes to the achievement of UK, regional and local Biodiversity Action Plan (BAP) targets. Policy and project level environmental assessment is to a high standard and recognises that ecological systems are complex, and incremental developments can have significant cumulative effects. Adequate information, supported by monitoring systems, should be provided with planning applications to determine the direct and indirect effects development will have on biodiversity.

Construction sector: recognition by the industry that biodiversity protection and enhancement is an essential part of developing a more sustainable construction industry. Construction clients (in particular Government Departments, their agencies and non-departmental public bodies), designers and contractors should develop procurement policies and action plans to minimise and mitigate for on and off site impacts and look for biodiversity enhancement opportunities in the design and construction process.

Designated sites: a sustainable construction and development sector should not pose a threat to SSSIs. Where the sector has ownership or management responsibility for SSSIs they should be in favourable condition and actively managed. The sector should actively contribute to the delivery of BAP targets, through appropriate management of land in its ownership or control; ensure appropriate management regimes are in place once a development is completed; and ensure compensatory provision is provided within the same Natural Area.

Contents

1. Characteristics and scope of the construction and development sector

1.1 The construction and development sector is large, complex and diverse covering a wide range of business interests and activities. It derives coherence from the use and development of land, which is regulated in England through the town and country planning system. It constitutes a key economic sector in national political terms, whose fortunes closely follow the national economic cycle (the sector employs 1.5 million and contributes 8% of GDP). For this reason it is seen by many, including government, as a barometer of underlying economic conditions.

1.2 It operates through land use **planners,** who determine the location and nature of development, **clients,** including house builders and commercial property developers, who determine what should be built on a site and where, **designers** who decide on the detail of building, **materials and components** suppliers who extract and/or manufacture materials and components, for use by the **contractors** who actually do the building. In addition to these groups, there are others such as surveyors, architects, letting agents, consultants, finance institutions and insurance companies, all of whom have an influence over the industry and its impact on the environment.

1.3 Since the minerals and aggregates suppliers are analysed separately (see section 1.5 below), for the purposes of this analysis the construction and development sector is defined as comprising four key groups – planners, clients, designers and contractors.

1.4 When considering the potential nature conservation impacts and opportunities of the sector it is probably appropriate to recognise four main subdivisions: housing, commercial development, industrial development, and civil engineering infrastructure (such as water treatment and distribution, roads, railways and airports). Each of these has distinctive characteristics and drivers.

1.5 Five major economic sectors, closely related to construction, have separate English Nature sector analyses - minerals and aggregates, inland transport, coastal defence, ports and electricity generation.

1.6 The Government's Modernising Planning agenda and proposed reforms will impact significantly on the sector. The thrust of this programme is deregulatory, with a view to easing the burden of delays inherent in the system and making local planning authorities more responsive to the needs of developers. ODPM issued a Green Paper in December 2001 *Planning: delivering a fundamental change,* which received over 16,000 responses. The key decisions taken in response to the consultation are published in *Sustainable communities: delivering through planning* (5 Feb 2003). A Planning Bill was announced in the Queen's speech in November 2002 to take the legislation forward and is currently going through the House of Lords.

1.7 The announcement of the Sustainable Communities Plan in February 2003, will have a huge impact on future development in the South East. The £22 billion Plan sets out ODPM's long-term vision for solving the housing crisis shortage by creating new 'sustainable communities' in four growth areas – Thames Gateway, Ashford in Kent, Cambridge – Stansted – Harlow and Milton Keynes – South Midlands). Liveability and protecting the countryside are key elements of the Plan, to be implemented through the development of greenspace strategies. The Plan also looks at low demand and abandonment of houses in the north, which will be addressed through a series of regeneration 'Pathfinder' projects.

1.8 The Government published *Planning for sustainable development - Towards Better Practice*, DETR, in September 1998 to help local authorities incorporate the principles of sustainable development into their strategic planning policies, including the specification of building design criteria for individual developments.

1.9 The policies set out in PPG 3 (Housing) and PPG 17 (Open space, sport and recreation) are useful in ensuring that housing on previously developed land ('brownfield' sites) does not affect biodiversity. PPG 3 requires that local authorities 'provide sufficient housing land but give priority to re-using previously developed land within urban areas.' However, the definition of previously developed excludes land where there is a clear reason that could out-weigh the use of the site, such as its contribution to nature conservation. One of the general principles in PPG 17, in identifying new areas for open space, sport or recreation, is to 'avoid any significant loss of amenity to residents, neighbouring uses or biodiversity.'

1.10 The Department of Trade and Industry is the main government partner with the construction industry. The Department's objective is to secure an efficient market in the construction industry, with innovative and successful UK firms that meet the needs of clients and society and are competitive at home and abroad. The Construction Sector Unit of the DTI is a Business Relations unit and takes the lead in central government on relations with the construction sector. Ministerial responsibility for construction sits with Nigel Griffiths, MP, Parliamentary Under-Secretary of State for Construction, Small Business and Enterprise.

1.11 The sector itself is undergoing significant changes under the direction of DTI's Construction Sector Unit and new, strategic, industry bodies. The DETR-sponsored Egan Report *Rethinking Construction* has generated a momentum within the sector and umbrella organisations and individual companies are responding in radical ways. The Rethinking Construction organisation now forms part of Constructing Excellence, a single body to push forward change and best practice in the industry. DTI's *Sustainable Construction Brief* (June 2003) http://www.dti.gov.uk/construction/sustain/scb.pdf highlights current issues and key background information on achieving more sustainable construction.

1.12 The industry measures its performance through Key Performance Indicators (KPIs). The first set of headline KPIs for the environment was launched on 3 June 2003. The Environment KPIs, which will be published annually, contain a wall chart showing the range of performance currently being achieved across the construction industry for 10 headline environmental KPIs – two of which are concerned with biodiversity. http://www.constructingexcellence.org.uk/resourcecentre/kpizone/

1.13 The sector is also characterised by its numerous professional institutions, umbrella bodies and associations, more detail on which is given in sections 2 and 3.

2. Key Players

2.1 The groups identified in section 1 as 'the construction and development sector' – planners, clients, designers and contractors – are important key players in the sector. Other key players include various parts of the government national, regional, local and arms-length agencies, plus the industry associations, umbrella groups, relevant professional institutions and non-governmental organisations (e.g. CPRE and RSPB).

2.2 **Investors.** At sectoral level bodies such as The British Property Federation represent investors in commercial and residential property. The property assets held by BPF members are worth over £70bn. The BPF plays a leading role in representing the interests of the clients of the construction industry and liases closely with Government via its Construction Committee. The BPF has a Planning and Environment Committee that responds to consultations on transport, planning, regeneration and the regions.

2.3 **Planners** at the regional and local level set the agenda for development through Regional Planning Guidance, Spatial Strategies and sub-regional strategies and Local Development Documents. In theory, the planning systems sets out the location, scale and type of development which can take place, but it has been heavily criticised for being outdated, unresponsive and stifling development, hence the proposed reforms to the planning system.

2.4 **Clients** often control the location of any construction activity and what is to be built. Therefore, in many ways, the client is the most important piece in the construction industry jigsaw as far as biodiversity is concerned. A client who understands and is sympathetic to environmental concerns can be very influential in protecting, mitigating and enhancing biodiversity. Key clients are described in more detail in 3.8.

2.4.1 Government is a particularly important client for English Nature. Approximately 40% of the construction industry's output by value (some £24 billion per year) is purchased by the public sector.

2.4.2 Clients, such as volume house builders, hold land banks for future development, some of which may be of nature conservation interest and may include SSSIs. However, developers see land development in a very commercial way and generally do not consider nature conservation as being important unless it is part of a development proposal or they perceive some profit for doing so.

2.4.3 The environmental policies of clients are unlikely to have any direct reference to biodiversity. With a few notable exceptions, there is a lack of knowledge within the sector of the importance of nature conservation, even though it may be sympathetically dealt with at the development stage.

2.4.4 A few clients, such as port and harbour companies, hold and manage large areas of very sensitive habitat, where there is potential to come into conflict with English Nature regarding development proposals.

2.5 **Designers** influence a construction project by deciding on the form of development and its precise location within a site. In particular, they can, and very often do, have great influence over the degree to which existing features on site will be affected and on what can be done to mitigate any adverse impacts or even to create new habitats.

They are likely to have some form of environmental policy, but it is unlikely to include any direct reference to biodiversity. They are becoming increasingly aware of the environmental aspects of construction, although nature conservation is not necessarily considered to be the most important issue for them to deal with.

2.5.1 As with clients, they tend to deal with issues on a project-by-project basis. If nature conservation proves to be an issue on an individual project, they will try to deal with it in a sympathetic manner provided the commercial implications are not onerous and the client does not object. However, it is rare that they will be proactive for nature conservation and many do not consider the site in a wider context, adopt appropriate criteria for the site (e.g. urban and rural sites can be very different), allocate sufficient resources to ecological assessments or employ specialist advice from within the local area.

2.6 **Contractors** are very often the section of the industry most often blamed for damaging or destroying areas of nature conservation interest. However, in normal circumstances, they are often bound by contractual obligations set by the client with their designers' help. In other words, by the time a contract for a construction project has been let, it is normally too late to effect any significant change in the design that may be less damaging or more beneficial for nature conservation. Thus the contractor can stand wrongly accused.

2.6.1 Because contractors are the actual constructors of a project, they do have the ability to influence how the construction process affects nature conservation resources on and around the site. With appropriate advice and resources, damage to habitats can be minimised, the lives of protected species safeguarded, and unplanned-for habitat creation put into effect. A DTI funded project *Working with Wildlife,* managed by the Construction Industry Research Association (CIRIA) is publishing a training pack for contractors to minimise their biodiversity impacts on site. The pack is due to be launched in February 2004.

2.6.2 In recent years, major civil engineering projects have started to employ ecologists to carry out a watching brief throughout the construction process. This has obvious benefits for nature conservation. It also makes site-based staff aware of what can be done to protect and enhance biodiversity.

2.6.3 Major contractors are starting to take greater interest in their environmental management if only because there are commercial benefits in doing so. Currently, consideration of biodiversity is not perceived as a major benefit but the situation is slowly changing. The increasing globalisation of the industry, and especially the increasing participation by some Scandinavian companies in the UK market, is likely to accelerate this progress. Smaller contractors (more often than not the sub-contractors or 'subbies' to the main contractors) will look to take their lead from the major companies. Commercial aspects will still be paramount, but external forces coupled with internal commitment and interest could create a more positive atmosphere for biodiversity and construction in the future.

2.6.4 Large contractors are likely to have environmental policies but, in general, there is no specific reference to biodiversity within these (See Annex 5, Carillion's position statement on designated sites as one of the exceptions to this rule). There is a lack of knowledge regarding biodiversity and Biodiversity Action Plans and, whilst many may be aware of English Nature, the majority are probably unclear as to what it does, and there can be confusion with English Heritage and the Environment Agency.

2.6.5 The blockages to doing more for nature conservation are largely commercial – if the client does not ask for it then it is unlikely to get done. Profit margins in the contracting industry are small and there is a general fear of getting involved in issues that may erode profits further. This is not to say contractors are not interested or would be willing to do more but, together with a lack of in-house resources, it has to be seen as a major block.

2.7 At the regional and local levels, the **Regional Planning Bodies** and **local planning authorities** provide incentive and regulatory control respectively. PPG11 on regional planning says Regional Planning Guidance should incorporate biodiversity and nature conservation into regional development objectives, conserve and promote biodiversity at the regional and sub-regional level (through English Nature's Natural Area Reports), establish regional targets for community forests and strategic green open spaces in urban areas and identify cross boundary issues that are not already being addressed by joint working.

2.7.1 One of the best examples of a project at regional level is the Building for Nature project based with the South East of England Development Agency. The project provides advice to SEEDA, local authorities and developers on how to incorporate biodiversity considerations into new build and regeneration projects.

2.8 Another key national player is the **Environment Agency**, which provides regulatory control of waste and water pollution, and which the construction industry often sees as 'the' agency concerned with the environmental performance of the industry. The Environment Agency produces an annual report called *Spotlight on business environmental performance* that ranks companies by sector and amount of fines. The construction industry is ranked as a 'poor performer' for the killing of fish and exposing employees and the public to potentially hazardous waste. The Chairman of the Agency is joint chair of the Sustainable Buildings Task Group which will provide advice to government on water, energy, timber and other construction materials and waste reduction.

2.9 Within the industry, there is a very wide range of **umbrella groupings and associations** that have a role to play in improving the industry's environmental performance. Some of the more significant groups are:

- Construction Confederation;
- Sustainable Construction Focus Group;
- Association of Consulting Engineers;
- Constructing Excellence;
- Construction Clients' Forum;
- Association of Environment Conscious Builders;
- Construction Industry Research Association (CIRIA) and Construction Industry Environment Forum (CIEF);
- Campaign for Architecture and the Built Environment (CABE).

An explanation of the role of the more influential industry groups is given in Annex 2.

References to nature conservation in some of the key guidance documents of these groups are given in Annex 3.

2.10 Another significant set of key players are the **professional institutions** whose members serve or work in the construction sector. These include:

- Institution of Civil Engineers, whose committee structure includes an Environment and Sustainability Board;
- Royal Institute of British Architects, whose committee structure includes an Energy & Environment Committee;
- Chartered Institute of Building;
- Chartered Institution of Building Services Engineers;
- Chartered Institution of Water and Environmental Management;
- Institute of Environmental Management and Assessment;
- Institute of Ecological and Environmental Management;
- Association of Local Government Ecologists;
- Landscape Institute;
- Royal Institution of Chartered Surveyors.

Of these latter two groups of organisations and institutions, it is interesting that coverage of nature conservation and biodiversity is often scant in comparison with other environmental impacts. Potentially there is an opportunity for English Nature to improve the profile of these issues within professional institutions.

2.11 Several **NGOs** are active in this field, traditionally working in the national arena with only limited direct influencing of individual companies. Among them RSPB and CPRE (particularly in relation to housing) have the highest profile. RSPB has produced a number of good practice publications related to planning and construction, including guides on prospective developments, housing, biodiversity, liveability and environmental impact assessment. The Town and Country Planning Association and Royal Town Planning Institute make significant contributions to the national debate on land use.

2.12 Key 'opinion formers' include the investment institutions, clients of construction and the larger construction companies themselves. Examples include:

- clients such as the Environment Agency (as client of flood defence works), Network Rail, Highways Agency and British Waterways,
- designers such as W S Atkins and Ove Arup & Partners;
- contractors and major materials suppliers such as AMEC, Balfour Beatty, Kier, Costain, Carillion (previously Tarmac Construction), Hanson plc, Laing, Land Securities and Morrisons, McAlpines, and Skanska.

Many of these, and others, play a significant role in industry initiatives such as the Advisory Committee on Business and the Environment (ACBE). In addition, high profile environmental advisers to these companies (such as Janet Barber, Sara Parkin and Chris Baines) have a considerable influence on the scope and direction of internal environmental policy, although this does not always translate into concrete good practice on the ground. The many environmental consultants assisting construction companies to respond to the environmental agenda also have a significant, if less high profile, positive effect.

2.13 Popular PR issues in this sector are household growth and prices, greenfield development and greenbelt policy, flood plain development (see Annex 4 for our policy on flood plain development), animal welfare (e.g. protection of badgers and bats) environmental pollution,

waste and nuisance to neighbours. However, many planning policy issues can be complex and arcane and difficult to inspire media interest.

3. Socio-economic and Political Factors

The Economic make-up of the Sector

3.1 The construction and development sector is very important economically to the UK (as previously stated employing 1.5 million people and contributing 8% GDP). In land use terms, approximately 10% of the UK's land surface is urbanised. The fastest growing area is leisure, although housing remains very significant. Housing growth is particularly important in the South-East where the Sustainable Communities Plan is proposing 200,000 additional homes over and above current Regional Planning Guidance allocations.

3.2 The sector is strongly investment-led and this makes it susceptible to economic downturns. It is thus seen by many, including government, as a barometer of national economic success. It suffered badly during the recessions in the mid 1980s and early 1990s, from which it is said to have emerged slimmer and fitter. In the late 1990s it began to grow once again, particularly in response to Government infrastructure investment programmes, including the public-private sector partnerships in health, education and transport.

3.3 The make-up of the contracting part of the sector is revealing for English Nature's purposes, in that it comprises a very few 'big' players (there are about 20 members of the Major Contractors Group of the Construction Confederation) alongside very many 'small' players (for example, small engineering firms and regional house builders).

The Environmental Performance of the Sector

3.4 The sector has been singled out by Government for its poor environmental performance. Many, including the Environment Agency, believe that the industry's pollution record is worse than average and worse than it should be. However, even with the best systems in place, the nature of construction, especially temporarily opening the ground, means run-off in heavy rainstorms can lead to silt pollution of watercourses. English Nature's own data shows that the Construction & Building Materials sector is one of the main FTSE sectors impacting on SSSIs (after water and transport), owning approximately 4,000 hectares of SSSI land.

3.5 The Construction Industry Mass Balance Study (November 2002), undertaken by Viridis and CIRIA, attempted to quantify the impacts of the industry. Based on 1998 figures it found that the industry used the energy equivalent to nearly 8 million tonnes of oil and produced over 30 million tonnes of emissions, together with over 150 million tonnes of waste – over 2.5 tonnes for each person each year. The material resource requirement of 420 million tonnes equates to over 7 tonnes of material resources per person per year.

3.6 There are now many companies in the construction sector that have environmental management systems, some accredited to ISO 14001. A good example is Carillion (previously Tarmac Construction) which has a Position Statement on Sensitive and Designated Sites (Annex 5); publishes a Sustainability Report and donates £25,000 each year to the Wildlife Trust through their Natural Habitats Fund. In addition, they have a sustainability target to investigate the feasibility of a Carillion BAP. The company participates and scores well in the Business in the Community environment and corporate responsibility indices which independently benchmark performance.

3.7 Many contracting companies are now more aware of their influence on the environment and are actively involved in setting a more ambitious agenda for the sector particularly through

their participation in Government initiatives such as *Accelerating Change* and *Building a better quality of life*. It is difficult to generalise on the extent of influence versus size, since some smaller companies are leading the way while others by contrast appear conservative and unambitious in the environmental field.

3.8 Some regional house builders are seeking to carve out a competitive niche for themselves by emphasising their environmental credentials. For example, Countryside Properties has a strong environmental record and takes biodiversity issues seriously. The company's sustainability commitments have led to:

- Membership of the South East England Development Agency's Sustainability Checklist Steering Group facilitating the creation of a sustainability model for the development industry.
- Working with the Essex Wildlife Trust to develop an Ecological toolkit. This helps the company manage ecological risks during land acquisition, planning, and delivery, through to land adoption. The toolkit is being piloted at a number of strategic projects.
- 'Quality of Life' research with the New Economic Foundation. The company has subsequently developed and reviewed this research and is currently producing a 'Quality of Life' guide to help promote social capital through new developments.
- During the last reporting period planting 211,000 trees and shrubs.
- Helping customers create gardens that are species rich and attract wildlife, through a free brochure entitled 'Attracting Wildlife to your Garden.'

3.9 Construction clients are possibly the most difficult part of the sector to define, as in essence anyone can be a client of construction. Having said that, there are some key players including the Environment Agency, water companies, British Waterways, Network Rail, the Highways Agency, port authorities, major retailers and house builders.

3.9.1 Social Registered Landlords (Housing Associations) are an important part of the housing sector and, in times of financial hardship, can be one of the few active players. Whilst the principal concern of SRL's is social housing, they are often no less commercial in their outlook than private companies, although many do see environmental improvement as a key element in improving their tenants' quality of life. SRL's receive much of their funding via the Housing Corporation, a non-departmental public body, which aims 'to invest for the creation and maintenance of safe and sustainable communities.' The Corporation encourages good practice and innovation through grant schemes, of which sustainability is one of the key themes.

3.10 Designers for the industry vary from the small architect and engineering firms to large multi-disciplinary consultancies. Many architects are environmentally aware, as their discipline takes an active interest in developing new architectural forms and techniques. These are often spurred on by initiatives such as Building Regulations and market-oriented award schemes such as BREEAM (the Building Research Establishment [BRE] Environmental Assessment Method) for assessing the environmental performance of new buildings or BRE's EcoHomes Environmental Rating. BREEAM assesses the environmental performance at design stage of various categories of building such as new offices, homes and superstores. Several versions of BREEAM give credits for nature conservation and 'ecology and land use' is one of the categories used in EcoHomes (www.bre.co.uk/ecohomes).

3.11 A recent initiative by the Institution of Civil Engineers seeks to develop an environmental awards scheme for civil engineering projects (CEEQUAL) equivalent to BREEAM. A list

of case studies of good practice, identified in the development of this analysis, is given in Annex 6.

The Strategic Direction of the Sector

3.12 The strategic direction of the sector is currently undergoing radical change with the reform of the planning system. The Planning Green Paper: *Planning – delivering a Fundamental Change* addressed complexity, speed and predictability, community engagement, customer focus and standards of service and enforcement. The ODPM responded to the concerns of the 16,000 consultees, the Transport, Local Government and Regions Select Committee and the Royal Commission on Environmental Pollution's submission by publishing the paper *Sustainable Communities – Delivering through Planning*. This paper addressed many of the concerns English Nature raised in its submission. The Planning and Compulsory Purchase Bill is now going through the House of Lords. It covers all aspects of the planning system from regional functions to local development, sustainable development, development control and compulsory purchase.

English Nature's responses to national consultations are available on our website. The main messages we put forward in relation to the Planning Green Paper are attached as Annex 7.

3.13 The Sustainable Communities Plan is also a key driver in shaping the future of the industry. It has led to a number of important studies and reviews such as the Kate Barker Review of Housing Supply, Sir John Egan's Skills for the Built Environment, the setting up of the Sustainable Buildings Task Force and commitments to water conservation and greenspace strategies for the new communities. Information on the Plan and associated reviews and progress reports is available on the ODPM website.

3.14 Local authorities are producing their own guidance for planners and developers which can prove very useful in mitigating and enhancing developments. One of the most heavily promoted is the *Biodiversity Checklist for Land Use Planners in Cambridgeshire and Peterborough*, Cambridgeshire County Council (March 2001). The checklist aims to aid strategic and development control planners in their work.
www.cambridgeshire.gov.uk\sub\cntryside\biodiv\ccc\planning

3.15 Another major strategic influence on the sector is *Building a better quality of life* (DETR, April 2000) and the industry's response, in the form of the report by the Sustainable Construction Focus Group. (See Annex 3 for a brief commentary on both documents and other relevant construction industry guidance documents). The strategy's primary emphasis is on conventional issues such as providing a sustainable economic base for construction, respect for people, prudent resource use and reuse, waste minimisation, whole life-cycle impacts and user acceptability. However, it does include 'Preserve and enhance biodiversity' as one of 10 Themes for Action for the Construction Industry, an action reflected in the Focus Group's report.

3.16 The Construction Industry Environmental Forum has a significant influence on the strategic environmental direction of the industry, supported as it is by CIRIA, BRE, BSRIA (Building Services Research Industry Association) and DTI. CIEF is a good vehicle for English Nature to address many of the leading industry opinion formers and those at the leading edge of environmental practice in construction. CIEF were the project managers for two major pieces of work on biodiversity - the indictors in the Environment Key Performance Indicators and the Working with Wildlife Training Pack.

3.17 The sector has been influenced by recent economic and social regeneration initiatives such as the Urban Task Force's report *Towards an Urban Renaissance* (June 1999), the Urban White Paper - *Our towns and cities: the future* (Delivering an urban renaissance, DETR, November 2000) and the sustainable development remit of the Regional Development Agencies. Housing is particularly affected by changes in these policy areas, stemming in part from increasing household growth projections. The Urban White Paper estimates that we may need to provide up to 3.8 million new households over the next 20 years to accommodate the changing needs of society.

The Urban Task Force Recommendations, relevant to English Nature, are included as Annex 8 of this analysis.

3.18 The present debates on the relative merits of greenfield and brownfield development and the use of economic instruments to encourage the reuse of previously developed land will have particular impacts on the scale and location of future housing development. The target for 60% of new development on brownfield sites must recognise that many brownfield sites are important for biodiversity, especially in urban areas. In addition there will continue to be a significant amount of new greenfield development, not all of which is necessarily valuable for wildlife. English Nature will have a continuing role in ensuring that the adverse nature conservation impact of all development is minimised, and that opportunities in relation to Biodiversity Action Plan targets, Natural Areas objectives, green roofs and accessible natural greenspace are taken.

3.19 The nature, scale and location of new development is essentially determined by the development process (plan or framework), in the broader context of national planning policy. Like English Nature, the construction industry actively engages in influencing the planning system at both these levels.

4. Adverse Impacts on Nature Conservation

4.1 The Government recognises that the construction industry has a significant impact on the natural environment. Nick Raynsford, then the Minister of State for Planning, told the Construction Industry Board in a speech in June 1999 that 'buildings and structures have a significant environmental impact in their construction and use' but also that 'the industry has a huge contribution to make to sustainable development'.

4.2 Patterns of development suggest a reduction in direct loss of SSSI to development during the 1990s, linked in part to the introduction of a strong policy presumption in PPG9 (1994) against development that would damage SSSIs. Nevertheless, significant pressures on the SSSI resource from infrastructure development, employment uses and new housing remain in more developed urban fringe and coastal areas. The Countryside and Rights of Way Act (CROW) 2000 sets new duties on public bodies to further and enhance the conservation of SSSIs and for an explanation to be provided to English Nature if our advice is not taken into account in the planning process. The effect of these duties will be explained further when the revised PPS9 (Planning Policy Statement) is finally issued.

4.3 The Rural White Paper *Our countryside: the future - A fair deal for rural England* (DETR, November 2000) aims to tackle development pressures in the countryside by modernising the planning system. The annual net change from rural to urban land use is in the region of 6,500 hectares (Land Use Change in England No. 14, DETR Planning Directorate). This will be delivered through commitments in relation to building on previously developed land, clarified PPG 7 guidance, issuing new transport planning guidance (PPG 13), and revisions and additional guidance to PPG 17 (Open Space and Recreation). These commitments are set out in more detail in the Rural White Paper Implementation Plan (August 2003). http://www.defra.gov.uk/rural/pdfs/ruralwp/august2003/9.pdf

4.4 Of increasing significance are indirect effects on SSSIs from adjacent off-site development. These indirect effects may include pollution of air and water, hydrological impacts, disturbance, increased risk of vandalism, fires and fly tipping, unregulated access, isolation or fragmentation, ancillary development and operations (such as access roads and dredging) and the displacement of individuals and populations of species leading to increased pressure on other sites. These effects are often poorly addressed in Environmental Impact Assessments (EIA) and their significance is often not recognised or acknowledged by decision makers. Nevertheless such effects may be as harmful to the special interest of a site as direct loss. These issues, and in particular the identification and monitoring of impacts, need to be considered better by clients and designers at the very start of the project planning and design stages.

4.4 Impacts on BAP priority and protected species away from designated sites is also significant. Bats, badgers and great crested newts are those most commonly affected, along with several bird species. Again, such impacts are inadequately taken into account in EIA and planning decisions. The presence of a protected species at a given site often only comes to light late in the day. This has the effect of introducing delays and conflict into the process and, speaking to house builders in particular, it becomes clear that these species are seen as an inconvenience and impediment. One effect of this is that, for many companies, the only time they have contact with the 'nature conservation community' or English Nature is in an adversarial and negative context.

4.4.1 To address the current weaknesses of EIA the RSPB, WWF-UK, English Nature and the Wildlife Trusts published a best practice guide on the treatment of biodiversity in EIA's -

Biodiversity and Environmental Impact Assessment: A New Approach (August 2000). The New Approach complements existing EIA guidance and should help government, local authorities, planners and ecologists, statutory and voluntary nature conservation bodies, developers and promoters, along with consultants. It is based on a checklist approach which covers screening, scoping, description of the environment, impact prediction and assessment, mitigation and enhancement, environmental impact statement and monitoring programmes. Copies of the introductory leaflet describing the New Approach and the full report (*Biodiversity and Environmental Assessment: A Good Practice Guide for Road Schemes*) are available from the RSPB Planning and Rural Development Unit.

4.4.2 *Developing Naturally - A Handbook for Incorporating the Natural Environment into Planning and Development* (Michael Oxford, December 2000) is a comprehensive guide covering: planning procedures, design principles, how to establish key characteristics of the natural environment, assessment techniques, techniques for incorporating nature conservation into new development, environmental management systems, management plans and monitoring. English Nature and the Association of Local Government Ecologists both support the publication.

4.5 More difficult to both assess and address is the contribution of individual developments to chronic environmental trends. These may not be site-specific and include water table depletion, low flows in rivers, diffuse pollution of air and water, and loss of flood-plain capacity (see Annex 4). These all have implications for nature conservation both in designated sites and the wider countryside. These issues are of key importance in some Natural Areas, especially in the South and East where development pressures are most intense. Once again, these issues need to be considered better by clients and designers at the project planning and design stage.

4.6 Nick Raynsford's observation, noted at 4.1 above, highlights a key element of English Nature's policy objectives with this sector, namely the significant opportunities for wildlife enhancement and habitat creation to which a new development may give rise. The Natural Areas framework and Local Biodiversity Action Plans should be used as a guide to the relevant priorities for such positive measures at the local level. These may include rehabilitation of degraded habitats or the creation of new habitats within and adjacent to development sites, the use of locally distinctive and characteristic species, features and communities in landscaping, and the provision, within the design, of structures or features (such as bat tiles or bird boxes) of benefit to relevant species. The Association of Local Government Ecologists and RSPB publication *A Biodiversity Guide for the Planning and Development Sectors in the South West* (March 2000) is a good example of how biodiversity can be incorporated into land use planning and new development. The publication's design strategy for incorporating nature conservation into development is included as Annex 9.

4.7 It is unrealistic for certain parts of this sector, particularly contractors, to devise and publish their own Biodiversity Action Plans, as many of them are still unclear as to what these are. However, English Nature staff working alongside and closely with such companies, providing support, training and written guidance, could all help towards achieving targets in Biodiversity Action Plans within the local area in which a construction project is taking place. In one instance, a contractor (Kvaerner now called Skanska) seconded a member of staff to English Nature to get a better understanding of the conservation concerns regarding the Birmingham Northern Relief Road. Such initiatives could help the industry make an important contribution to protecting and improving biodiversity.

4.8 Some 40% of Natural Areas profiles highlight ‘development’ as a significant issue, primarily coastal, maritime and lowlands Natural Areas. The issues identified typically relate to the protection of prime sites from damaging development, but broader issues of coastal squeeze, water resources, protected species and geological resources are also highlighted.

5. Sectoral Objectives

5.1 English Nature's aim is to sustain and improve the wildlife and geology of England. Our vision is of a sector that recognises and shares our objectives for sustainable development. Recent changes to Government and industry policy have shaped our sectoral objectives and we see engagement in the following areas as being key to delivery:

5.1.1 **Sustainable development as a statutory purpose of the planning system**.
Our natural environment provides a wide range of important benefits to the community, both socio-economic and in terms of health. It is absolutely critical that any reform of the planning system maintains effective means to safeguard and enhance this and has, as its core, the principle of sustainable development.

5.1.2 **Implementation of the Countryside and Rights of Way Act (CROW)**
The CROW Act will impact on developers and construction clients who are owners or occupiers of SSSIs (e.g. house builders who own land banks and major infrastructure developers) by providing extensive powers to protect SSSIs. It also imposes duties on public bodies (including planning authorities) by requiring them to take reasonable steps to further the conservation and enhancement of SSSIs when exercising their functions. This new duty is likely to impact on construction clients and designers by requiring them to take better account of nature conservation issues when applying for planning permission.

5.1.3 **Development on brownfield sites**
The Urban White Paper estimates that we may need to provide up to 3.8 million new households over the next 20 years. PPG 3 (Housing) gives priority to development on brownfield sites and the national target is 60% of new development to be on brownfield sites by 2008. Each region has been asked to set targets in Regional Planning Guidance/Spatial Strategies and Local Development Documents to contribute to the national target. This guidance must recognise that many brownfield sites are important for biodiversity or could provide valuable local greenspace. Where development does take place on brownfield sites we need to promote good ecological assessments and design practices to enhance biodiversity on site.

5.1.4 **Making natural greenspace part of new and existing developments**
Natural greenspace, including country parks, woodlands, designated sites, river corridors and gardens benefit people's health and quality of life as well as providing a whole host of benefits in relation to habitat creation, flood storage, regulation of micro-climates and improving air quality. We will promote the benefits of building in natural greenspace at the master planning stages of new development and in large-scale regeneration projects.

5.1.5 **Biodiversity as a component of sustainable construction**
Environmental issues in the construction industry are seen to relate to water, energy and waste management, sourcing of materials, noise and pollution. As well as understanding the implications of development on designated sites and protected species government, industry bodies and individual companies should 'build in biodiversity' to new developments using the tools, guidance and indicators produced by organisation like CIRIA and local authorities.

5.1.6 **Business and environment programmes**
Through English Nature's business programme we can influence the construction industry by working with leading edge companies in the sector to champion biodiversity and report

against explicit biodiversity targets. We can also indirectly influence individual companies through our partnership working with Business in the Environment, Forum for the Future and DEFRA's Environment, Business and Consumers Division.

5.2 To engage in each of these areas, English Nature will:

- **Continue to work with Government and other key shapers to develop and refine the regulatory framework so as to secure maximum protection for nature conservation interests through the planning system. To this end, we consider that the sequential approach to planning decisions for biodiversity, which is promoted by the Royal Town Planning Institute (RTPI, 1999), should be followed. This approach involves five steps: information; avoidance; mitigation; compensation and new benefits. It is summarised in Annex 10.**

- **Engage at the local and regional levels in the planning strategy and framework preparation process to ensure that proper account is taken of designated sites, Natural Areas and BAP objectives and the benefits these provide to people and local communities is recognised.**

- **Keep under review our suite of products (both internal and external) and services to keep all players informed about how best to deliver nature conservation objectives through the planning system.**

- **Seek to secure the proper evaluation of environmental effects of all developments through effective Environmental Impact Assessment procedures with high standards recognised and enforced by regulators.**

- **Oppose planning applications that would result in damage to SSSIs and jeopardise Defra's Public Service Agreement of 95% of SSSIs in favourable condition by 2010 and the sustainable development indicator 'extent and management of SSSIs.'**

- **Take, and where appropriate create, opportunities to work with a small number of companies in the sector and, through the various industry structures, to encourage their role as champions of biodiversity and role models.**

- **Encourage the development of 'greener buildings and infrastructure' e.g. using renewable energy, recycled aggregates, water conservation technology and wildlife friendly landscaping and support schemes such as CEEQUAL, BREEAM and EcoHomes.**

6. Priority Actions for 2003 - 2006 and supporting rationale

D1: Maximising recognition of nature conservation objectives and UK BAP targets in the Government's Modernising Planning agenda and ensuring that the planning system's contribution to biodiversity is recognised in the new suite of planning policy statements (PPS).

Expected nature conservation gain: Integration of sustainability principles into the new Planning Bill and revised Policy Planning Statements and guidance to deflect damaging proposals away from SSSIs and deliver UK and Local BAP targets. Where over-riding public interest results in damaging development being permitted on an SSSI, there must be a requirement to implement full mitigation (minimising the adverse impact of the development by adopting environmentally sensitive practices) and compensation (for example, providing an alternative habitat within the locality or Natural Area to substitute for that which has been destroyed).

D2: Providing a strategic input to the regional and local planning process, through the development and maintenance of strategic relationships with regional and local bodies and community groups.

Expected nature conservation gain: clear and comprehensive policies in Regional Spatial Strategies and Local Development Frameworks to protect nationally and locally designated sites and protected species. As well as protection, policies and guidance should promote biodiversity enhancement at a landscape and site based scale to deliver regional and local BAP targets and provide the natural greenspace which is essential for the health and well-being of local communities. Nature conservation and open greenspace delivery should be an integral part of master planning and the potential for enhancement considered at all spatial scales of development.

D3: Working with DTI to implement the themes for action in the sustainable construction strategy *Building a better quality of life* (DETR, April 2000). Influencing and assisting the construction industry (clients, designers and contractors) in meeting biodiversity actions, set out by government and English Nature, to encourage best practice in the design and management of construction projects.

Expected nature conservation gain: integration of English Nature's nature conservation objectives into the sustainability frameworks being developed for the industry by DTI. Through the strategy we will be able to influence key players in the industry - clients, designers and contractors. There is a lack of awareness within the industry about how to incorporate biodiversity into project design and deliver action on the ground during the construction phase. Through working with Government construction clients and individual companies (and in particular the big players who dominate the industry) to encourage innovative practices we can improve awareness, deliver concrete actions and avoid some of the conflicts which arise when developments affect protected species.

7. Summary of Key Shapers and Players and English Nature lead teams/individuals for each priority action

Priority action	Key shapers	Key players	EN lead teams/ individuals
D1. Maximising recognition of nature conservation objectives and UK BAP targets in the Government's Modernising Planning agenda and ensuring that the planning system's contribution to biodiversity is recognised in the new suite of planning policy statements (PPS).	ODPM's Planning Directorate, Sustainable Communities Unit, CABE Space Defra Land Use Policy Division	RSPB, RTPI, CPRE, National Planning Forum, Environment Agency, Local Government Association, Town and Country Planning Association, Royal Town Planning Institute	Senior Planning Officer and Planning Assistant, Head of Development and Regional Policy, Urban Adviser
D2: Providing a strategic input to the regional and local planning process, through the development and maintenance of strategic relationships with regional and local bodies and community groups.	ODPM Regional Co-ordination Unit, Regional Planning Bodies, Government Offices and Chambers/Assemblies Local Planning Authorities	Association of Local Government Ecologists Regional and Local Biodiversity Fora Regional Development Agencies	Head of Development and Regional Policy, Regional Directors and Policy Officers, Area Team Planning Specialists, People and Nature unit
D3: Working with DTI to implement the themes for action in the sustainable construction strategy *Building a better quality of life* (DETR, April 2000). Influencing and assisting the construction industry (clients, designers and contractors) in meeting biodiversity actions, set out by government and English Nature, to encourage best practice in the design and management of construction projects.	DTI's Construction Sector Unit (and associated initiatives)	Construction Industry Environmental Forum Building Research Establishment The House Builders Federation Individual clients, designers and construction companies Housing Corporation Constructing Excellence Environment Agency	Sustainability Adviser, Urban Adviser

Annex 1. Services for delivery of priority actions

Table reviewing the services through which English Nature will deliver the priority actions for this sector

Priority Action	**Service**			
	Regulator	**Enabler**	**Advisor**	**Promoter**
D1. Maximising recognition of nature conservation objectives and UK BAP targets in the Government's Modernising Planning agenda and ensuring that the planning system's contribution to biodiversity is recognised in the new suite of planning policy statements (PPS).	✓	✓	✓	✓
D2: Providing a strategic input to the regional and local planning process, through the development and maintenance of strategic relationships with regional and local bodies and community groups.	✓	✓	✓	✓
D3: Working with DTI to implement the themes for action in the sustainable construction strategy *Building a better quality of life* (DETR, April 2000). Influencing and assisting the construction industry (clients, designers and contractors) in meeting biodiversity actions, set out by government and English Nature, to encourage best practice in the design and management of construction projects.			✓	✓

Annex 2. Influential organisations in construction and development

- The *Department of Trade and Industry* is the main government partner with the construction industry. The Department's objective is to secure an efficient market in the construction industry, with innovative and successful UK firms that meet the needs of clients and society and are competitive at home and abroad. The Buildings Regulations Division of the Office of the Deputy Prime Minister provides guidance on building regulations and controls in England and Wales. The *Construction Sector Unit* of the Department of Trade and Industry is a Business Relations unit and therefore takes the lead in central government on relations with the construction sector. www.dti.gov.uk.

- *Planning Directorate* (ODPM): under the leadership of Brian Hackland, Director Town and Country Planning the Directorate consists of 6 divisions covering planning policy, minerals and waste, development control, plans, compensation and international, environmental assessment and statistics.

- *Construction Confederation*: an umbrella body representing 8 constituent organisations which between them have 5,000 member companies which are responsible for over 75% of construction work in the UK. The Federation represents the interests of its members at the EU and national level; negotiates agreements with other organisations (e.g. the CBI); provides information and advice to members; and promotes the interests of the industry. www.constructionconfederation.co.uk.

- *Considerate Constructors Scheme*: a national, voluntary initiative to improve the image of construction through better management and presentation of its sites. It aims to raise the standards of construction design and management above statutory requirements by minimising the impact of the construction process on the surrounding area and people. Environment is in the eight point Code of Considerate Practice "To be environmentally aware in the selection and use of resources, paying particular attention to waste management and the avoidance of pollution. Using local resources wherever possible and keeping noise to a minimum." http://www.ccscheme.org.uk/

- *The Association of Environment Conscious Builders:* formed in 1989 to encourage greater environmental awareness within the UK construction industry. Their membership is diverse and encompasses most sectors of building construction and management. They encourage their members to persevere towards improving environmental standards in exchange for support and promotion from the association. www.aecb.net

- *Confederation of Construction Clients*: In July 2000 the Deputy Prime Minister challenged the client community to draw up a charter that would set out the minimum standards they expected in construction procurement today, their aspirations for the future and a programme of steadily more demanding targets to drive up standards. The Clients' Charter has been designed to meet this challenge. By signing up to the Charter, construction industry clients will be making a clear statement of their commitment to improve their own performance. Charter Clients do not just pay lip service to culture change but are prepared to measure their progress against an agreed programme with increasingly demanding targets. http://www.clientsuccess.org.uk

- The *House Builders Federation*: a membership organisation of large multi-national companies and locally based businesses which together build about 80% of all new homes in England and Wales. The Federation has a Head Office in London and eight regional offices. The Federation provides advice to house builders on land use, planning, technical, legal, taxation and employment matters, the housing market, social housing, marketing, public relations and political affairs. www.hbf.co.uk.

- *Construction Industry Research Association (CIRIA) and Construction Industry Environmental Forum (CIEF):* CIRIA is a UK based research association concerned with improving the performance of all involved with construction and the environment, through best practice guidance. The CIEF, managed by CIRIA, has been established to improve the environmental and sustainability performance of the construction industry. It has support from the DETR Construction Directorate. www.ciria.org.uk.

- *Constructing Excellence*: achieves its mission by influencing Government in the formulations of policy, working with key stakeholder groups and by being the catalyst for the implementation of innovative processes, strategic business improvement, advanced systems and state of the art technologies. It is the central link to many other schemes and industry best practice initiatives. http://www.constructingexcellence.org.uk/

Annex. 3 Biodiversity and construction industry environmental guidance

- **Building a better quality of life (DETR, April 2000)** The Strategy concentrates on planning, resource conservation, climate change and pollution in the Chapter on Managing the Environment and Resources. These objectives are supported by ten themes which give the industry some pointers for practical action. 'Preserve and enhance biodiversity' is one of the 10 themes for action and organisations are asked to 'look for opportunities throughout the construction process - from the extraction of raw materials, through the construction phase, to the landscaping of buildings and estates - to provide and protect habitats.'

- **Towards Sustainability – A Strategy for the Construction Industry (Sustainable Construction Focus Group April 2000).** The Report lists a number of practical measures which it believes organisations can implement straight away in order to start 'climbing the sustainability ladder', including – preserve and enhance biodiversity. As a case study it refers to the Bovis Cambourne house-building project. Amongst other environmental aspects, the development was built on 'farmed arable land of low environmental value. When finished, the area will be a community with a rich diversity of additional wildlife habitats, providing almost 500 acres of new public green space.'

- **Environmental handbooks for building and civil engineering projects. Publication C512. CIRIA, London (2000).** This publication is split into three parts – Part 1 Design and Specification, Part 2 Construction and Part 3 Demolition and site clearance. All three Parts cover consideration of ecological and nature conservation issues in a variety of places in the construction process, although there is no specific reference to biodiversity or biodiversity action plans.

- **Achieving sustainability in construction procurement. Produced by the Sustainability Action Group of the Government Construction Clients' Panel (June 2000).** This document sets out how Government, as a construction client, will respond to its own strategy for more sustainable construction as set out in *Building a Better Quality of Life*. A theme for action is to 'Preserve and enhance bio-diversity – look for opportunities throughout the construction process – from the extraction of raw materials, through the construction phase, to the landscaping of buildings and estates – to provide and protect habitats'.

- **Environmental good practice on site. Publication C502. CIRIA, London (1999).** This publication provides practical guidance for site managers, site engineers and supervisors on how to manage construction on site to control environmental impacts. Amongst environmental issues considered are wildlife and natural features. These are dealt with in some detail from the point of view of practical on-site measures to protect wildlife. There is less said regarding positive aspects of nature conservation and increasing biodiversity.

- **Environmental good practice on site – training pack. Publication C525TP. CIRIA, London (1999).** This publication includes coverage of wildlife and why it is important to protect it at site level. Also included are some brief case studies that are used to demonstrate how wildlife issues are taken into account at site level. These case studies include Minehead Sea Defences, Somerset, where rare bulrushes (sic) were translocated and the NEC Phase 3, Birmingham, where wetland and badger protection were key issues.

Annex 4. Flood Plain Development

Environment Agency figures indicate that flooding in autumn 2000 led to 2 deaths, 7,406 properties flooded and an estimated £500 million repair bill. With 1.8 million homes already in flood risk areas and a further 1 in 10 applications for new homes in England and Wales on flood plain sites the trend looks set to get worse. There are two main ways in which the damage can be limited - the obvious one of selecting alternative sites to flood plains (and many now believe developers should have to prove there is no alternative to building in flood risk areas and, if they are granted planning permission, should pay for constructing and maintaining the flood defences needed by the property they build). The other way of limiting damage is through Sustainable Urban Drainage Systems (SUDS) which minimise the amount of surface runoff that leads to flash floods and downstream flooding. English Nature's policy on building in flood risk areas is:

- there should be a presumption against inappropriate development in flood risk areas;
- developer funded defences do not provide a solution to permitting development in flood risk areas;
- planning authorities should be involved in, and party to, catchment level flood defence strategies;
- design in urban areas should encompass Sustainable Urban Drainage Systems;
- in rural areas, better drainage on arable land in areas sensitive to flooding and improved water retention in catchments through the re-creation of meadows, pasture and wet woodland.

Sustainable Urban Drainage Systems

Draining surface water from urban areas has led to flooding downstream of urban areas, pollution of watercourses and loss of natural habitats. Sustainable Urban Drainage Systems (SUDS) aim to provide a way of solving these problems through the use of drainage methods inspired by natural processes. They take account of surface runoff quantity and water quality equally with the amenity value of water in the built environment. They also promote the involvement of all stakeholders in making decisions about drainage and the environment, thus developing community awareness and ownership. Many local authorities, sewerage undertakers and the Environment Agency are committed to the promotion of SUDS and they are now being included in development plans.

There are many techniques for managing surface water in a more sustainable manner. The main aim of SUDS is to promote the control of runoff and pollution as close to the source as possible. Some of the techniques used, such as soakways, have been used for many years. Other techniques, such as permeable surfaces, ponds, swales (grassed depressions typically found on roadside margins) and wetlands are more recent innovations.

Passive treatment systems use natural processes to remove and break down pollutants from surface water runoff. The larger 'end of pipe' systems usually involve storage of water in constructed 'retention' ponds where natural purification processes can be encouraged. Wetlands are a further enhancement of retention ponds, and incorporate shallow areas planted with marsh or wetland vegetation. **Only specially constructed wetlands should be used to treat surface water. It is not normally an acceptable practice to lead surface water into an existing, natural wetland area**. Passive treatment systems such as ponds and wetlands provide additional green areas within the urban environment. These can provide space for informal recreation and for pollution tolerant wildlife, as well as enhancing the value of nearby properties. By providing a network of varied habitats threading through the urban environment they can provide valuable corridors for the movement of wildlife.

Annex 5: Carillion Position Statement on Sensitive and Designated Sites

(Published 1999)

The wild animals, plants and places of the United Kingdom are a source of inspiration and enjoyment for millions of people. In the last few decades, despite mounting pressure, voluntary groups, local authorities, government agencies, businesses and specialists of all kinds have made great progress. Despite this, much of the Country's environmental heritage still remains at risk.

Carillion recognises and appreciates the importance of the combined national effort, supported by the public, to give greater protection to this country's outstanding landscapes and wildlife. It is aware of the many instruments and guidelines – local, regional, national, European and Worldwide – that support the safeguarding of sites and species. Carillion also recognises that as a provide of construction services, with a significant overseas presence, its operations affect not only nationally, but also internationally designated sites which have been identified as important for nature conservation, landscape or heritage reasons.

This Position Statement recognises and builds on our commitment to sustainability and pays equal attention to the environmental, social and economic implications of all or activities, i.e. the "triple bottom line".

In order to understand the nature of any impact on designated sites, Carillion will assess all proposed operations. Where, following such a review, Carillion considers its operation will affect a designated site, it will, where it has a controlling stake in any project, take into account all practical and available options. These options will be designed either to avoid any impact on the affected site, or where this is not possible, to minimise any impact. Discussions concerning affected sites will be held with key stakeholders to seek their co-operation in an effort to arrive at an acceptable and practical solution for all the environmental issues involved.

Where an impact on a designated site cannot be avoided and with due regard to tender conditions, our position in the supply chain, and regulatory requirements, we will utilise best practice techniques to minimise, monitor and mitigate any environmental impact, protect any important features and provide for the enhancement of the overall value of these sites, including thorough measures designed to compensate for unavoidable environmental losses.

Given the restraints indicated above, Carillion intends to develop a framework whereby it: -

- Will formally assess the impact of proposed operations on designated sites at an early stage. This requires a full appreciation of the legal status of these sites.

Will implement stated objectives to;

- Prevent damage
- Mitigate for unavoidable damage
- Protect features of interest during the project
- Implement a programme of environmental audit and monitoring
- Provide appropriate training to deliver the above
- Meet and endeavour to exceed minimum legal requirements
- Seek to raise the standards across the industry as a whole

Annex 6. Case studies of good practice

The majority of case studies refer to projects where wildlife protection measures or retention of the status quo were items controlled by contractual arrangement or planning conditions. In the course of researching this analysis there appeared to be few case studies where enhancement of nature conservation was planned for and delivered as an additional item, without legal or contractual implications.

Channel Tunnel Rail Link (CTRL) – Kvaerner, Balfour Beatty Major Projects et al: Nature conservation aspects were important issues in the environmental assessment process**,** and this has been carried through the design stage to construction. Both the client (Union Railways) and the design team (Rail Link Engineering) are using extensive environmental teams including ecologists to protect and wherever enhance the environment associated with CTRL. The contractors in their turn are obliged contractually to employ ecologists to carry out Watching Briefs throughout the course of the contract. The designers also liase on a regular basis with English Nature staff and representatives from other wildlife and environmental organisations. Issues covered include ancient woodland and protected species translocation, and extensive tree planting.

Jaywick Housing Development – Guinness Trust: The last minute discovery of protected reptiles on a proposed social housing development site led to delays in the construction programme and additional development costs. However, it was accepted by the developer that the additional costs and delays were necessary to protect the animals.

Costain These case studies were supplied by Costain. We have not checked the accuracy of the case studies, and our reproducing the details here should not be taken to imply any endorsement or indeed criticism of what took place.

A34 Newbury Bypass: Unusual and extensive measures helped to preserve the integrity of numerous sites of special scientific interest, while value engineering proposals created additional benefits. The special measures taken at Newbury included:

- Fencing of SSSIs to prevent access.
- Prominent notices giving 24-hour call-out numbers in case of spillage.
- Litter bins adjacent to the SSSIs, and an enforced policy of using them.
- A complex system of bunds, preventing rainwater runoff from entering the watercourses without passing through settling ponds. All water pumped from low-lying land also passes through settling basins, so that water entering the watercourses is at least as clean as local groundwater.
- Oil/diesel bunds and drip trays around all site plant and machinery, trapping any spillages at source and regularly cleaned out.
- Oil spill booms across all watercourses - as a final recourse to ensure no oil leaves the site.
- Where Costain were required to work immediately alongside a watercourse, they installed temporary sheet-piled walls to prevent any runoff or leachate entering the watercourse.
- Waste concrete and associated wash-out wastewater were carefully placed in lined excavations, ensuring no pollutants enter the watercourse.
- 20,000 trees were sensitively removed and are being replaced by over 100,000 trees.
- Bailey bridges enabled access over the SSSI and watercourses without damage.
- Minimisation of the amount of material to be disposed off-site.

- Dust control using a fleet of water bowsers. Costain also trialed the use of additives to enhance the effectiveness of this dust control.
- Permanent environmental fencing comprising landscaped earthworks that blend into the countryside.

Duffryn Link Road to the new LG development, Newport: The West Duffryn Link Road Project was Highly Commended for Environmental Achievement in the Construction News Awards, 1998. To protect the SSSI, similar practices to those used at Newbury were adopted (see above). In addition the following specific measures were used:

- Protection of the watercourses, diverting some of them into new alignments and translocating the adjacent flora and fauna. Water quality was monitored and maintained throughout to protect the trout in the reens. The two diversions of the Nant y Moor Reen were conducted by maintaining water flow in one half of the channel rather than complete closure.
- Directional drilling and thrust boring techniques were used to install the supply of electric and foul sewerage rather than open cut, again minimising impact on the ecology.
- A greater length and volume of ditches have been constructed than existed before. Monitoring of the new ditches shows that they are offering a more successful habitat than the untouched ditches.
- Mammal ramps have been installed in sediment traps enabling the local fauna to escape if trapped. Otter tunnels were created in the culverts.

Site induction for site staff and sub-contractors incorporated an environmental protection focus through methods of work, site environmental procedures and an action plan. Literature, videos and word of mouth were used to brief all people on the site on the importance of the environment and how they all had a part to play in its safeguarding.

Costain employed an independent environmental advisor to take water samples and advise on methods of work. They also worked closely with the Environment Agency (EA), Inland Drainage Board (IDB) and Countryside Council for Wales (CCW). Pollution Control Officers of the EA were kept fully informed of all site activities and invited to attend construction activities where there was a potential impact to the environment.

Riverworks, Trowbridge: As part of the enabling works for a Tesco store, aquatic plant life was salvaged for replanting upon the completion of works. Where a section of the river required extensive overpumping, to allow riverbed access, fish life was protected by relocation or temporarily keeping it upstream of the working area using a weir and mesh fish guard. Costain also formed a new upstream river course with "natural" meanders; shallows to promote plant life and deeps to promote fish life. An amenity lake and drainage ditch were also provided as part of the earthworks to create an environment to promote wildlife.

Trinity Terminal III, Felixstowe: The port is separated from nearby countryside by landscaped bunds giving protection to the Port funded Trimley Nature Reserve. The planting of trees and shrubs continues, providing a unique situation in which record numbers of birds and containers can be attracted to the same neighbourhood.

English Nature Sector Analysis: Construction and Development, January 2004

Mine-shaft Capping: During this contract for Kerrier District Council, Costain located five shafts containing live colonies of bats. In order to cope with the ingress and egress of these colonies "bat castles" were constructed with design assistance obtained from the in-house design department.

A339 Basingstoke Northern Bypass: The environmental priority was the protection of flora and fauna in the centre of a Newbury roundabout. Elsewhere the route did not have a significant ecological impact as the highway boundary had been established in the 1960s. Topsoil was stockpiled according to type and replaced in adjacent areas. The scheme was designed to ensure a cut/fill balance, thereby negating the need for borrow pits or spoil tips. Landscaped bunds were constructed out of material generated from the site, these created a noise barrier for playing fields and interchanges. Some 1740m of noise barrier was installed adjacent to residential areas.

Annex 7. English Nature's response to the Planning Green Paper

Planning: Delivering a Fundamental Change – Department for Transport, Local Government and the Regions - December 2001

1. Executive Summary

1.1 The land-use planning system is a vital means through which English Nature assists the Government in meeting its **sustainable development** and **quality of life** objectives and its national and international commitments regarding **nature conservation and biodiversity**.

1.2 The reforms initiated through the Planning Green Paper should be an opportunity to set a clear national purpose and objective for the planning system. This must be to deliver sustainable development and a better quality of life for all. English Nature is concerned that the Green Paper fails to grasp this opportunity.

1.3 Our natural heritage provides a wide range of important benefits to the community, both socio-economic and in relation to health and well-being. It is absolutely critical that any reform of the planning system maintains effective means to safeguard and enhance this and has at its core the principle of sustainable development.

1.4 English Nature is intimately involved in the planning process and our engagement is long-standing, wide-ranging and well informed. We are therefore all too aware of the high risk of losing the protection that the planning system provides.

1.5 English Nature supports the need for reform. The planning system needs to respond better to the community and deliver the outcomes it requires. We welcome means of speeding up the system and making it more customer-focused and inclusive, less arcane and adversarial.

1.6 However, the following issues need to be addressed if the new system is to deliver the outcomes for nature conservation that we require:

- Securing **sustainable development** must be made the statutory purpose and objective of the planning system through legislation arising from these reforms;
- There needs to be a **national land-use strategy** to ensure that the principle of sustainability runs through the planning policy hierarchy and ties together the Regional Spatial Strategies, Local Development Frameworks and the policy statements for major infrastructure;
- Spatial planning should be more than the accommodation or restraint of development pressure. It should provide holistic approach to the environment and address **biodiversity** needs on the basis of Natural Areas;
- English Nature, as Government's advisor on nature conservation, must remain a **statutory consultee** in the planning process;
- There needs to be a separate **national planning policy statement for nature conservation** to up-date PPG9 and set out the objectives and duties of Government, regional bodies and Local Authorities;

- For the planning system to work effectively it must be **adequately resourced** at all levels with appropriately qualified staff, **including those with ecological and environmental expertis**e;

- There must be a **clear role for County Councils** in providing expert strategic planning and ecological/environmental advice and maintaining biological records, in addition to their minerals/waste role;

- The core policies of the **Local Development Frameworks** (LDF) need to be robust and must embed nationally consistent polices for sustainable development and the protection of our natural resources;

- The **community** needs to be fully engaged in the planning process to ensure that local to nature conservation issues and other environmental impacts are recognised and taken into account.

Annex 8. Urban Task Force Recommendations relevant to English Nature

The growth in number of households is projected to grow to 24 million by 2021, an increase of 19% since 1996. To meet this projected growth we need to build 3.8 million new homes and at the prevailing average density of new homes this would cover an area larger than greater London; and if we continue to build 45% of the new homes on greenfield land at prevailing average densities for greenfield development, they would cover an area bigger than Exmoor.

The Urban Task Force published their report '*Towards an Urban Renaissance*' in June 1999. The report included 105 recommendations on how to improve our towns and cities. The Government considered the recommendations when preparing the Urban White Paper *Our towns and cities: the future - Delivering an urban renaissance* DETR (November 2000). The recommendations relevant to English Nature include:

- **Establish a fast-track independent arbitration process for the conclusion of Section 106 agreements, which can be triggered by either party after a set period, at their cost.**

Government response to the recommendation: the Government intend to issue a consultation process on planning obligations. The obligations are arrangements by which contributions from developers can be used to offset the negative consequences of development or to secure positive benefits that will make development more sustainable.

- **Set ambitious targets for the proportion of new housing to be developed on recycled land in urban areas where housing demand is currently low.**

Government response to the recommendation: set a national target that by 2008, 60% of additional housing should be provided on previously developed land and through conversions of existing buildings.

- **Require local authorities to remove allocations of greenfield land for housing from development plans where the allocations are no longer consistent with planning policy objectives.**

Government response to the recommendation: taken forward through PPG note 3.

- **Retain the general presumption against development on designated Green Belt. Review whether there is a case for designating valuable urban green space in a similar way.**

Government response to the recommendation: PPG 3 on housing is central to the drive for urban renaissance and its effective implementation by local authorities is vital to the success of the Urban White Paper. The national brownfield target is supported by a new *Greenfield Housing Direction* (October 2000) which means that major greenfield developments are not given planning permission without the Secretary of State first being given an opportunity to consider whether they are in line with PPG 3. The new *National Land Use Database* shows where the brownfield sites are within England and further good practice guidance will be issued to local authorities on urban housing capacity. The Government has also recognised the importance of the green belt as open space for parks, play areas and recreation.

- **Consider options for reflecting the full environmental costs of new development through the use of economic instruments. Particular attention should be given to the feasibility of introducing a system of environmental impact fees through the planning system.**

Government response to the recommendation: to be addressed in the forthcoming consultation paper reviewing the current system of planning obligations.

Annex 9. Design strategy for incorporating nature conservation into development

Design proposals should demonstrate how the following principles shall be applied.

Working together, planners and developers should, through good design, aim to minimise further fragmentation and species isolation, and wherever possible, should actively seek to 're-build' local ecological networks.

(a) **Enhance** the overall ecological quality, extent, capacity, structure and functioning of the site and the surrounding ecological network by **creating** new habitats, buffer areas and landscape features that are of major importance for wildlife. Such effort should particularly be concentrated:
   (i) in areas where the most important, fragile and/or threatened habitats and species are known to occur;
   (ii) where there are species requiring wide ranges and/or those with limited powers of dispersal, which have particularly suffered as a result of habitat patches becoming reduced in size and isolated within intensively managed modern and often inhospitable landscapes;
   (iii) on species with low reproductive capacity (eg, most large mammals) or species highly sensitive to disturbance (eg, most birds of prey), and species subject to recovery programmes (eg, focus for local BAP targets).

(b) **Restore** and, where possible, **link** and **connect** existing habitats and landscape features which could potentially be of major importance for wildlife - enhancing their intrinsic quality and also their ability to support migration, dispersal and genetic exchange.

(c) **Avoid** developing sites, and locations within sites, where existing key habitats, important species, buffer areas and other landscape features of major importance for wildlife would:
   (i) suffer direct impact resulting in the reduction or complete loss of: the extent of habitat present, the abundance, distribution and/or diversity of species present;
   (ii) suffer an indirect impact from nearby development through increased ecological disturbance and stress, thereby reducing the site's capacity to support the abundance, distribution and/or diversity of wildlife present compared to that prior to development;
   (iii) suffer a reduction in ecological quality so that the site is no longer able to support the migration, dispersal or genetic exchange of wild species that they were able to prior to development;
   (iv) be further fragmented from other similar features by development that either causes a 'barrier' effect in the landscape between fragments or interrupts the effectiveness of a linear feature or key process operating between fragments.

(d) **Retain and Incorporate** within the development site layout existing habitats, important species, buffer areas and landscape features of major importance for wildlife - making sure that the site retains at least the same capacity to support the diversity, abundance, migration, dispersal and genetic exchange of wildlife as it did prior to development.

(e) **Compensate** for features lost to development through the:

(i) re-creation as nearby as possible of features and landforms capable of maintaining the same ecological functions and with the same capacity to support at least the same ecological functions and with the same capacity to support at least the same quantity and quality of habitats and species as would otherwise be lost or displaced through development;
(ii) restoration and enhancement of surrounding/nearby features unaffected by development;
(iii) creation of new or additional buffer areas to reduce impacts;
(iv) translocation, where possible, of habitats and species that would otherwise be lost.

(f) **Manage** existing, restored, newly created or translocated habitats and landscape features of major importance for wildlife.

(g) **Monitor** existing, restored, enhanced, and newly created or translocated habitats and landscape features of major importance for wildlife to ensure that they are unaffected by the new development and continue to encourage successfully the migration, dispersal and genetic exchange of wild fauna and flora.

A Biodiversity Guide for the Planning and Development Sectors in the South West, Association of Local Government Ecologists and South West Biodiversity Partnership (March 2000).

Annex 10. A five-point approach to planning decisions for biodiversity

1. Information - First applicants and decision-makers should ensure that they have fully adequate information on which to base any decision. This may include information about the site and its surroundings, about the development and its potential effects and about the significance of those effects for the nature conservation interest of the site and its surroundings. Relevant local and national expertise should be drawn in to help inform any decisions.

2. Avoidance - All adverse effects on wildlife species and habitats should wherever possible be avoided.

3. Mitigation - Unavoidable effects should be minimised by the use of mitigation measures, appropriately secured by conditions or obligations/agreements.

4. Compensation - Consider whether the harm from any residual effects which cannot be mitigated can be offset by means of compensatory measures, again secured by means of conditions or obligations/agreements.

5. New Benefits - Consider whether there are, additionally and irrespective of impacts, opportunities to provide new benefits for wildlife for example by habitat creation or enhancement, again secured by appropriate conditions/ obligations.

(after RTPI's *Planning for Biodiversity - a good practice guide* 1999)