

Landscape architecture concerns the science, planning, design, implementation and management of the external environment. The conservation and enhancement of this landscape resource is fundamental to maintaining our quality of life and a key component in truly sustainable development.

The external environment is a key factor in new development, whether part of a strategic master plan, or discrete building proposal. The early involvement of landscape architects smooths the process of planning and statutory approvals. Risk of delay is minimised by the premium gained by realising the potential of external spaces in new development and the opportunity to increase value through the provision of a better quality environment.

Landscape architecture



Capability statement

Entec

Entec is one of the UK's largest environmental and engineering consultancies. Our technical and business skills are dedicated to delivering strategic, technical and engineering solutions which bring commercial benefit to customers at home and overseas. This know-how is based on over 60 years' consulting experience in the public and private sectors.



Certificate No. EMS 69090

Certificate No. FS13881

Entec operates a Quality Management System in accordance with the latest requirements of the international standard BS EN ISO 9001 and an Environmental Management System compliant with BS EN ISO 14001. Both are audited by BSI Management Systems.

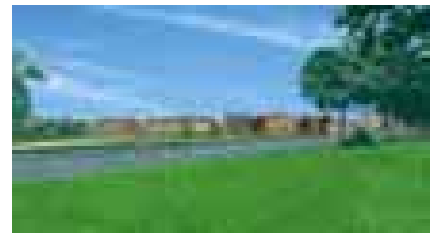


Landscape architecture



Our landscape architecture team is an integral part of Entec's Planning and Environmental Appraisal Group, providing services either separately or within larger multi-disciplinary teams, tailored to project requirements. We frequently combine with other in-house disciplines, and as a consequence staff have the breadth of understanding and ability to work effectively with a wide range of other skills. Typically, teams include:

- Development planners and experts in sustainability
- Traffic and transportation planners
- Architects and urban designers
- Ecologists
- Archaeologists
- Civil, highways and utilities engineers
- Water management, land quality and land remediation experts
- Waste management and waste disposal experts.



A key aspect of our approach is to provide advice to the client concerning landscape issues at the earliest conceptual stages of projects, with respect to the siting, design and orientation of new development, avoiding potentially costly delays in the planning process. Support provided by our graphics and CAD team is invaluable, with video and photomontage material often used to aid the consultation process.

Entec has an enviable track record in providing businesses, developers and land owners with the diverse skills necessary to address landscape issues, while also supporting client business objectives. Our landscape architects are fully experienced in working as part of multi-disciplinary teams on projects of all sizes. By commissioning Entec to deal with your landscape requirements you will benefit from:

- client oriented staff with the underlying objective of meeting your needs in the most cost-effective way, without sacrificing quality;
- innovation and flair combined with a keen awareness of commercial imperatives;
- landscape staff with the specific technical skills to meet your particular project brief.

We provide a service distinguished by our depth of experience, our commitment to quality and our understanding of your needs.

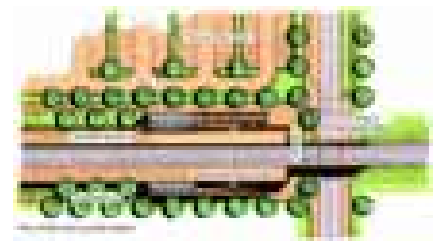


Landscape planning and design

Entec carries out all types of landscape planning and design. Whether directly relating to planning projects or as executive work in its own right, we cover all work stages set out by the Landscape Institute, from inception to feasibility studies through detail design, contract administration, site supervision, maintenance and aftercare.

All Entec project work is undertaken under our Quality system, registered to BS EN ISO 9001. Under this system each project plan includes regular project reviews for agreement with the client. Our philosophy is one of continuous improvement and we actively seek feedback from our clients both during and following the completion of projects.

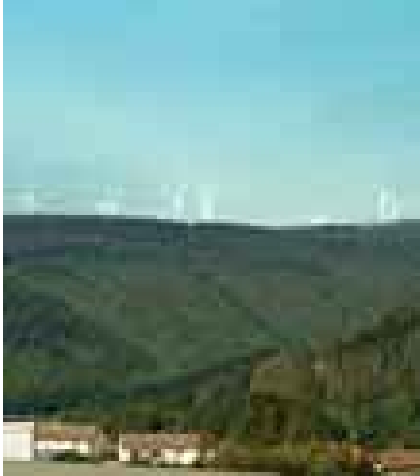
We aim to be at the forefront of current best practice in landscape architecture, combining this with effective and timely project management and client communication. To meet this aim all staff benefit from the company's training and development programme which includes activities falling under the Continuing Professional Development requirements of the Landscape Institute.



Our experience includes:

- master plans and strategic development frameworks;
- landscape design associated with infrastructure projects including the transport, energy and waste sectors, often connected to environmental impact assessments undertaken by Entec;
- 'hard' and 'soft' schemes for retail, industrial and residential developments, parks and other open spaces;
- restoration plans for derelict or degraded land at all scales, for example waste disposal and minerals extraction sites and other previously developed land;
- expert witness services.

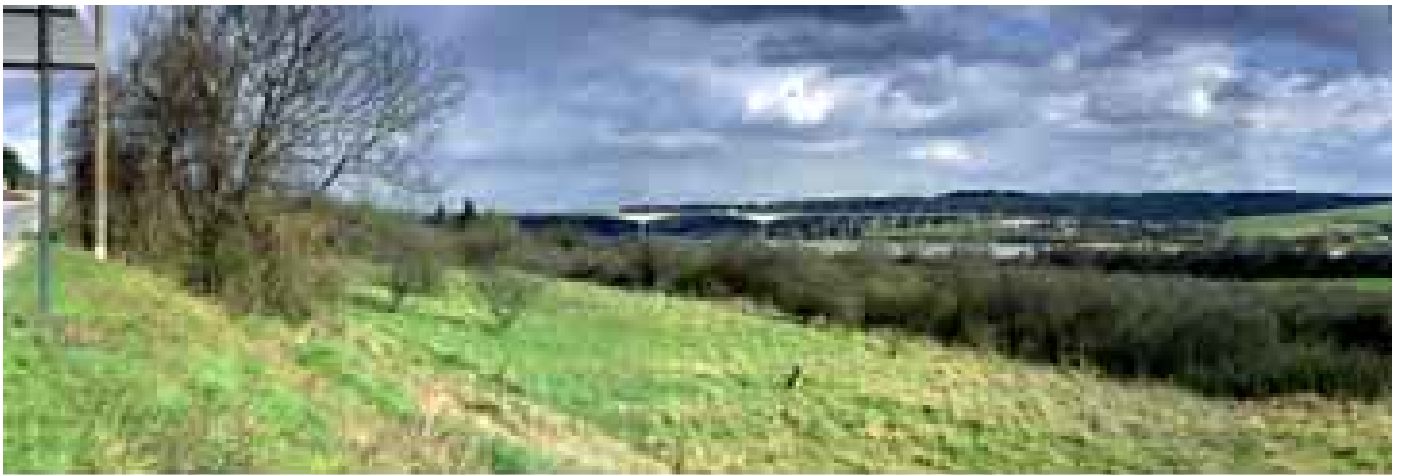




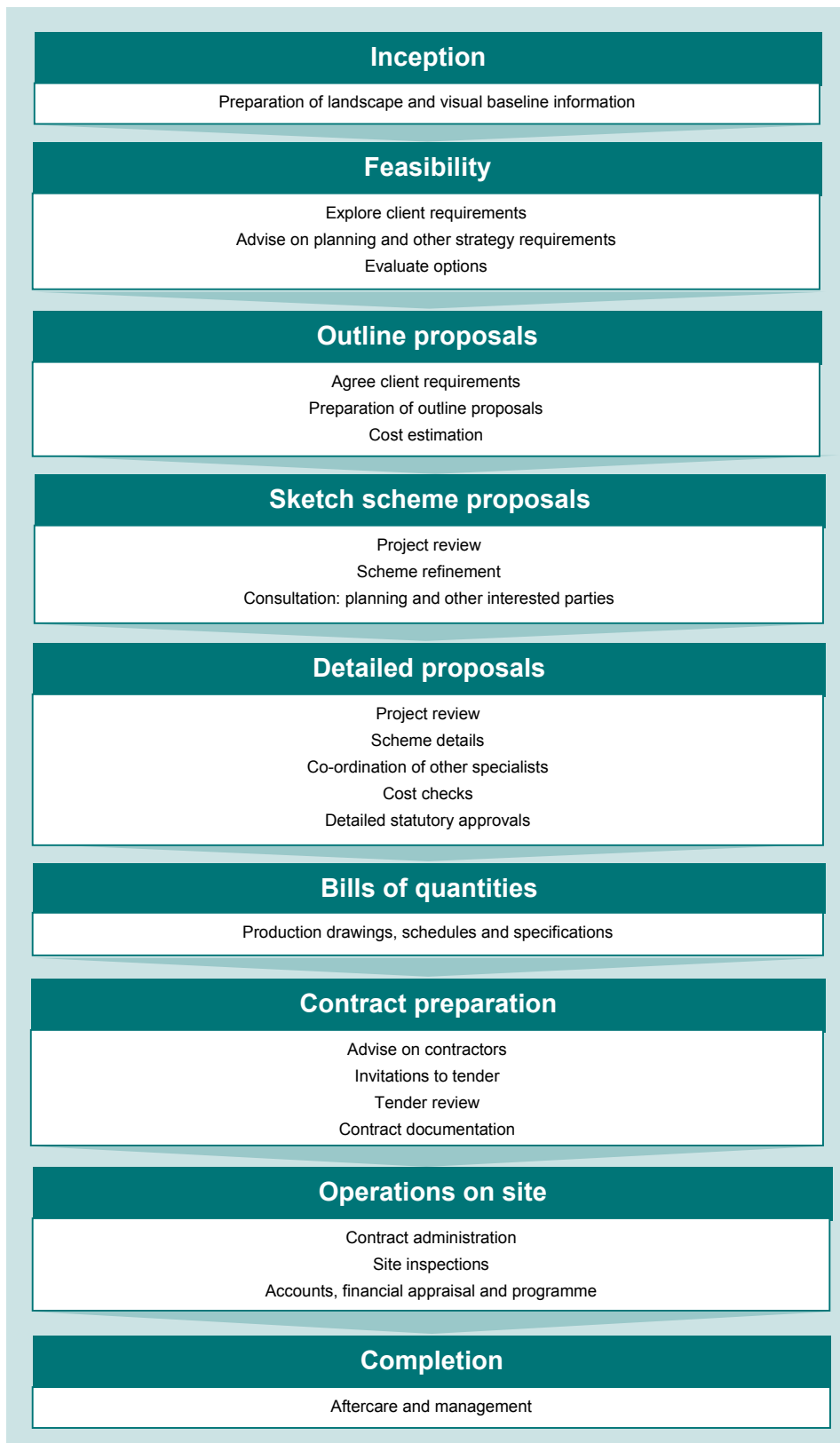
Landscape and visual assessment

Increasingly stringent regulations concerning environmental impact assessment (EIA), coupled with heightened public awareness, mean that more than ever, the process of EIA should demonstrate rigour, objectivity and consistency. Since our first involvement in this work in the mid 1980s Entec has refined an approach to landscape and visual assessment which has proved to be successful at all levels of the planning system.

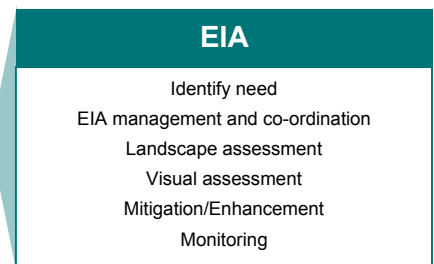
The inclusion of mitigation against 'negative' landscape and visual effects is part of an iterative process where our landscape consultants work closely with developers and planning authorities to reconcile the needs and aspirations of all interested parties. Entec is at the forefront of developing landscape assessment techniques through our work for the Countryside Agency and Scottish Natural Heritage.



Landscape architecture

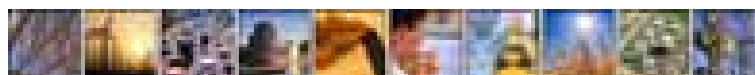


A description of Entec's inputs through the various stages of a project.



Case studies

The following pages demonstrate Entec's capabilities in the area of landscape architecture, using case study examples. ▶



Crown Lakes Country Park Huntingdonshire District Council / Hanson



*Feasibility, design
and implementation
of a 180 hectare
country park*



Entec undertook feasibility studies to provide the basis for development of a 180 hectare country park separating the Peterborough Southern Township from the existing nearby settlements of Yaxley and Farcet. The country park was incorporated in the overall master plan for the new township and its implementation formed part of a partnering agreement between the township developer and the local planning authority.

The site presented a number of constraints including potential land contamination, slope stability and drainage problems. All needed to be addressed economically, allowing the budget to be focused on the creation of passive and active recreational areas and conserving features of ecological value. Following initial feasibility and design work, a £700,000 grant was secured from English Partnerships to enable Phase One of the project to proceed through detailed design and implementation. Entec's landscape

architects worked closely with other specialists to overcome the site's constraints, achieving a restoration scheme fulfilling strategic objectives whilst also providing a valuable recreation and nature conservation resource. The former brickworks site required major re-engineering and establishment of a new drainage regime, separate from the circulatory system bringing pulverised fuel ash slurry to settlement lagoons on adjacent reclamation sites. Landscape design principles were established for each of the zones within the park and taken through detail design followed by supervision of the works on site.

The former derelict area forming 'Phase One' has been transformed into the Crown Lakes Country Park with the planting of over 75,000 indigenous trees and shrubs, now maturing to form part of a system of green spaces to be established around the township.



South Gorleston Business Park - Landscape Master Plan Great Yarmouth Borough Council

Great Yarmouth Borough Council were eager to attract new employment into their area and sought to utilise a greenfield site on the edge of the town. In order for the scheme to be financially viable it needed to attract funding from the then English Partnerships. In order to secure the funding a master plan had to be prepared accompanied by a complete set of planting plans supported by a specification and a bill of quantities to facilitate an accurate cost estimate of the proposed development.

Great Yarmouth Borough Council were familiar with Entec's previous masterplanning and detail design work at Peterborough New Town and appointed them to the design team to work with other consultants for drainage design and infrastructure for the production of a phased masterplan which dealt with the inherent constraints of the site. These included the close proximity of a major hospital with an associated planting and building height restriction corridor to accommodate helicopter air ambulance

flight paths; a number of major gas pipelines crossing the site; the requirement to provide a blast safety zone for a nearby explosives store; the need to integrate several large stormwater overflow ponds into the design; and to provide a strong, attractive entrance feature whilst dealing with the problematic traffic issues of an entrance/exit onto a busy main road.

Draft design solutions were produced in co-operation with the client, English Partnerships and fellow consultant team members, including detailed consultation with helicopter experts with regard to the flight path issues. A detailed masterplan was provided to a presentation standard and this was taken as the basis for detailed planting plans to be produced. As the existing site was relatively flat arable farmland, there was only a minimal existent landscape framework, hence the primary objective of the masterplan was to provide a new framework. This was based upon provision of a dominant landscape/transport spine and a series of

self contained development areas separated by green wedges to allow the business park to develop in a number of separate phases. The site was divided into nine sub areas for each of which a planting plan was produced showing tree, shrub and grass seeding proposals including numbers, types and mixes of all the proposed softworks. A hardworks key plan was also produced. These plans were accompanied by a full specification and a detailed bill of quantities. These were produced against a very tight deadline in order to allow the client's quantity surveyors to undertake a detailed cost estimate to accompany the submission for English Partnership funding.

The complete design package allowed Great Yarmouth Borough Council to submit its proposals to English Partnerships within the agreed timescale. English Partnerships were convinced of the viability of the proposals and the client was awarded the grant aid necessary for the project to proceed.



*Turning site
constraints into
advantage for
landscape master plan*



Catterick Garrison Development Strategy Defence Estates

Catterick Garrison is the largest army town in the UK. Through the 'Strategic Defence Review' it has been identified that the Garrison will continue to expand for the foreseeable future. Alongside this, the Ministry of Defence's requirement to address 'quality of life' issues for its own personnel has become a key driver in seeking to ensure that the local population, both military and civilian, is the beneficiary of a broad range of high quality facilities.

Defence Estates (DE) administer the purchase, development and disposal of land on behalf of the MOD in the UK. Entec has been the lead consultant on this project for DE since 1995. Alongside DE and Army representatives, Entec prepared and presented the new draft Town Centre Masterplan for the regeneration of Catterick Garrison town centre to an audience of about 50 local businesses and stakeholders. The draft masterplan is the culmination of several years work, in partnership with the district council and other local bodies. It forms part of the second phase of development within the Garrison following the successful completion of the Richmondshire Walk Retail Park, which includes a new Tesco Superstore and other leading retailers, as well as the new Darlington College campus.

The new draft Masterplan embraces the provision of key community and commercial facilities namely:

- a new sports and leisure centre, to include a new swimming pool for the garrison and much needed facilities for the many young families living locally;
- the complete redevelopment of the existing retail area within the town centre for a mix of shopping, leisure, housing and community uses;
- the improvement of the local environment through planting, new street furniture, signage and additional CCTV; and



Creating a dynamic town centre

- a potential discount food store, car dealership and hotel chain to locate in new landmark buildings, signalling the arrival point to a re-vitalised town centre.

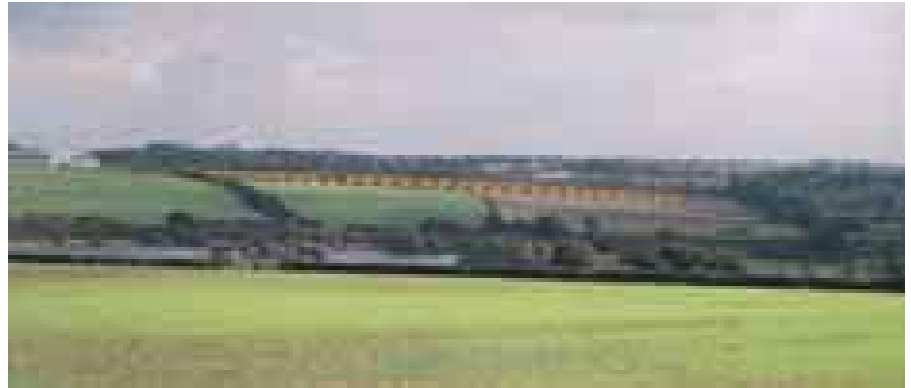
Entec, Defence Estates and the MOD have led the promotion of the Garrison through Regional Planning Guidance, the County Structure Plan, the District Local Plan and via individual planning applications. The process which involved the formulation of a long-term vision and strategy for the town centre and the Garrison as a whole, required a considerable consensus building exercise to foster involvement of local authorities, statutory bodies and communities in the process. This is now culminating in real results on the ground including:


- securing planning permission for residential development at Arras Lines, a prestige housing site allocated within the Richmondshire District local plan, currently within the control of MOD and soon to be released to private developers;
- award of preferred developer status to Aldi who have subsequently secured planning permission for a discount food store on a town centre site; and
- assembly of a project team to deliver the proposed sports and leisure facility that forms part of the Masterplan.

These proposals will benefit the town centre and the civilian and military population of the Garrison.



Raunds, Northhamptonshire **Bovis Homes**



Proposed Development Envelope 



*Landscape appraisal
of a potential housing
allocation site*

Bovis Homes secured an interest in a parcel of agricultural land on the edge of Raunds in Northhamptonshire.

Entec was commissioned to undertake preliminary environmental studies to assist the promotion of the site for residential and commercial development through the East Northhamptonshire Local Plan review process.

An examination of the relationship between the proposed development site, the surrounding countryside and the existing settlement included a comprehensive landscape character assessment and an appraisal of the existing landscape context. It also included a comprehensive visual assessment from surrounding areas

Rather than merely describe the setting of the site, Entec was able to use landscape and visual context to generate a set of broad development principles. The studies revealed that promotion of housing development across the entire site would be unlikely to succeed and that 'development thresholds' needed to be incorporated into a preliminary masterplan. These thresholds were arranged to respect existing landscape features, to limit the potential visual impact of development and to help assimilate the proposed development into the existing settlement edge.



IKEA Distribution Centre Landscape and Visual Assessment East Northamptonshire District Council/Burks Green/IKEA



IKEA chose Thrapston in Northamptonshire as the location for one of their national distribution centres; a building over 220m in length and 20m high to the roofline. Entec was commissioned by the local authority, who had previously allocated the proposed location for a business park in their Local Plan, to undertake a landscape and visual assessment to ascertain the impacts of the warehouse upon the residents of Thrapston and the surrounding area. The proposed location on a prominent ridgeline allied with its scale meant that the warehouse had the potential to visually dominate Thrapston and the surrounding section of the Nene Valley. Whereas the location was not ideal in visual impact terms, it came about because the business park is adjacent to the junction of the A14 and A605 roads.

A comprehensive assessment was undertaken in accordance with Landscape Institute /Institute of Environmental Assessment guidelines. A full desktop and field survey was undertaken during which a series of viewpoints suitable for photomontage production were identified. The initial assessment facilitated the development of a series of mitigation measures to reduce the visual impacts. These were discussed with IKEA's project architects and Entec was then appointed by IKEA to develop the mitigation proposals in greater detail. This work required the production of detailed planting and groundworks plans as well detailed revisions to the colours of surface treatments and the height of the warehouse to reduce its visual mass.

Photomontages were produced from six agreed viewpoints showing the present situation; the predicted situation upon completion of the proposed warehouse; and the predicted situation fifteen years after the completion to show the visual effect of the mitigation planting. A detailed report was produced for the council planning committee and the results were presented to the public in a powerpoint presentation. The warehouse was granted planning approval and constructed according to the mitigation proposals becoming the centrepiece of the business park and is a landmark building when viewed from the nearby A14(T).

Landscape and visual assessment for national distribution warehouse



Cottam Power Station Landscape and Visual Assessment London Power Company



Cottam Power Station is one of the three power stations that are dominant features in the landscape of the area around the lower reaches of the River Trent in north Nottinghamshire and Lincolnshire.

As part of the UK National Air Quality Strategy to reduce sulphur dioxide emissions, London Power Company (LPC), Cottam's operators, propose to fit Flue Gas Desulphurisation (FGD) equipment which would be up to 45 metres in height.

On the basis of Entec's previous work undertaking landscape and visual assessments of new and modified power stations, Power Technology acting as consultants to LPC, appointed Entec to undertake a comprehensive landscape and visual assessment as a key component of the Environmental Statement that they were preparing for the FGD proposal. Using a methodology developed from the Landscape Institute / Institute of Environmental Assessment guidelines, a full desktop and field survey was undertaken to ascertain the full range of people with potential views of the FGD

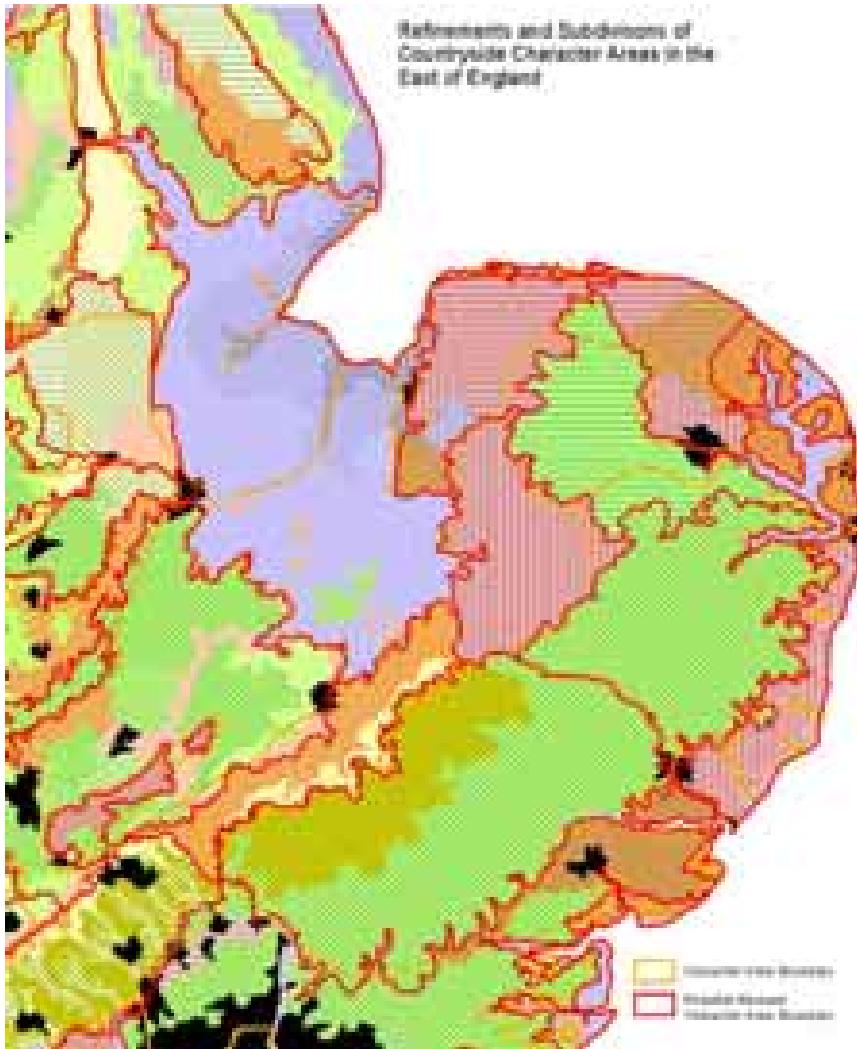
and how it could impact upon the area's landscape character. The assessment then considered the limited range of potential mitigation measures available to reduce the FGD's visual impacts prior to undertaking a full assessment of the range of impacts and their consequent effects. This analysis was supported by plans and annotated photographs. Key visual receptors were identified and in agreement with local authority planning officers, a number of locations were agreed from which photomontages were produced using Entec's photomontage and 3-D modelling capabilities. The resultant photomontages clearly demonstrate that the FGD would have very little effect upon existing visual amenity levels and would not have a detrimental effect upon the present landscape character.

The final report and the non-technical summary were incorporated within the full Environmental Statement and the photomontages also used in a number of public meetings as a means of effectively conveying LPC's proposals to a potentially sceptical audience.

*Landscape and visual
assessment for
modifications at
visually intrusive
Trent Valley power
station*



Countryside Character Framework Research Project Countryside Agency



objectives based upon the concepts of Countryside Character and Quality of Life Capital and a review of the coverage of the earlier Landscape Character Assessment of England, using the previously defined 159 Character Areas in the Character Map of England on a basis for sub-division and classification of landscape units. The project required the development of a rigorous and structured approach using GIS mapping and databases to define and describe the component landscape character types that make up each countryside character area.

The first stage of the study was to assemble data on landscape assessments that have been undertaken throughout England. In parallel to this, we used GIS data-sets relating to soils, geology, settlement pattern and land cover to develop a new classification of the landscape based on Countryside Character Areas. Using this as a framework, the study has involved innovative work on environmental capital, using this concept to identify potential targets for action e.g. by agri-environment schemes. The study has also involved the use of MAFF Agricultural Census data to map changes in key variables (e.g. loss of rough grazing, increase in arable) in order to obtain a measure of the differential impact of agricultural change by Countryside Character Area.

Outputs included the production of detailed maps showing the refinements and subdivision for each of the 159 Countryside Character Areas supported by databases to be made available to Countryside Agency regional officers; a number of technical and analytical reports and seminars, and presentations to extend the use of the approaches developed to other government agencies including English Heritage and English Nature.

The complex project has provided the Countryside Agency with an important reference resource as well as being in a form that allows for updating following a consultation process. It also provides a platform for further valuable research by the Agency and other governmental organisations.

Development of a National Countryside Character GIS framework and database

The development of a national countryside character decision support database for the Countryside Agency is seen as a step in the development of the 'Character of England Map'. This work, published in 1997, divided England into 159 different countryside character areas based upon physical, cultural and historical influences. Entec assembled a team of in-house consultants and specialist associates in

order to win this commission from the Countryside Agency in September 1999.

The prime objectives of the two year study included the development of a GIS database to support development and implementation of future agri-environment schemes, providing a demonstration to government agencies that a process could be developed to provide meaningful targets for landscape



Royal Naval Armaments Depot, Broughton Moor Ministry of Defence

The RNAD site covers an area of some 474 ha of surplus Ministry of Defence land, formerly providing armaments storage. Situated on the edge of the Derwent Valley in Cumbria, the site contains an estimated three million tonnes of coal reserves, below areas of derelict buildings, woodland and pasture. The opportunity to mine these reserves and in doing so fund the reclamation of the site was threatened by the site's inclusion under minerals planning policies set out in the Draft Plan and designed to protect landscape character and visual impact that might arise due to open cast mining.

Entec's Term Commission with Defence Estates provides planning advisory services both in the UK and abroad, including those specifically related to landscape architecture. In this case, Entec was appointed under the Term Commission to present evidence on landscape and visual issues at the Cumbria Minerals and Waste Local Plan Inquiry. Evidence included an appraisal of 'baseline' conditions including existing vegetation, topography and drainage, built



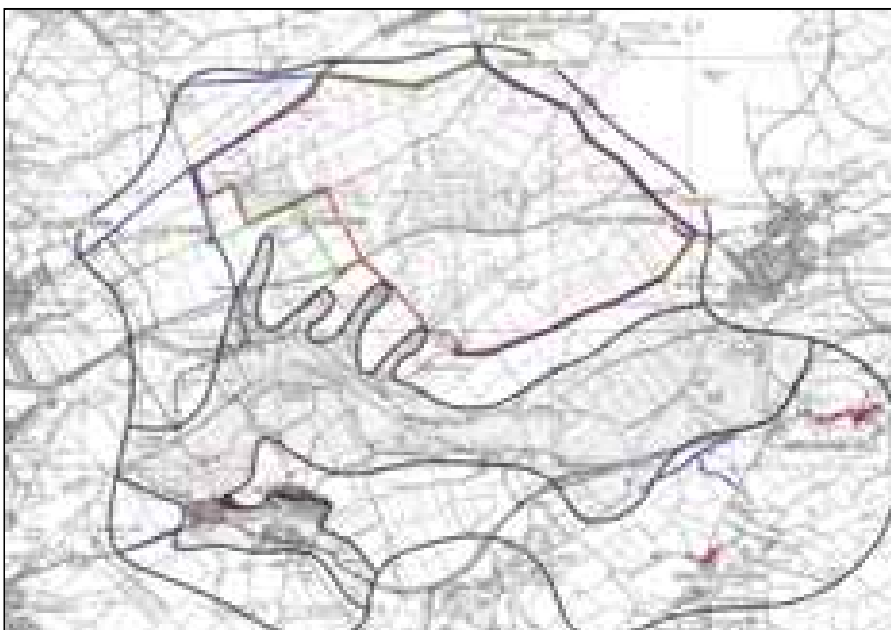
development, access arrangements and visual receptors. The visual and landscape effects arising from mining operations were then identified, based upon phased extraction and reclamation proposals prepared in discussion with the team's engineering advisors. Evidence also included comparison with other open cast

sites to demonstrate inconsistency in the application of landscape policy. Prior to the Inquiry Entec was also called upon to quickly address detailed ecological issues, further strengthening the arguments put forward during cross examination.

Entec demonstrated that the short term impacts arising from minerals extraction would, with suitable mitigation, be outweighed by the long term benefit to the local community following reclamation of the site and that a sensitively designed scheme could unlock the value in the site, enabling funding of remediation works.

Following evidence presented at the Inquiry, relevant Minerals and Waste Plan policies were reworded in respect of the potential to mine the coal reserves. With the opportunity to realise the coal reserves the site value, net of reclamation costs, was estimated to be in the region of £2.5 million.

*Adding value to
Defence Estates land
in Cumbria*



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Landscape architecture

Sample client list

Aggregate Industries
Alaska Property Group
Antrim Borough Council
Bovis Homes
Bryant Homes
Charnwood Borough Council
Countryside Agency
DETR
East Northampton District Council
East of England Electricity
East of Scotland Water
English Partnerships
Environment Agency
Essex and Suffolk Water
Great Yarmouth Borough Council
Greenways
Hanson
IKEA
King Henry VIII Charity
Lancashire Waste Services
Lee Valley Regional Park Authority
Ministry of Defence
National Grid
Northumberland County Council
Northumbrian Water
Patersons of Greenoakhill
Powergen
Railtrack
Roscommon County Council
Rugby Cement
Scottish Coal
Scottish Natural Heritage
Shanks and McEwan
Southern Water
Strabane District Council
Stratford-on-Avon District Council
Suffolk Waste Disposal Company
Tarmac
The Crown Estate
Westbury Homes
West Midlands Metropolitan Authorities Superannuation Fund
Wolverhampton Metropolitan Borough Council
Worcestershire County Council
Yorkshire Electricity



Landscape architecture

Entec

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