

Tornagrain

A Planned Town for the Highlands

Stage 1 Exhibition

November 2007

Welcome to the first of three exhibitions, designed to allow members of the public to continue to take part in the development of the proposed Tornagrain new town.

You are probably now aware from local community meetings or press coverage that Moray Estates is preparing an outline planning application for Tornagrain. This exhibition endeavours to describe how we expect the process to proceed, as we move towards submitting an application in the summer of 2008. For a planning application of this scale, an Environmental Impact Assessment (EIA) is required, and this will accompany the submission. The EIA process is explained in more detail on Board 5.

A proposed masterplan for Tornagrain resulted from the charrette in September 2006. The proposal is one you are probably familiar with but, if not, then details can be found at www.tornagrain-newtown.co.uk. A brief summary is provided on Board 2.

This exhibition relates to the first stage of the preparation of the planning application. Experts in many fields are assessing the current condition of the proposed site across a number of environmental and socio-economic topics. Details of this work are to be found in this exhibition.

Two further exhibitions are to follow. In early 2008, there will be an exhibition detailing the assessment of the impact of the Tornagrain proposal on the site and surrounding area, together with information on mitigation measures or refinements to the plan, which come out of this process.

In late Spring 2008, the third exhibition will provide a review of the final scheme we propose to submit as part of the planning application.

What I wish to do now is to encourage you to study the boards at this exhibition and take this, or any other opportunity you wish, to send your views to us.

Throughout the exhibition, there is a brochure available, which reproduces these boards, and which contains a postable response form to facilitate you making comments. In addition, an online response is available at www.tornagrain-newtown.co.uk

As I hope was illustrated by the Charrette we held in September 2006, the input of the public and local communities is something we value and we look forward to this dialogue continuing.

Finally, I would like to take this opportunity to make it clear how excited we are about the potential of this proposal. We consider it vital that the area plans for its further growth and we believe Tornagrain, and the adjacent Business Park, can play an important role in helping the local area maximise its potential. We wish Tornagrain to be the model of a sustainable community not just in the nature of the buildings, but in the very structure of the town and the way it allows people to live their lives.

John Doune – Moray Estates

Contents

Progress since the Charrette	Page 2
The A96 Corridor: Strategic Context	Page 3
What are the next steps for Tornagrain?	Page 4
Environmental Impact Assessment: Baseline Studies	Page 5
Land Assessment	Page 6
Landscape and Visual Assessment	Page 7
Ecology	Page 8
Cultural Heritage	Page 9
Geology and Hydrology	Page 10
Noise and Air Quality	Page 11
Utilities and Energy Strategy	Page 12
Sustainability	Page 13
Socio Economic	Page 14
Transport: Strategic Context	Page 15
The Next Steps	Page 16



Artist's illustration of Tornagrain High Street

Progress since the Charrette

The Tornagrain “Charrette” headed by Andrés Duany of Duany Plater-Zyberk & Co (DPZ) took place in September 2006 and was the first of its kind in the UK. The 10 day planning and design workshop, open to the public, resulted in a masterplan for Tornagrain.

The plan that emerged, in broad terms, consisted of 4,730 homes (of which 1,190 would be affordable), shops, cafés, pubs and hotels, 3 primary schools, a secondary school, community facilities, employment and 28 hectares of parks and green spaces.

Following the charrette, DPZ drew together all the work from the exercise, refined some of the ideas and produced a report, which was summarised in the Post Charrette Paper, issued to households across the A96 Corridor in February 2007.



Progress since February 2007 has in part been determined by The Highland Council’s A96 Corridor Strategy process, which is detailed on Board 3.

DPZ has continued to consider refinements of certain elements of the scheme, although the plan in its current form remains very close to the one produced in the Charrette.

The Tornagrain team continues to visit some of the world’s most influential and successful new urban developments. This allows the team to meet the designers, developers, planning authorities and residents of these communities, and, in turn, gain more ideas regarding the potential of Tornagrain.



Tornagrain masterplan, as presented at the Charrette in September 2006



Tornagrain masterplan, as of February 2007; the plan also shows part of Inverness Airport Business Park Limited

The A96 Corridor: Strategic Context

The A96 Corridor is a strategic expansion area for the Highlands which was identified in the Highland Structure Plan, supported through the National Planning Framework and also the current adopted Inverness Local Plan.

The Highland Council appointed consultants in January 2004 and then again in August 2005 to draw up a masterplan for the corridor. This work has been developed through a series of stakeholder working groups including officers, key agencies and landowners together with local businesses, developers and community representatives.

Public exhibitions of proposals took place at various locations within the area during November 2006 and February 2007. In addition, the proposals were the subject of a Strategic Environmental Assessment (SEA) with responses sought from key organisations such as Scottish Natural Heritage, the Scottish Environmental Protection Agency and Historic Scotland.

The resulting A96 Growth Corridor Development Framework was debated by the Council's Planning and Economic Development Committee on 26th September 2007. The Committee agreed the following (as taken from the published minute of the meeting):

- i) that the content of the final A96 Corridor Framework be issued as interim guidance, pending (iv) below;
- ii) that the developer contributions protocol for the A96 Corridor be applied as the interim framework for essential Section 75 infrastructure Agreements on qualifying sites within the Corridor, pending (iv) below;
- iii) the content of the SEA Statement, including proposed changes to the Framework, for distribution to the Consultation Authorities, and that it be made available for public reference;
- iv) that the finalised Framework be fed into the preparation of the Highland-wide Local Development Plan, to be prepared over the coming years in line with the Development Plan Scheme;

v) that priority development status be accorded to the proposed Inverness College/UHI Campus and associated amenity/sports provisions at Beechwood, to enable implementation of this strategic project prior to 2011, having regard to policies 2.8 (vii), 2.41 (v) and 3.1 of the adopted Local Plan; and

vi) that a formal strategic partnership, without executive powers, be formed to facilitate liaison between major bodies involved in the proposals.

An extract from the summary of the A96 Corridor Development Framework document is set out below.

Extract from the A96 Growth Corridor Development Framework, produced by The Highlands Council in August 2007 – Summary Section



A masterplan for the A96 Corridor should provide for distinctive 'green' Highland places where people can choose to live, learn and earn successfully. Collaboratively, all stakeholders will endeavour to deliver the masterplan through pioneering governance and commercial astuteness.

This has been developed into a range of conceptual approaches that provide

- A Green Framework across the Corridor as a whole providing guidance on:
 - Environmental, landscape and heritage asset protection and enhancement.
 - Biodiversity.
 - Accommodation of development pressures.
 - Infrastructure provision.
- A Nairn Development Framework that accommodates a by-pass proposal, identifies a significant new landscape opportunity for the Corridor, a country

park, brings forward proposals for two new settlements to the south and west and establishes employment growth to the east.

- An East Inverness Development Framework that provides a focus for creating expansion of the city and providing guidance for the establishment of a university campus and business/innovation park.
- Other significant and substantial proposals across the Corridor are also recognised including Inverness Airport Business Park, Airport expansion, Tornagrain and Whiteness.

Together these proposals will, over the next 35 years, provide accommodation for around 30,000 people in 16,500 homes. The potential for over 20,000 jobs is also provided. Fundamental within this will be significant proportions of affordable homes in line with key Highland Council priorities.

What are the next steps for Tornagrain?

Following on from the decision taken by the Council in September 2007, Moray Estates announced its intention to begin the preparation of a planning application to crystallise further the proposals for a new town at Tornagrain.

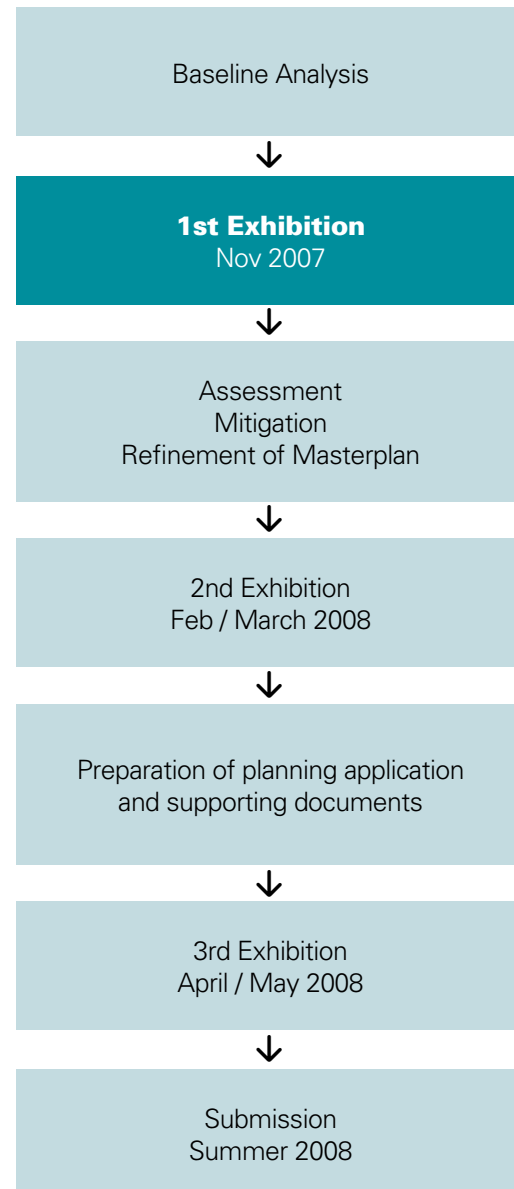
The process of preparing this submission is a significant undertaking that will take some time to complete. At this stage, the intention is to submit an outline planning application supported by all necessary technical analysis, including a full Environmental Impact Assessment (EIA) and a Design Code.

The Environmental Impact Assessment (EIA) is explored further within this exhibition. In addition, the code will provide an essential plan of regulation supporting the delivery of the key design principles that underpin the vision for the town. Further detailed planning applications will be prepared as individual phases of the project proceed.

The process of preparing the planning application has been split into three separate phases, and the community will be consulted each time. The first phase is essentially the establishment of the baseline conditions against which any analysis of the proposals for Tornagrain must be based. This exhibition is an integral part of that phase.

The second phase comprises the completion of the outline masterplan; the assessment of the impact of this plan on the various technical, environmental, social and economic conditions relevant to a development of this scale; and finally, the preparation of any mitigation plan or variation of the masterplan itself. It is expected that consultation on this phase of activity will be undertaken during the early part of next year.

The final phase of activity will be the analysis leading up to and including the preparation of the application and supporting information. The application will most likely be submitted by June next year; if the phases proceed with this timeline, a third public exhibition and consultation will occur during April/ May 2008, to offer an insight into the planning application submission itself.



The proposed site from the east



— Site boundary



Environmental Impact Assessment: Baseline Studies

To support the forthcoming planning application, a large team of local and national consultant specialists are carrying out an environmental impact assessment (EIA).

The EIA is structured to identify the potential environmental effects of a development before planning permission is granted. The process is governed by the Environmental Impact Assessment (Scotland) Regulations, which were introduced in 1999 in order to implement the requirements of European Directive 97/11/EEC.

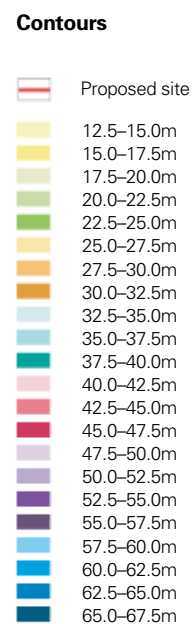
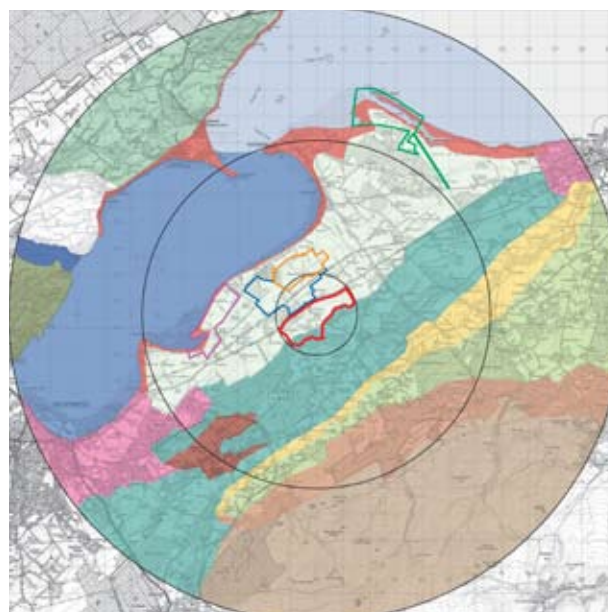
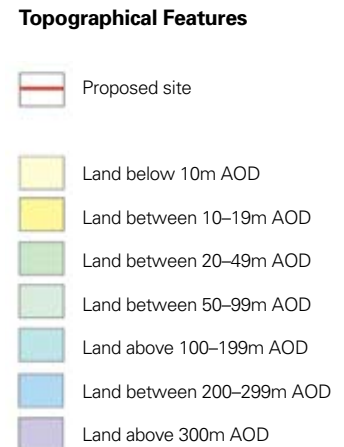
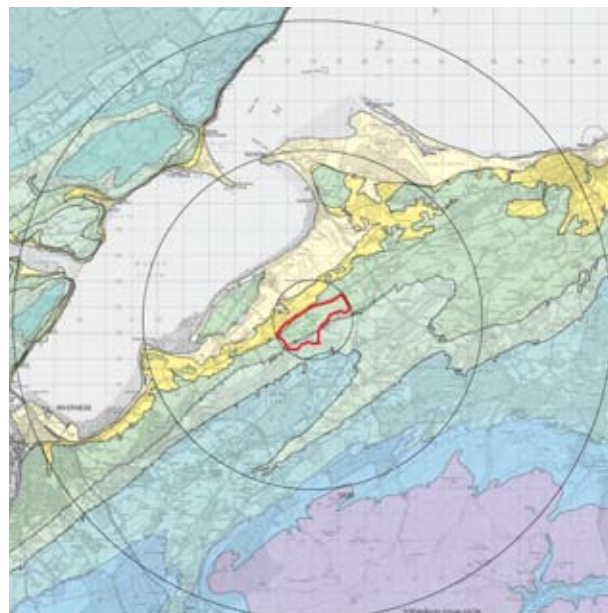
The proposed new settlement is considered to require an EIA because of its scale and when set against the existing conditions for the site and the surrounding area.

The EIA has already started, and work on identifying the existing environmental conditions is largely complete. The range of topics likely to be relevant is already well understood, but is to be confirmed in the form of a Scoping Opinion from The Highland Council. It is envisaged that these topics will comprise the following:

- agricultural soils
- air quality
- cultural heritage (archaeology and built heritage)
- ecology
- energy and utilities
- flood risk and surface water quality
- geology, contamination and groundwater
- landscape and views
- noise
- socio-economics
- transport
- waste

Once the scope is agreed, and the masterplan is finalised, the assessment work will begin, with various specialists studying each topic in detail. When complete, the study will identify the "likely significant effects" of the development. Where potentially adverse effects may arise, measures to avoid or mitigate these will be proposed.

The EIA will be reported in the form of an Environmental Statement (ES). This will be submitted with the planning application. Whilst the final submission is likely to be substantial, a Non-Technical Summary will also be produced and made available to the public.



Land Assessment

The Scottish Agricultural College has undertaken a land assessment survey, examining the site to classify its quality for agricultural purposes, based on the limitations imposed on it by physical and biological factors.

The assessment was based on the Land Capability Classification for Agriculture system developed by the Macaulay Land Use Research Institute, (MLURI), in Aberdeen. MLURI produce maps of Scotland indicating the general land use classification for a given area.

By assessing land using a classification system such as this, it is possible to consider the potential loss of agricultural land in terms of its quality. Planning policies generally guard against the loss of the most productive agricultural land.

The MLURI classification system divides land into 7 classes with Class 1 land being the best and Class 7 the worst.

The factors, or limitations, which determine into which class an area of land is placed are:

- climate
- gradient
- soil (texture, structure, depth, etc.)
- wetness
- erosion
- vegetation

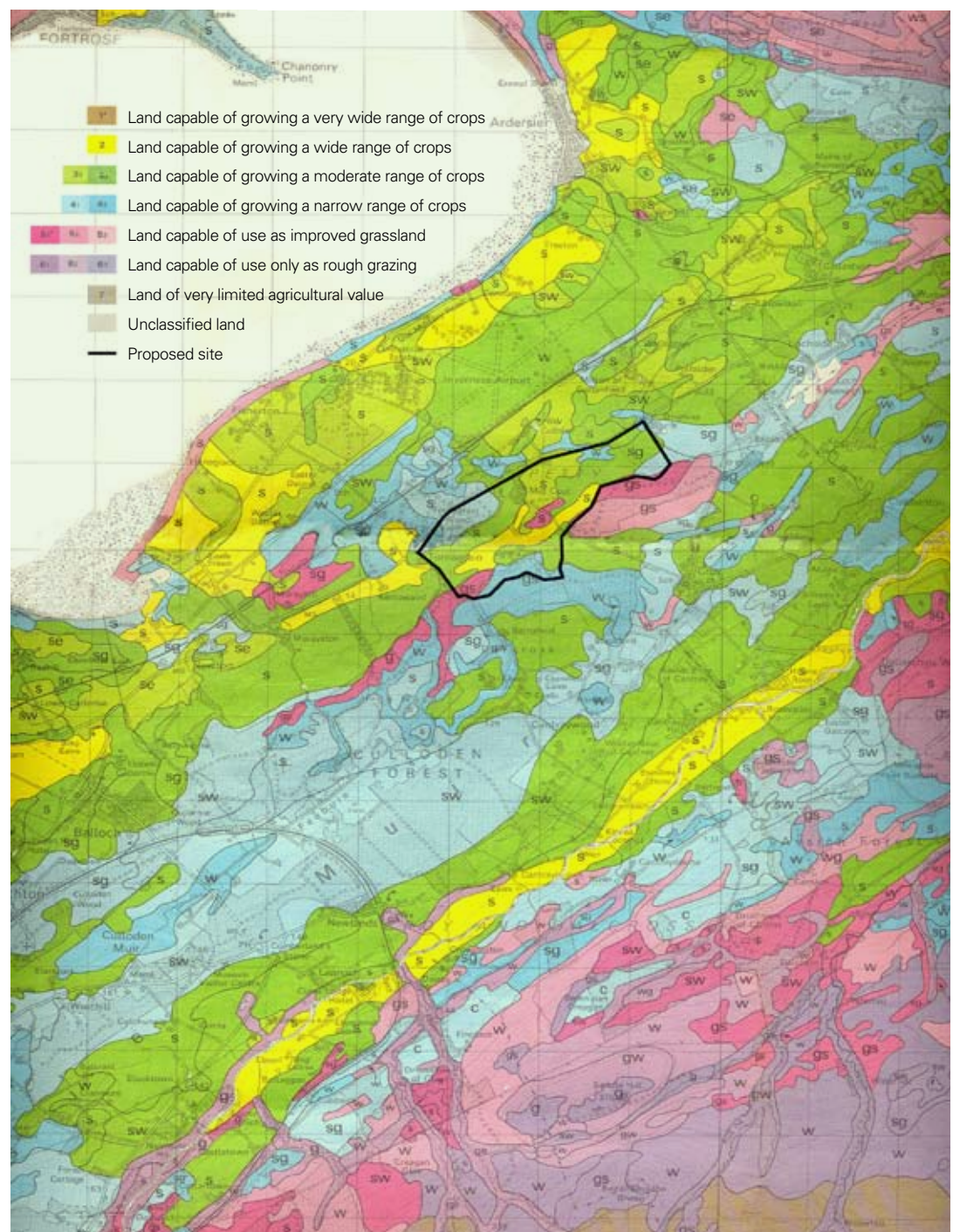
The site was subject to an intensive survey in September 2007. The results of that survey can be seen in figure 1. The soils on the site were found to be drought-prone partly because the area is not one of high rainfall, but mainly because the soils are sand and gravel and particularly free draining. The presence of a sand and gravel quarry on the site verifies this finding. The drought prone nature of the soils would, without irrigation, be a limiting factor on the range of crops that can be grown and the output of those crops.

In terms of existing land use on site, agricultural activities have been concentrated on the better quality soils with forestry largely existing on lower quality soils reflecting historic land use decisions.

Right:
Distribution of land use classes on the proposed site

Class	ha	%
2	20.6	8.9
3.1	5.4	2.3
3.2	134.6	58.1
4.1	18.1	7.8
4.2	10.2	4.4
5.2	13.3	5.7
5.3	29.5	12.7
Total	231.7	

Below:
MLURI Land Capability Classification for Agriculture Plan



Landscape and Visual Assessment

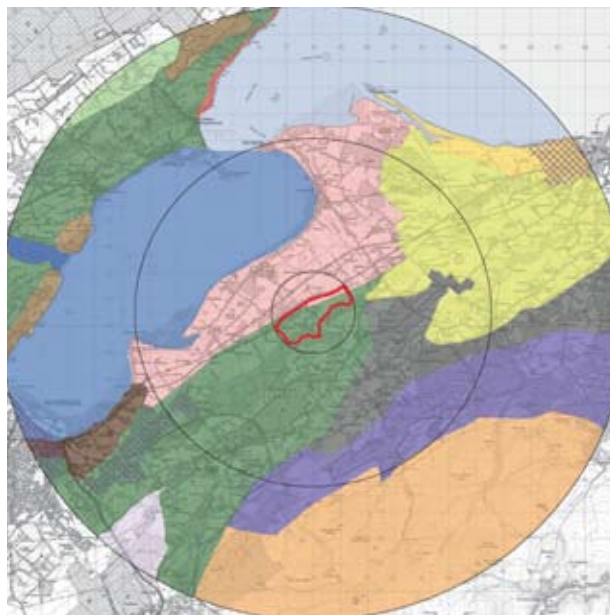
The Landscape and Visual Impact Assessment (LVIA) is being undertaken by Horner and Maclennan (h+m), local Landscape Architects, who have been involved with the project since early 2006.

The study area for the proposed new town straddles three Landscape Character Assessment (LCA) areas – Inner Moray Firth, Moray and Nairn and Inverness District.

Within the study area there are 15 Landscape Character Types (LCT) although most of the proposed site lies within 'Forest Edge Farming' with a small portion encroaching on 'Intensive Farming'.

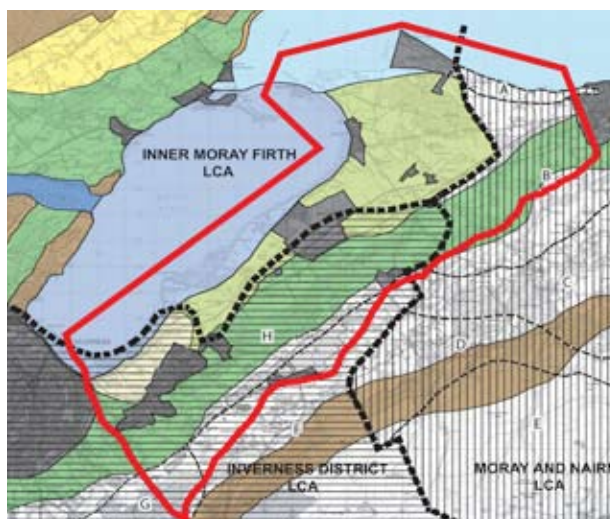
'Forest Edge Farming' is well represented at a regional level and within the Moray Firth basin. This character type is found on the foothills south of the Moray lowlands, the Aird, the south side of the Black Isle Milbuie Ridge, and on the slopes north of the Cromarty Firth. The proposed development would result in the loss of less than 2km² (3.3%) of this LCT. 'Intensive Farming' is also well represented at a regional level covering two main areas, one being the stretch of land extending north-east of Nigg Bay to the landward edge of Morrich Mor, and along the Moray District lowlands, in a band from Balloch, past Nairn to Lossiemouth. The proposed development would result in the loss of less than 0.5km² (<1.8%) of this LCT.

The LCA describes the topography of the 'Forest Edge Farming' as being of 'complex relief... found at the base of convex slopes, the generally undulating topography is overlaid with smaller scale fluvio-glacial surface features'. It is also noted that 'the forest horizons restrict distant views'*.



Landscape Character Types

- Proposed site
- Open Farmed Slopes
- Enclosed Farmed Landscapes
- Intensive Farming
- Forest Edge Farming
- Hard Coastal Shore
- Forested Backdrop
- Soft Coastal Shore
- Coastal Farmlands
- Rolling Farmlands and Forest
- Flat Moorland Plateau with Woodland
- Upland Moorland and Forestry
- Open Uplands
- Larger Urban Settlements
- Open Firth
- Enclosed Firth
- Inner Enclosed Firth



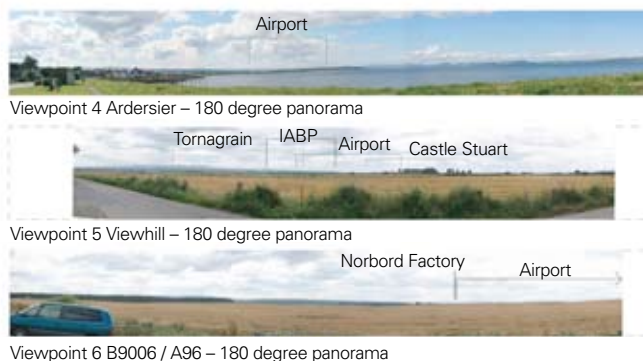
A96 Landscape Character Assessment

- Boundary between LCAs
- Inner Moray**
 - Open Firth
 - Enclosed Firth
 - Narrow Firth Corridor
 - Hard Coastal Shore
 - Forested Backdrop
 - Open Farmed Slopes
 - Forest Edge Farming
 - Intensive Farming
 - Enclosed Farmed Landscape
- Moray and Nairn**
 - Soft Coastal Shore
 - Coastal Farmlands
 - Rolling Farmlands and Forest
 - Upland Moorland and Forestry
 - Open Uplands
- Inverness District**
 - Farmed Straths
 - Flat Moorland Plateau with Woodland
 - Rolling Farmland and Woodland

This is certainly true of the proposed development site which is very well screened to the south west, south, south east and east by landform which is overlain with commercial forestry. To the west and north west, the site is screened from most views by Tornagrain Wood although there is long range visibility from the Aird. From areas to the north and north

east, the eastern portion of the site is more exposed with views in from the A96, the airport, minor roads to the east of the airport and, further afield, from the Black Isle.

Principal views from the site are towards the airport, Fort George and the Black Isle from areas of higher ground, mainly in the eastern portion of the site.



* Fletcher, S. 1998. Inner Moray Firth landscape character assessment. Scottish Natural Heritage Review No 90.

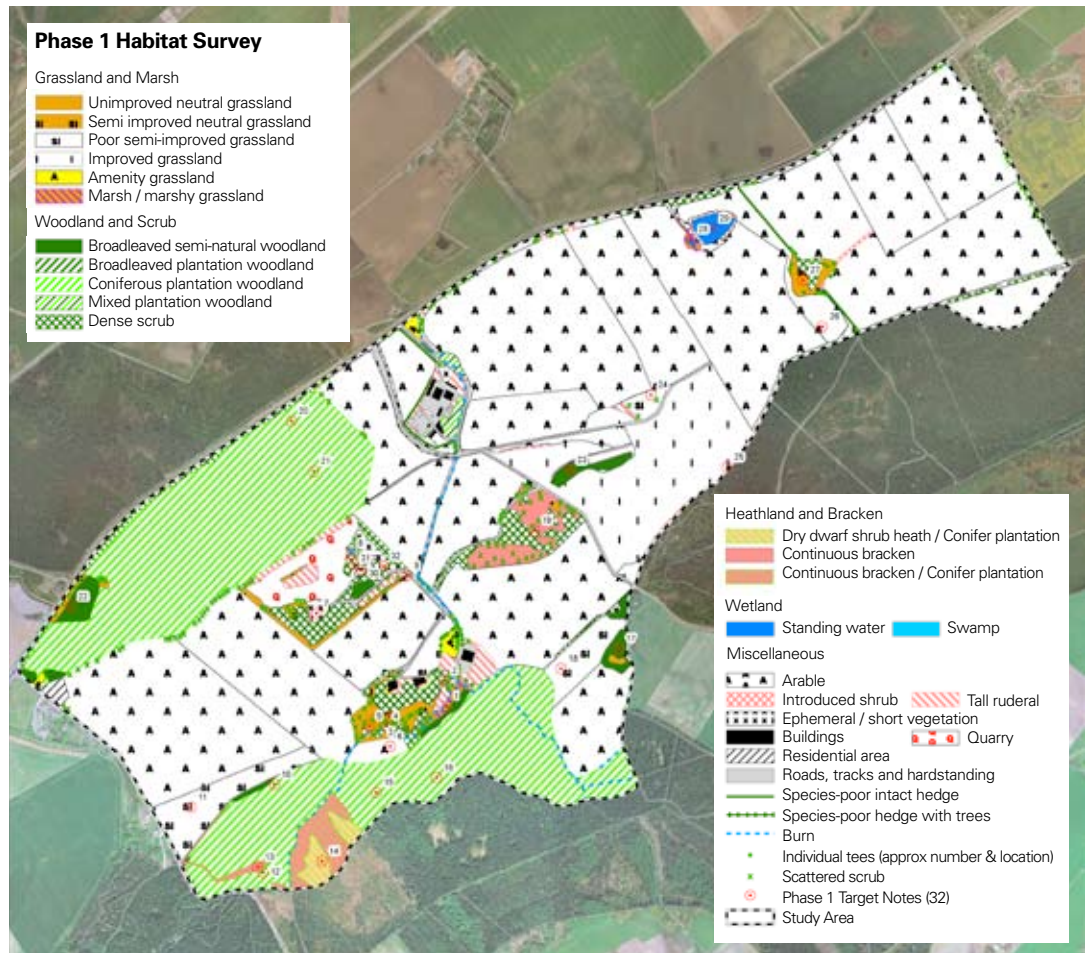
Ecology

Applied Ecology has undertaken a specialist field survey of the site and adjoining land, with the study period occurring between August 2006 and May 2007. The field survey serves to verify the presence of animal and plant species of conservation value and this provides a baseline against which any impact from the development on ecological issues can be predicted.

Habitat mapping has confirmed that the site is dominated by arable land of negligible botanical interest flanked to the north and south by mature coniferous plantation woodland - Tornagrain Wood to the north, and High Wood to the south. Neither of these woodlands fall within the classification of Ancient Woodland as defined by Scottish Natural Heritage, or possess high numbers of plant species considered to be indicators of ancient woodland. They are best defined as long-established woodlands of plantation origin.

The study also confirmed the existence of the animal species currently living on the site. Great crested newt and water vole were verified as being absent from the site; however, field evidence proved that Otters and Red Squirrels are currently present in small numbers. According to the study, the Otter commutes through the site using existing burns, and Red Squirrel is present in the two coniferous woodlands.

A bird survey has confirmed that the site supports a wintering assemblage of birds that is unrelated to the Moray Firth Special Protection Area (SPA) but is typical of similar agricultural land in the Highland Region. In addition, the site hosted two bird species with high levels of legal protection. The irrigation pond close to the A96 hosted a pair of Slavonian Grebe throughout the survey period, but there was no evidence that the pair bred during the survey. A Goshawk 'plucking post' was also found in High Wood, suggesting that this woodland area, and probably, therefore, Tornagrain Wood, was within a summer hunting territory of this species. There was no evidence that Goshawk bred within the site.



Species

Great crested Newt; Otters; Red Squirrels
Goshawk; Slavonian Grebe; Badger; Bats

The study also used electronic bat detectors to confirm bat activity, and consider the presence of bat roosts in buildings potentially affected by the Tornagrain development. The after dark activity surveys recorded Common and Soprano Pipistrelle, and Daubenton's bat, foraging within parts of the site in low numbers. A small mixed bat species summer roost was also found within a stone workshop at Mid Coul Farm, along with historic evidence of bat roosting (small numbers of old bat droppings) within Mid Coul Farmhouse next to the workshop.

Survey work for the badger, including the completion of a 'bait-marking' exercise to confirm badger territory size and distribution within the site and adjoining land areas. This work has identified that one badger social group has its main sett and most of its territory within the site boundary. Three other separate social groups have main setts located beyond the site boundary in coniferous woodland to the south.



Cultural Heritage

CFA Archaeology led the Cultural Heritage analysis, examining the site and its immediate surroundings for monuments and historical structures. Their report details the significance of the structures within the site and identifies other sites of heritage value within the general area.

Cultural heritage is a broad concept, embracing archaeology, built heritage and historic landscapes. In Scotland, cultural heritage can include features from the earliest Holocene human occupation, approximately 10,000 years ago, through to 20th century features.

The proposed development area for Tornagrain consists of gently undulating

arable fields, with small boggy areas in lower lying ground, and an area of woodland. The wider landscape around the proposed development is rich in archaeological sites including scheduled prehistoric settlements, prehistoric findspots and a recently discovered Bronze Age cemetery at Seafield.

Information on cultural heritage within the proposed development area was obtained through a desk-based study and field survey. Information on previously recorded sites was obtained from the National Monuments Record of Scotland and the Highland Council's Sites and Monuments Record. The survey team also made an assessment of vertical aerial photographic coverage, Ordnance Survey maps and other historical maps, using bibliographic sources to provide background and historical information.

Although there are no Scheduled Ancient Monuments, Listed Buildings, Conservation Areas or Historic Gardens

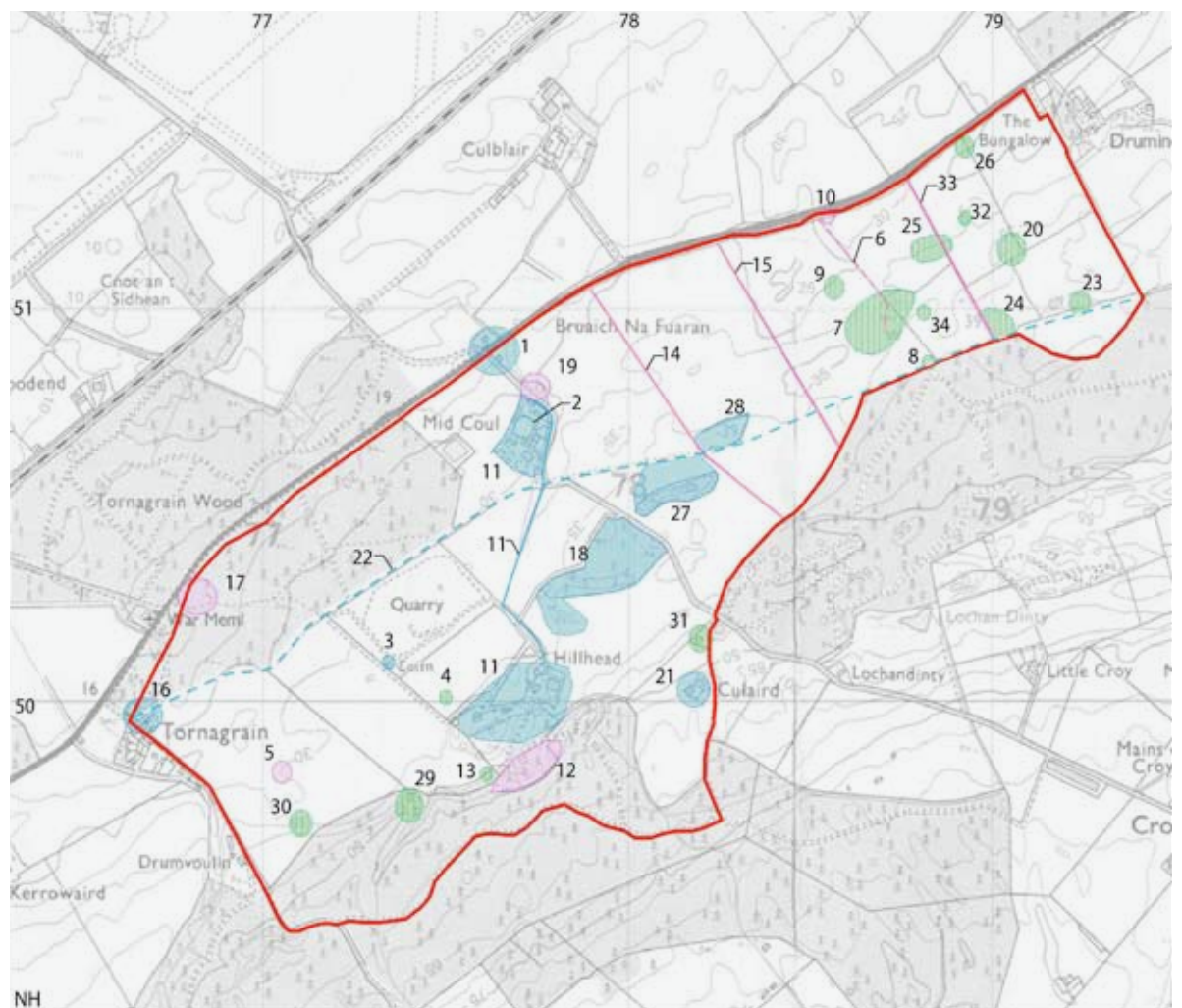
and Designed Landscapes present within the proposed development area, the study found a small number of cultural heritage sites, ranging in date from the prehistoric periods up to the 20th century. Previously recorded prehistoric sites include the denuded and mutilated remains of a burial cairn (which now lies in an area disturbed by extensive quarrying) and a burnt mound (lost during pipeline installation in 1991).

Numerous small buildings and enclosures were also identified using historic maps from the 18th century. Sites relating to the improved landscape of the 19th and early 20th centuries, were also identified from early Ordnance Survey maps; however, few of these survive as upstanding field monuments.

The study also examined the area beyond the immediate boundaries of the Tornagrain site, and identified thirteen Scheduled Ancient Monuments, twenty-five Listed Buildings and one Conservation Area within 3 kilometres.

Buildings, other features and cultural heritage sites (for instance former sites of buildings or other features) within the proposed site

- 1 Mid Coul Cottages
- 2 Mid Coul Farmhouse and Steading
- 3 Cairn; Cist
- 4 Burnt mound (possible)
- 5 Rig and furrow cultivation
- 6 Track
- 7 Building
- 8 Buildings
- 9 Building; enclosure
- 10 Quarry
- 11 Hillhead mill; dam; mill pond
- 12 Quarry
- 13 Well
- 14 Field boundary
- 15 Field boundary
- 16 Buildings; enclosures
- 17 Gravel pit
- 18 Plantation
- 19 Quarry
- 20 Building
- 21 Buildings and enclosures
- 22 Road
- 23 Building
- 24 Building; enclosure
- 25 Buildings; enclosures
- 26 Building; enclosure
- 27 Plantation
- 28 Plantation
- 29 Hillhead assessment
- 30 Buildings; enclosures
- 31 Buildings; enclosures
- 32 Building
- 33 Boundary
- 34 Building



Geology and Hydrology

The Geotechnical and hydrological study, which was carried out by Fulcrum Consulting, details the topographical condition of the site and makes general recommendations on best practices for drainage, flood mitigation and general development.

Geology

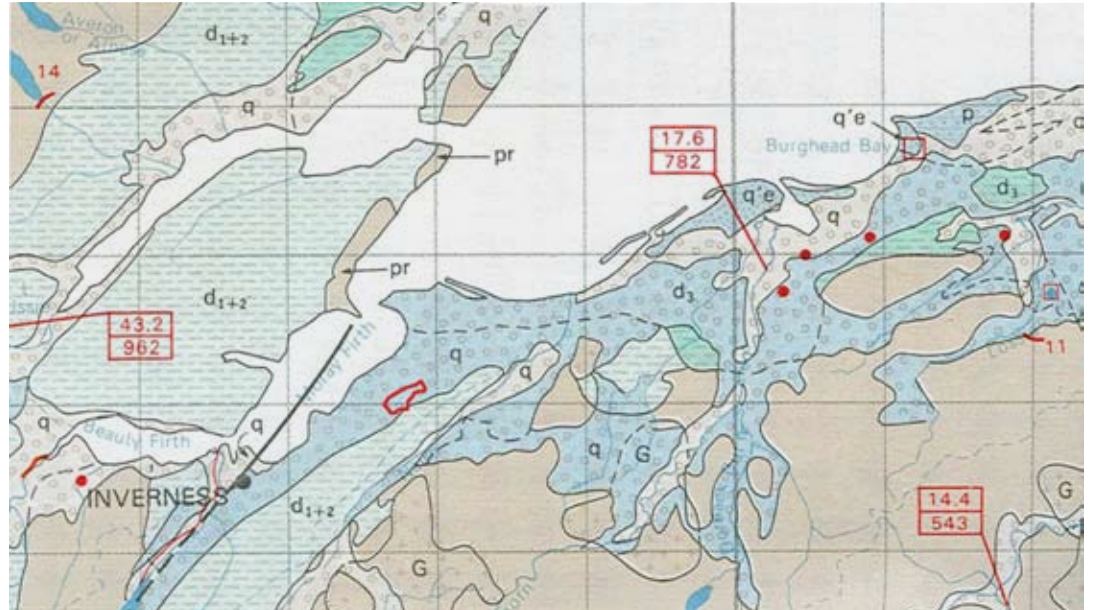
Reference to the land assessment of the site has already been provided in this exhibition. The published geological information and available reports suggest that the site is covered in glacial till, although some areas of fluvioglacial sands and gravels are also suggested as overlying the till in the central areas. In the vicinity of the some of the burns and drains, alluvial deposits may be expected, including clays, silts, sands and gravel, with occasional areas of peat deposits.

The underlying rock strata are of the Middle Devonian Sandstone Group, which consists of grey and purplish flaggy sandstones with grey mudstones and thin limestones also in the sequence. The general dip of the strata is shallow towards the north or north-west. Localised faulting is suggested, but there is no indication of any major fault zones.

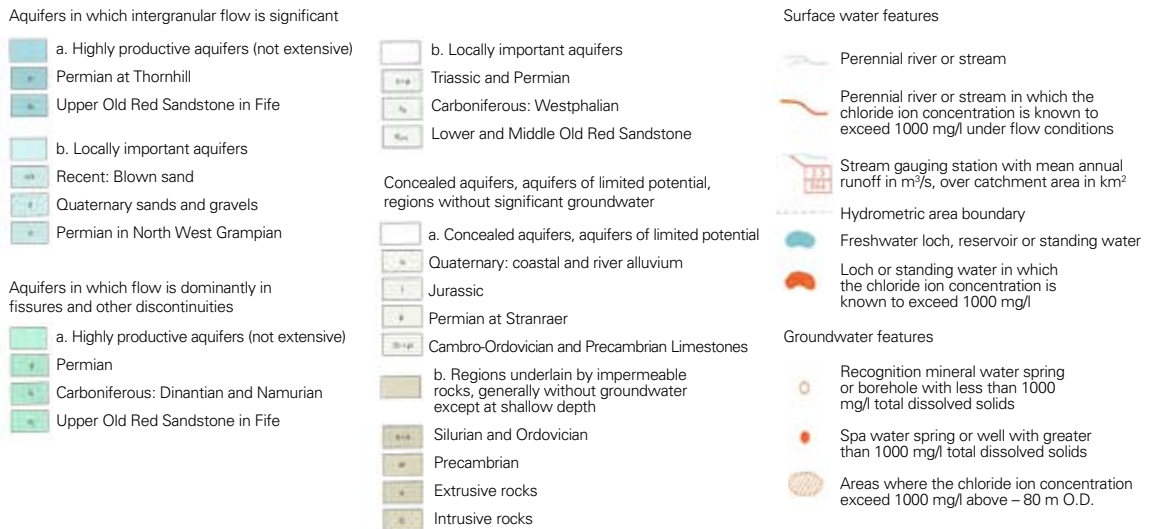
Hydrology

The redevelopment of the site will result in an increase in hard standing compared to current situation. Accordingly, further work will be completed to model the impacts of potential increased run-off due to the increase in impermeable areas. To combat this, mitigation methods such as Sustainable Urban Drainage Systems (SuDS) will be required. The free draining soils on the site are an advantage in allowing run off to percolate into the ground rather than discharging from the site.

Drainage water from the development is likely to flow to ground, the Moray Firth or Castle Stuart Bay. These are all sensitive receptors and as such an assessment of the quality and quantity of discharge water will need to be made to ensure that site drainage does not have any negative impacts on these areas.



Geological Map of Inner Moray Firth Area



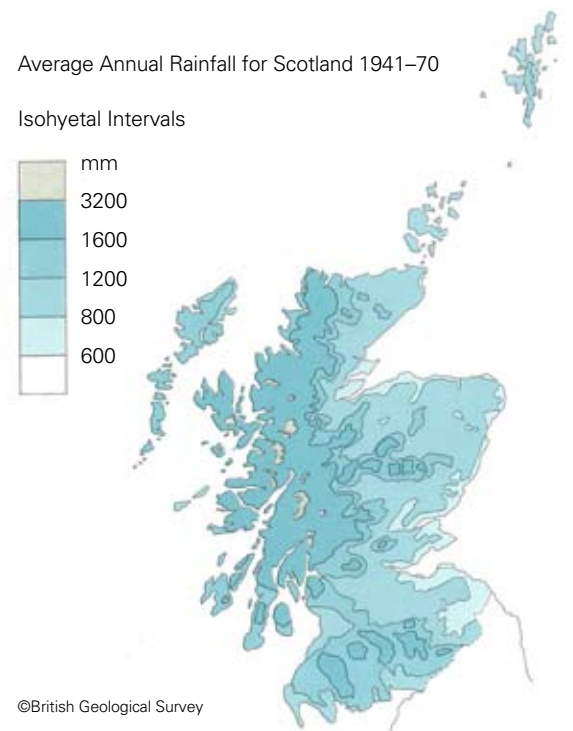
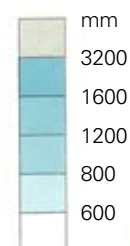
Initial research indicates that the site would not be at significant risk from flooding from fluvial or tidal waters. A full flood risk assessment will be completed to ensure compliance with all statutory regulations.

The Kildrummie Kames Site of Special Scientific Interest (SSSI) is located adjacent to the site. Currently it is not thought that the site discharges any water to the SSSI.

The Controlled Activity Regulations (CAR) have recently been introduced in Scotland to drive the implementation of the Water Framework Directive. The proposed works would fall under CAR and therefore agreements will be sought with the Scottish Environment Protection Agency (SEPA) for any works with the potential to impact controlled waters (e.g. stream, river, loch, fen etc).

Average Annual Rainfall for Scotland 1941–70

Isohyetal Intervals



©British Geological Survey

Noise and Air Quality

Bureau Veritas is undertaking baseline studies for the Noise aspects of the Environmental Impact Assessment, while Environmental Resource Management (ERM) is conducting the baseline studies regarding Air Quality.

Noise

The noise studies principally examine detailed noise, and, where relevant, vibration monitoring with sensitive receptors situated close to and within the proposed development area. Notably, the team identified that the noise climate in the area is attributed to the A96 and aircraft arriving and departing Inverness Airport. The survey team has obtained noise levels for road traffic on the A96 through detailed noise monitoring in the form of a baseline study; in addition, noise contours for the years 2005 (current) & 2030 (future situation allowing for growth in air travel) were sourced to help identify the impact of aircraft arrivals and departures on the site and wider area.

Initial findings of the study have indicated that, although the proposed development site is adjacent to the A96, noise levels within the area are relatively low and

should not present problems with regard to residential planning policy. Scottish Development Department (SDD) Circular 10/99 and the associated Planning Advice Note 56 (PAN 56), set out the Scottish Government's policies on noise-related planning issues.

Inverness Airport predicted noise contours for 2030 (shown below) indicate that the site lies outside even the outer Lden 55 – 60 dB contour. Current and forecasted aircraft noise is not therefore anticipated to create an impact.

The next stage of this study will consider likely impacts on existing noise sensitive receptors, as a result of construction of the proposed development, and as a result of increased road traffic and general operation of the proposed new town.

Air Quality

The Air Quality analysis will consider, both the current air quality and the potential air quality following development. In general, the existing air quality is of a high quality, particularly in comparison to many of the cities and towns within the UK.

A preliminary review has identified the following potentially significant air quality issues:

- Emissions arising from construction traffic on the A96;
- Emissions arising from operational traffic on the A96;
- Dust emissions arising during construction activities;
- The potential impacts on air quality of the Norbord facility;
- The potential impacts on air quality of the Norbord facility in the event that a new CHP plant is installed in conjunction with the proposed development.

In addition to the issues set out above, a number of other issues are being considered, but are unlikely to be significant issues in the context of the overall scope of the studies:

- Emissions arising from construction traffic on-site during construction;
- Emissions arising from generators and stationary plant on site during construction;
- Traffic within the town itself once the town is completed;
- Emissions arising from domestic space heating.

The existing air quality in the vicinity of the proposed Tornagrain development is good. The presence of Inverness Airport and the A96 trunk road are noted in terms of the overall existing air quality position. However, these levels are well within the statutory air quality objectives.

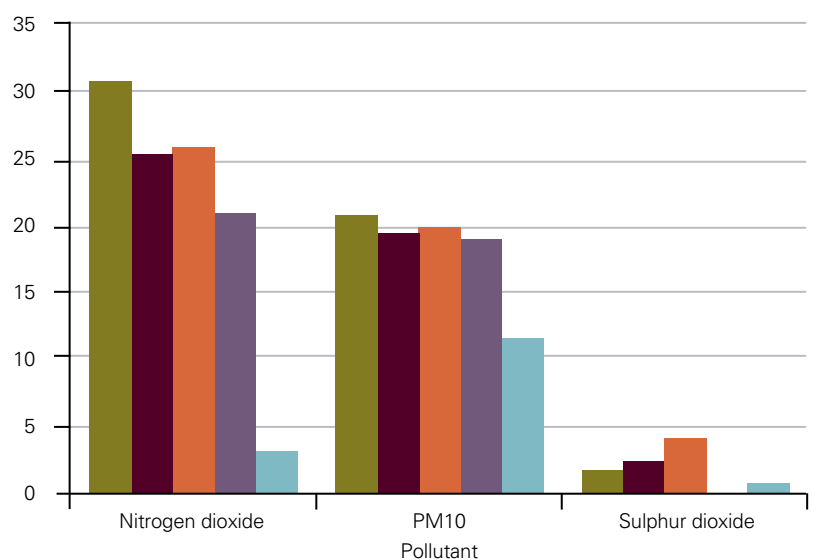


2030 Lden Contours

■ Lden 55 – 60dB	■ Lden 65 – 70dB
■ Lden 60 – 65dB	■ Lden over 70dB

Inverness Airport Noise Contours 2030. Source HIAL

Comparison of levels of selected ambient air pollutants



Legend for Air Quality Comparison:

■ Glasgow Centre	■ Edinburgh St. Leonards	■ Aberdeen
■ Inverness Centre	■ Tornagrain Village	

Air quality comparison for sites in Scotland for Nitrogen Dioxide, Particulate Matter and Sulphur Dioxide. Note - Air quality recording is not yet fully underway so figures drawn from national or other local data

Utilities and Energy Strategy

The Utilities and Energy study sought to survey the site's current utilities and provide a strategy for creating the most efficient and sustainable energy plan for the new settlement. Fulcrum Consulting carried out the work, in conjunction with their studies regarding geology, groundwater, flooding and drainage.

Existing Utilities

The following services run across the site, as noted in the adjacent plan:

- High Pressure Gas Service
- Overhead Electrical Power Distribution
- Underground water service
- Overhead and Underground telecommunications service
- MOD underground Kerosene pipe

Gas Service

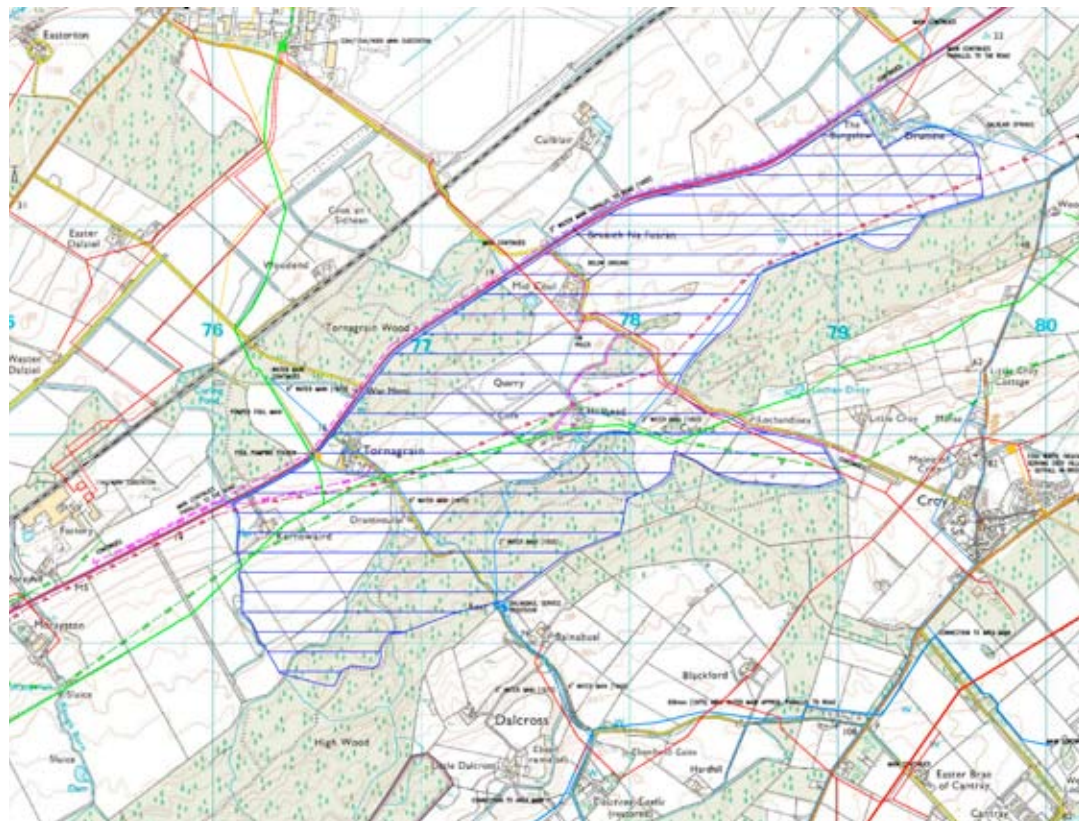
Due to the development exclusion around the High Pressure Gas main (up to 90m either side of the pipe for some uses), it is proposed to divert the Gas Pipe around the site. Negotiations are underway with Scotland Gas Networks to establish proposals for this diversion. SGN have confirmed this is feasible.

Electricity Service

The overhead 33kV installation runs to the south of the existing settlement of Tornagrain; this service would have to be re-routed below ground to suit the proposed development.

Water Service

The majority of water service pipes avoid the proposed development site, with the exception of a small secondary main running parallel to the Tornagrain – Dalcross 'B' road and a branch main running from Balnabaul Service Reservoir east just north of Hillhead Farm. It is proposed that the road is retained in its current location and this therefore has only minor impact on the water main. The east running main north of Hillhead Farm avoids the main development proposed and the impact on it can be accommodated with only minor diversion works.



Utilities infrastructure in and around the proposed site

- MOD Oil Pipeline
- High Pressure Gas Main
- Pumped Foul Sewer
- Mains Water Service
- Overhead HV Power Cables
- Below Ground HV Power Cables
- BT Service

Oil (Kerosene/Aviation Fuel) Service

This service route serves the RAF bases east of Nairn. The issues concerning this pipeline are minimal and there are no onerous development exclusion requirements. However, access for future repair will be required and so it is proposed to provide a roadway adjacent to the pipe for ease of service access.

Telecommunications Service

An existing ducted fibre optic cable route runs between Nairn and Inverness on the north side of the A96. This will be protected and may require localised diversions. In addition, there are small local overhead services serving the local farms and dwellings. These should be diverted below ground.

Infrastructure Reinforcement

As part of the A96 Growth Corridor Development Framework study, the

Highland Council has commissioned studies into the existing infrastructure and the required reinforcement works needed to support the development proposals. It will be important to discuss the outcome of these studies with the relevant consultants as part of the process of preparing the planning application.

Energy Strategy

The Estate and Fulcrum are currently examining options for the provision of energy for the development. Options range from using existing or upgraded conventional infrastructure (gas and electricity) through to on-site energy generation either at the macro scale (combined heat and power plant -CHP) or the micro scale (domestic scale renewable energy sources such as wood pellet boilers, solar or ground source heat supplies).

Sustainability

It is proposed to create a development that follows the highest standards for sustainable living in a new development. Exemplary sustainable design techniques will be used to minimise the town's impact on the environment; high quality design and urban planning will promote a sense of pride and encourage community involvement; effective management will ensure economic viability.

A widely accepted definition of sustainable development is: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." – Our Common future, Brundtland Report 1987



Locally grown timber and forestry waste could provide a valuable energy source



Cutting car journeys through better urban design will encourage pedestrians and cycle use

In our changing world, it is increasingly important to ensure that our future communities are developed with environmental, social and economic issues considered in due balance. Moray Estates recognise the importance of this and has included Fulcrum Consulting in the earliest stages of project development to help guide the vision for a successful, and sustainable new community.

Moray Estates aim, through careful design and planning and in consultation with the local community, to create a development that has sustainability at its core and that will build a legacy to be proud of and to pass on to future generations. All this is to be done while retaining due consideration of traditional design principles, indeed it is those traditional design principles that encourage walking and local service provision that could do so much to create a vibrant and sustainable place.

The Scottish Government is currently in the process of reviewing their policies on sustainability and the environment and is likely to set high targets on issues such as energy, waste and water. It is expected



As well as generating power we need to consider how little we can use of it - energy saving light bulbs being an obvious example

that in the future a timeline will be set for all new developments to work towards achieving net zero carbon status. It is the intention that proposals for Tornagrain will take a forward-thinking approach, where possible exceeding any standards set by Government using a pioneering range of measures and initiatives.

A set of performance standards for Tornagrain are being developed at an early stage, addressing a broad range of sustainable development issues. Strategies will be developed to ensure that the standards are met. These standards will include required levels of attainment with respect to the following areas:

- **Energy and Carbon**
Carbon emissions reduction for all new building on the development through energy efficiency and renewable energy, with standards increasing as development phases progress.
- **Water efficiency and recycling**
Water efficiency and sustainable water supplies to reduce the amount of water used and reliance on mains water.
- **Waste management and recycling**
Construction Waste and Operational Waste strategies to minimise the amount of waste going to landfill and maximise recycling.
- **Materials**
Re-use and responsible sourcing.
- **Transport**
Safe pedestrian routes, cyclist routes and facilities, public transport provision.
- **Communications**
Excellent communications infrastructure to facilitate learning and optimise community engagement opportunities.
- **Sustainable lifestyles**
Local food, community facilities and local employment.
- **Sustainable management**
Operational strategies for community infrastructure and landscape / urban realm.
- **EcoHomes**
Achievement of EcoHomes [Excellent] rating for all new dwellings.

Socio Economic

The baseline study work undertaken to-date by the appointed advisor, DTZ, has involved consideration of demographic forecasts, economic conditions and high level impact assessments of the development on local retail, labour and housing markets.

Population Forecasts

Analysis of the current demographic data suggests that the population of the Highland region is growing at a rapid rate, buoyed by migration from overseas (see Figure 1) and the rest of the UK, with growth in 2006-07 at a similar rate as that experienced in 2004-05 and 2005-06. Therefore, it is likely that the area will continue to attain the population growth rates consistent with the 'high case' (127,275 population by 2036) and 'ideal case' (100,699 population by 2036) population scenarios (see Figure 2). Ideal and high case figures for population growth in the Inverness area are 30,000 and 58,000.

This level of population growth will require some fundamental changes in the local economy, especially greater economic diversification. To continue at this growth rate, the area should aim to attract more high value-added businesses and improve transport and communications infrastructure.

Labour and Retail Markets

Any negative impact on other local retailers or local labour markets from the development is likely to be negligible. In fact, the proposed development seems likely to act as a means of increasing the supply of retail activity and employees to meet the increasing levels of demand in the wider area. However, building additional retail units in excess of that needed by the growing community or building quicker than the phasing outlined for the development, may lead to competition with retailers in other local markets and negative impacts. A balance must therefore be struck.

Current planned levels of housing supply, including Torngrain, in the A96 Corridor will meet the additional housing demand implied by the 'ideal case' household projections and also help to tackle current supply shortages. However, this is also dependent on the 'conditions for success' being met, e.g. no new substantial additional housing supply coming onto the market other than that which is already planned, and a stable national housing market. The work of the Council in producing the A96 Growth Corridor Development Framework is key to this issue.

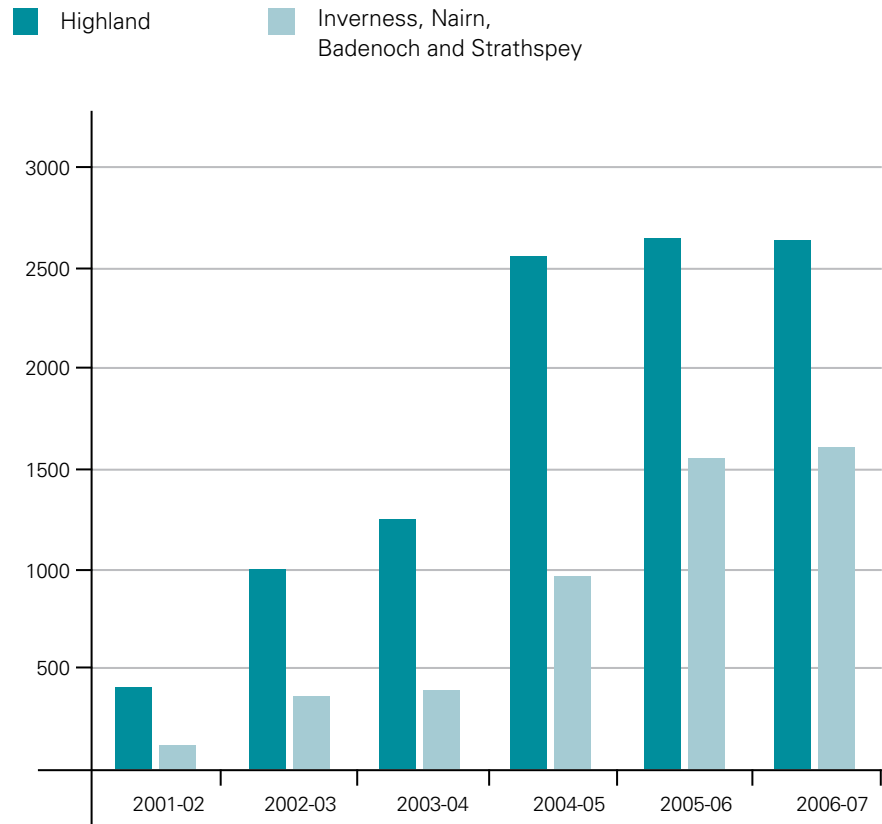


Figure 1. Registrations of overseas nationals on the National Insurance Recording System in Scotland/HIE area, by tax year. Source: DTZ analysis of HIE and DWP data

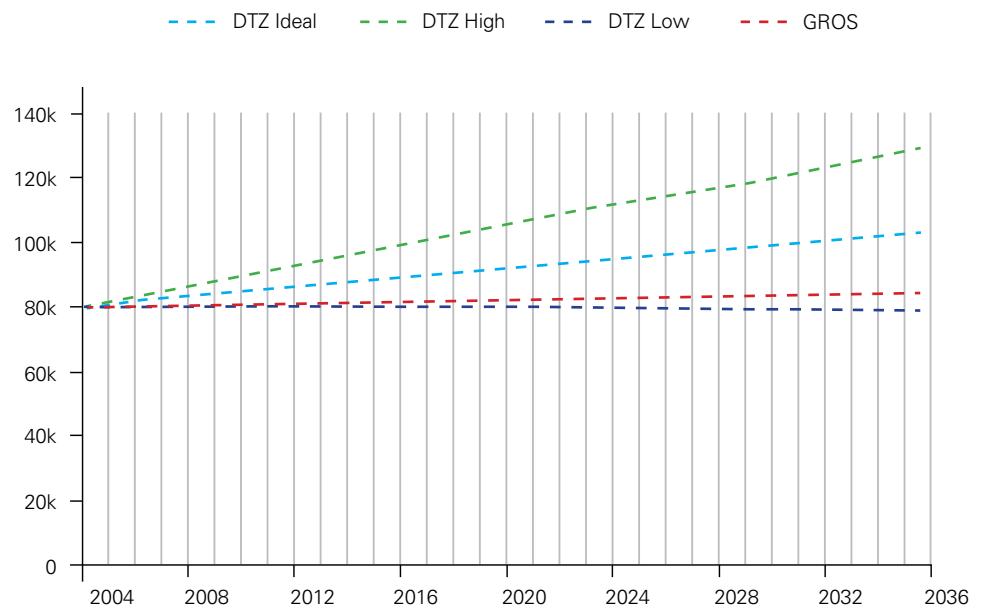


Figure 2. DTZ population projections for Inverness and Nairn area to 2036. Source: DTZ

Transport: Strategic Context

Savell Bird + Axon (SBA) and WSP are the appointed Transportation Consultants for the project. SBA will be focussing on the issues of transportation impact, looking specifically at the region's transportation system and the scope for mitigation. This assessment will look at three future development years, 2011, 2021 and 2041, given the estimated phasing for Tornagrain identified in the A96 Growth Corridor Development Framework.

Transport Assessment

The transport assessment studies the impact of the development on the surrounding transport infrastructure and determines the transport infrastructure required within the development itself. The assessment will include the road network, the associated pedestrian and cycle networks, as well as bus and rail facilities. The transport assessment will also address the issues of parking, servicing and waste collection and how these actions will impact on the greater transport network.

The assessment considers the development of the proposed internal road network, as well as how the proposed road network will link into the existing highway network, including the A96, the airport link road and other local routes. The development scenarios used in the assessment will propose the transport infrastructure necessary to support the activity proposed at the site for future years. The assessment will also consider travel to / within Tornagrain through means of sustainable transport, including rail, bus services, walking and cycling.

Current Conditions and the A96

To the west of the airport, the A96 currently carries around 16,700 vehicles a day, and 1,400 vehicles in the peak hour. Between Inverness Airport and Nairn, the flow is lower at around 12,000 vehicles a day, or 1,000 vehicles in the peak hour. Over time, natural traffic growth and the projected development along the Inverness to Nairn corridor (including Tornagrain) will add to the traffic using the A96. Hence, whilst these current flow levels are suitable for a single

carriageway, in due course, it is expected that the road will be upgraded to a dual carriageway.

The Charrette in 2006 produced proposals for a re-alignment of the A96 to the north of the existing alignment. Transport Scotland (TS) are aware of these proposals, and consultants acting for TS are currently examining options for the upgrade of the A96 to the new airport roundabout, including off-line options.

The ongoing work of SBA will need to have regard to decisions made on the nature and timescale of any changes proposed for the A96.

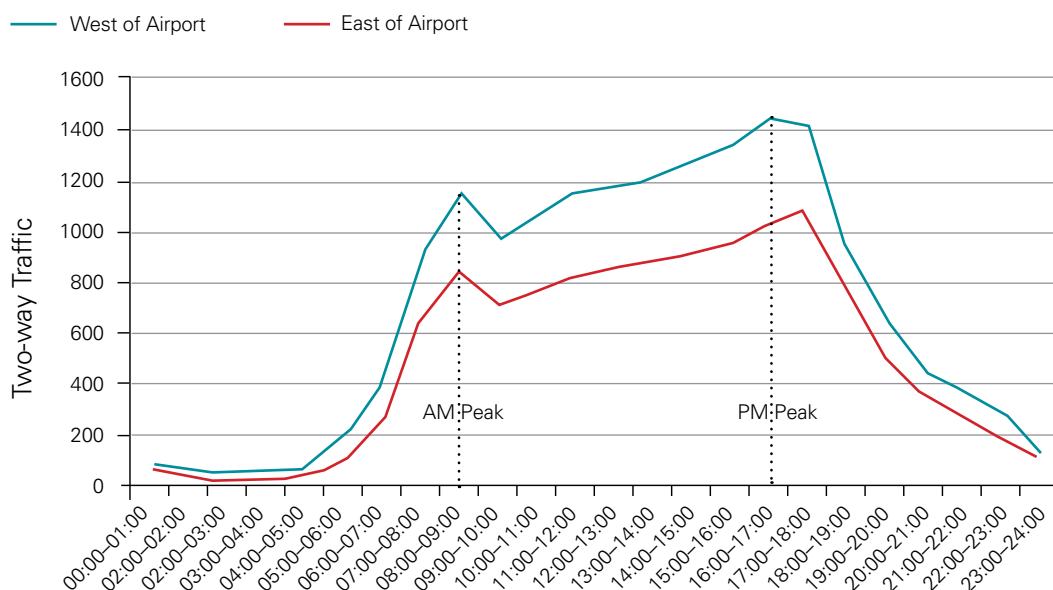
Sustainable Transport

The design of Tornagrain itself, fosters sustainable transport by promoting walking and cycling opportunities, both within the New Town and beyond its limits. The planned rail halt at Dalcross will also offer travel to Inverness and Nairn and beyond. In addition, short and long distance bus services will be provided. Within Tornagrain itself, a comprehensive

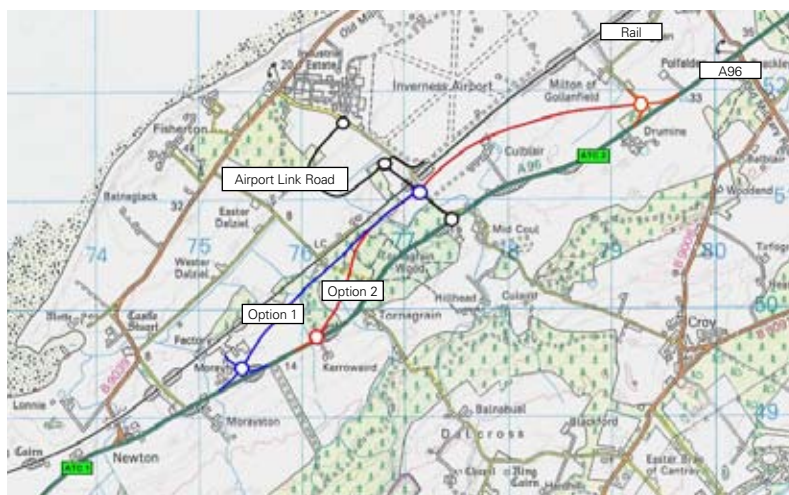
range of facilities will cover the everyday needs of the new community thereby helping to restrict car based trips. Inevitably, external trips will be made and the impact of these on the wider transportation network will need to be carefully assessed.

Infrastructure and Impact

The proposals will evolve to further consider the necessary design and capacity for internal roadways and connections to the major highways. Detailed projections of future traffic generation from the development will be used to feed into simulations of the highway network to ensure that key junctions are designed appropriately and that adequate capacity is provided on all strategic links. As Tornagrain evolves and moves towards a planning application, the strategic traffic modeling work will be further developed. With the aid of simulation software, highway capacity will be checked at the detailed level, to offer additional information on new junctions, any planned A96 upgrade and the wider existing network.



Above:
Average Annual Daily Traffic on the A96 East and West of Inverness Airport: 24 hr Flow Profile.



Right:
Indicative A96 Route Re-Alignment Options & Location of Automatic Counting (ATC) Stations

The Next Steps

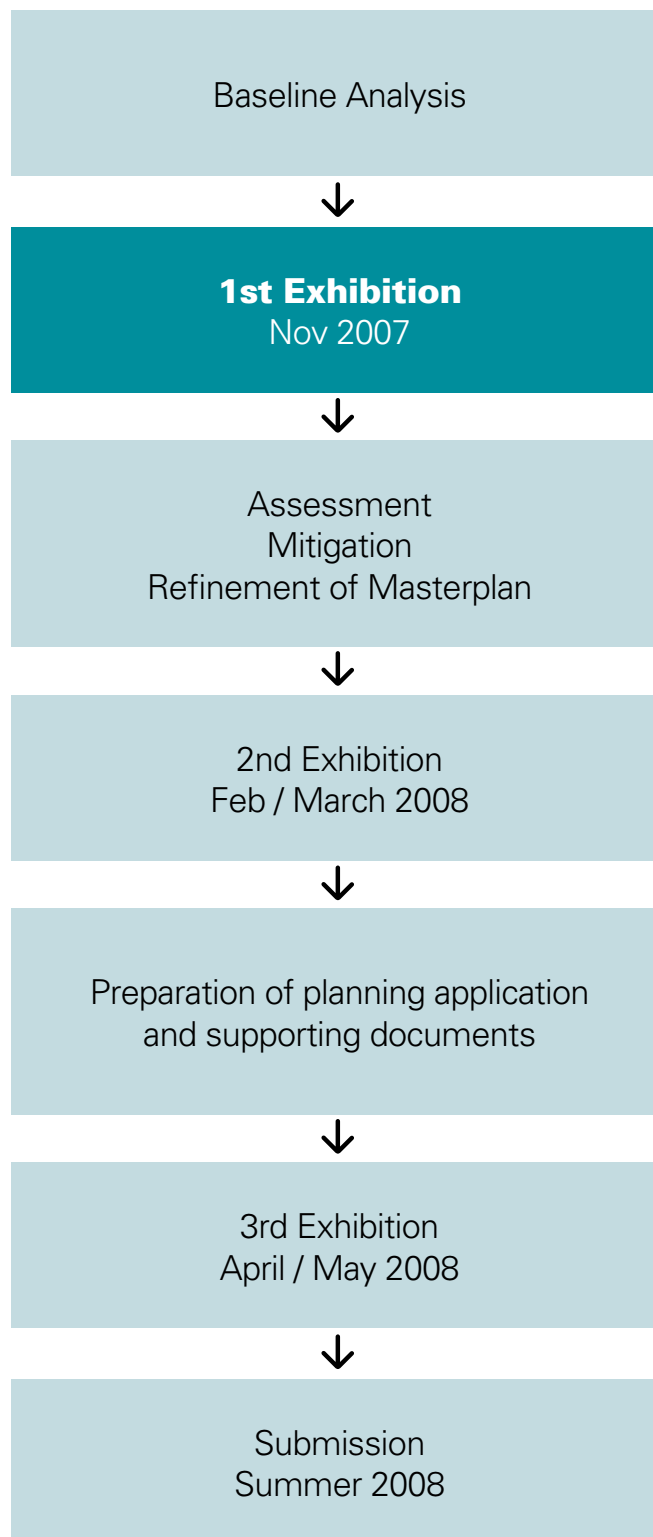
Thank you for taking the time to attend this exhibition, and we hope you have found the process informative.

The outline programme for the preparation of a planning application is now repeated for reference.

The programme includes 3 public Exhibitions, of which this is the first. We would encourage you to take these opportunities to keep up to date with the project and its progress towards the submission of a planning application, and provide your views. You can either use the response form included with the brochure that has been produced to support this exhibition, or otherwise telephone, write or e-mail using the contact details set out below.

Over the coming months, the consultant team will continue with the assessment and mitigation work as explained in this exhibition.

We look forward to seeing you again at the second exhibition in early 2008.



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