Appendix A

**GIS Absolute
Constraints and
Second Degree
Constraints:
METADATA**

Contents

A1   Absolute Constraints

A1.1   Practical Constraints

A1.1.1   Wind Speed (<=6m/s at 45m Above Ground Level)

Name	Windspeed_pre.shp
File Type	ESRI Shapefile – Polygon
Nominal Scale	1km square resolution
Source	ETSU NOABL data (http://www.bwea.com/noabl/download.htm)
Description	*Primary Data*: Converted from ASCII format (downloaded-see above) into a 1km polygon grid for the whole of Wales. *Secondary Data*: File contains data greater than 6m/s only.
Notes	The Department of Energy and Climate Changes (DECC) wind speed database contains estimates of the annual mean wind speed throughout the UK. The data is the result of an air flow model that estimates the effect of topography on wind speed for a 1km square resolution. There is no allowance for the effect of local thermally driven winds such as sea breezes or mountain/valley breezes. The model was applied with 1km square resolution and takes no account of topography on a small scale or local surface roughness (such as tall crops, stone walls, or trees), both of which may have a considerable effect on the wind speed. The data can only be used as a guide and should be followed by on-site measurements for a proper assessment. Each value is the estimated average for a 1km square at 45m above ground level (agl).
Constraint Type	Footprint
Copyright	ETSU for DECC 1999.

A1.1.2   Mastermap Address Layer – Postal Properties Buffer (500m, 600m, 700m and 1000m)

Name	Postal_Addresses_Buffer.shp
File Type	ESRI Shapefile – Polygon
Nominal Scale	1:50,000
Source	Welsh Assembly Government Cartographics Department
Description	*Primary Data*: Mastermap Address Layer 2 - original format: points. *Secondary Data*: Buffer generated with 500m, 600m, 700m, and 1000m radius.
Notes	OS MasterMap Address Layers contain approximately 29 million geographical features in Great Britain (this includes England, Scotland and Wales, but not the Isle of Man, the Channel Islands or Northern Ireland). Each feature is provided with a unique identifier, a series of cross-reference identifiers to relevant features in other datasets, one or more addresses, a coordinate position on the British National Grid, one or more classifications and information on how and when that feature has changed.
Constraint Type	Buffer – 500m, 600m, 700m, and 1000m
Copyright	Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right (2009). All rights reserved. Ordnance Survey license number (*100017916*). Incorporates data from PAF© and multiple Residence Data, the copyright in which is owned by Royal Mail Group Plc. All rights reserved.

A1.1.3 Steep slopes greater than 30°

Name	Slopes_greater_than_or_equal_to_30_degrees
File Type	Digital Terrain Model – Raster
Nominal Scale	N/A
Source	Welsh Assembly Government Cartographics Department
Description	*Primary Data*
Notes	Raster data at 5 by 5m resolution of all grid cells greater than or equal to 30° indicated a technical constraint for which development was not possible.
Constraint Type	Footprint
Copyright	Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right (2009). All rights reserved. Ordnance Survey license number (*100017916*).

A1.1.4 Lakes and Reservoirs

Name	Lakes_and_Reservoirs.shp
File Type	ESRI Shapefile – Polygon
Nominal Scale	1:250,000
Source	Welsh Assembly Government Cartographics Department
Description	*Primary Data*
Notes	Ordnance Survey Strategi dataset Data updated and maintained by Ordnance Survey http://www.ordnancesurvey.co.uk/oswebsite/products/strategi/
Constraint Type	Footprint
Copyright	Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right (2009). All rights reserved. Ordnance Survey license number (*100017916*).

A1.1.5 Existing Developments - Boundaries

Name	Development_Boundaries.shp
File Type	ESRI Shapefile – Polygon
Nominal Scale	N/A
Source	Local Authorities (*Bridgend, Carmarthenshire, Ceredigion, Conwy, Denbighshire, Neath Port Talbot, Powys, Rhondda Cynon Taf, and Swansea*) and Wind Farm Developers (*RES UK Ltd, ECO 2, Npower, Airtricity, and West Coast Energy*)
Description	*Primary Data*
Notes	Development boundaries for all known wind farm sites within the study area were acquired through various sources and digitised. The accuracy of the digitised boundary was limited in some instances to the quality of the image.
Constraint Type	Footprint
Copyright	N/A

A1.2   Environmental Constraints

A1.2.1   National Parks

Name	National_Parks.shp
File Type	ESRI Shapefile – Polygon
Nominal Scale	Unknown
Source	Countryside Council for Wales
Description	*Primary Data*
Notes	None available
Constraint Type	Footprint.
Copyright	Copyright is held by the Countryside Council for Wales. Normal restrictions apply. See legal maps for definitive boundaries.

A1.2.2   Areas of Outstanding Natural Beauty

Name	Area_of_Outstanding_Natural_Beauty.shp
File Type	ESRI Shapefile – Polygon
Nominal Scale	1:50,000
Source	Countryside Council for Wales
Description	*Primary Data*
Notes	AONBs are established under the same legislation as National Parks, but the key difference between the two is that creating opportunities for recreation is not a specific purpose of an AONB. However, recreation within an AONB is acceptable if it is consistent with the conservation of natural beauty and the needs of agriculture, forestry and other uses. AONB are designated by CCW and the proposals are confirmed by the First Minister for the National Assembly for Wales. Each AONB is managed by a Joint Advisory Committee which represents Local Authorities, land owning and community interests.
Constraint Type	Footprint
Copyright	Copyright is held by the Countryside Council for Wales. Normal restrictions apply. See legal maps for definitive boundaries.

A1.2.3   Natura 2000 Habitat Directive Site - Special Areas of Conservation (SAC)

Name	Special_Area_of_Conservation.shp
File Type	ESRI Shapefile – Polygon
Nominal Scale	1:10,000
Source	Countryside Council for Wales
Description	*Primary Data*
Notes	The list includes candidate sites (i.e. they have been to public consultation and the UK government are currently presenting them to the EC for recommendation).
Constraint Type	Footprint
Copyright	Copyright is held by the Countryside Council for Wales. Normal restrictions apply. See legal maps for definitive boundaries.

A1.2.4 Natura 2000 Habitat Directive Site - Special Protection Areas (SPA)

Name	Special_Protection_Area.shp
File Type	ESRI Shapefile – Polygon
Nominal Scale	1:10,000
Source	Countryside Council for Wales
Description	*Primary Data*
Notes	SPAs are strictly protected sites, also known as the Birds Directive, on the conservation of wild birds.
Constraint Type	Footprint
Copyright	Copyright is held by the Countryside Council for Wales. Normal restrictions apply. See legal maps for definitive boundaries.

A1.2.5 Sites of Special Scientific Interest (SSSI)

Name	Sites_of_Special_Scientific_Interest.shp
File Type	ESRI Shapefile – Polygon
Nominal Scale	1:1,250, 1:2,500 or 1:10,000
Source	Countryside Council for Wales
Description	*Primary Data*
Notes	SSSIs include a wide range of habitats from small fens, bogs and riverside meadows to sand dunes, woodlands and vast tracks of uplands.
Constraint Type	Footprint
Copyright	Copyright is held by the Countryside Council for Wales. Normal restrictions apply. See legal maps for definitive boundaries.

A1.2.6 RSPB - Bird Sensitivity

Name	High_Bird_Sensitivity.shp
File Type	ESRI Shapefile – Polygon
Nominal Scale	Unknown
Source	Royal Society for the Protection of Birds (RSPB)
Description	*Primary*
Notes	The RSPB can accept no responsibility for the consequences of errors or omissions of data.
Constraint Type	Footprint
Copyright	The RSPB reserve the right to comment on the accuracy of representation of the data in material produced by the recipient.

A1.2.7 Blanket Bog

Name	Blanket_Bog.shp
File Type	ESRI Shapefile – Polygon
Nominal Scale	Unknown
Source	Countryside Council for Wales
Description	*Primary Data*
Notes	The Habitat Survey of Wales provides complete coverage of the Welsh terrestrial habitat resource (Jones et al, 2003). Mapping as any of the E.1 habitats should be conditional on peat > 0.5 m deep. Very extensive habitat in the uplands.
Constraint Type	Footprint at local scale
Copyright	Copyright is held by the Countryside Council for Wales. Normal restrictions apply. See legal maps for definitive boundaries.

A1.2.8 National Nature Reserve

Name	National_Nature_Reserve.shp
File Type	ESRI Shapefile – Polygon
Nominal Scale	Unknown
Source	Countryside Council for Wales
Description	*Primary Data*
Notes	The great nature reserves of Wales, stretching from the Great Orme in the north to the Mawddach Valley in the south.
Constraint Type	Footprint
Copyright	Copyright is held by the Countryside Council for Wales. Normal restrictions apply. See legal maps for definitive boundaries.

A2   Secondary Constraints

A2.1   Environmental Constraints

A2.1.1   LANDMAP – Landscape Habitat Value/Visual and Sensory

Name	20091127_LH_LINK_region.shp / 20091127_VS_LINK_region.shp
File Type	ESRI Shapefile – Polygon
Nominal Scale	Unknown
Source	Countryside Council for Wales
Description	*Secondary Constraint*
Notes	LANDMAP, the Welsh approach to landscape assessment, will achieve complete quality assured coverage in 2008. LANDMAP, introduced in 1997, was revolutionised in 2003 with the introduction of a benchmark methodology and quality assurance process to ensure consistency, accuracy and accessibility of landscape information in Wales. The approach has matured through the continued input and experience from local authority LANDMAP Managers, the aspect specialists collecting the information and the steerage from the Quality Assurance Panel resulting in an outstanding nationally consistent resource for landscape planning and decision-making. LANDMAP is a GIS (Geographical Information System) based landscape resource where landscape characteristics, qualities and influences on the landscape are recorded and evaluated into a nationally consistent data set. Specialists collect LANDMAP Information in a structured and rigorous way that is defined by five methodological chapters, the Geological Landscape, Landscape Habitats, Visual & Sensory, Historic Landscape and Cultural Landscape. These chapters should be taken as the key landscape guidance for Wales. It is the use of all five layers of information that promotes sustainable landscape decision-making as what may be less important to in one particular layer may be of high importance in another. Giving all five layers equal consideration ensures no aspect of the landscape is overlooked. One of the key defining features in LANDMAPs recent success as the key landscape resource in Wales is the improved accessibility to the information. All quality assured LANDMAP Information is now available from the LANDMAP website, either by viewing the information in the online GIS or by downloading the information onto your computer. The online GIS option has enabled practitioners in landscape work to access the information without having to have a GIS licence, a considerable benefit both within local authority departments and private consultancies.
Constraint Type	Footprint – *As a secondary constraint, LANDMAP has only been used to influence areas identified as developable land. Areas found to be located within the LANDMAP outstanding sensitivity evaluation for Visual and Sensory or Landscape Habitat have been excluded.*
Copyright	Copyright is held by the Countryside Council for Wales. Normal restrictions apply. See legal maps for definitive boundaries.