# Ireland West Airport Knock Strategic Development Zone DRAFT Planning Scheme 2019

# SEA Environmental Report Non-Technical Summary











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# Contents

Section 1:	SEA Introduction & Context	2
1.1Purpos	se of the Non- Technical Summary	2
1.2 Backs	ground and Context	2
1.3 Plan S	Structure and Summary	5
Section 2: 0	Contents of SEA Environmental Report	6
2.1 Appro	oach to the SEA	6
2.2 Relati	ionship to other relevant plans and programmes	6
2.3 Curre	nt Baseline	6
2.3.1 B	Baseline Overview	7
<b>Section 3:</b>	<b>Environmental Protection Objectives and Consideration</b>	of Alternatives .15
3.1 Envir	onmental Protection Objectives	15
3.2 Consi	deration of Alternatives	16
<b>Section 4:</b>	Assessment of significant environmental issues and mitiga	ation measures .17
Section 5:	Monitoring Measures	17
Section 6: 0	Conclusion	26

### Section 1: SEA Introduction & Context

#### 1.1Purpose of the Non-Technical Summary

This is the Non-Technical Summary of the environmental report for the Strategic Environmental Assessment (SEA) of the draft SDZ Planning Scheme prepared for the lands at Ireland West Airport Knock, in County Mayo. The purpose of the SEA is to formally and systematically assess the likely significant effects of implementing a plan or programme, in this instance the above Planning Scheme.

The Environmental Report identifies the significant environmental effects of the plan on the environment and where significant effects are identified, recommends appropriate measures to avoid or reduce such effects. As the plan is being prepared the SEA identifies and influences proposals particularly through avoiding areas of greatest environmental sensitivity. This Environmental Report forms part of the SEA process and documents the SEA process and is the key consultation document in the SEA process as it facilitates interested parties to comment on the environmental issues associated with the plan itself. This Environmental Report has been prepared under the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I 436 of 2004).

The main output of the SEA process is the preparation of an Environmental Report (ER) which sets out the findings and results of the SEA process on the likely significant effects on implementing the draft SDZ Planning Scheme. It also sets out mitigation measures to prevent or reduce significant adverse effects likely to arise from implementation of the Planning Scheme together with the various alternatives considered and measures relating to monitoring following the adoption of the Planning Scheme.

The Environmental Report is an important tool that provides the decision makers, the elected members of Mayo County Council as well as the public and relevant agencies with a clear understanding of the likely environmental consequences of decisions taken in the implementation of the draft SDZ Planning Scheme. Therefore, the Environmental Report should be read in conjunction with the draft SDZ Planning Scheme.

#### 1.2 Background and Context

Ireland West Airport Knock was designated as a Strategic Development Zone by the Government of Ireland on the 30 May 2017 under SI 266 of 2017. The designation included 284 Ha of lands surrounding the airport. Mayo County Council has prepared a draft planning scheme for the SDZ at Ireland West Airport Knock.

A Draft Planning Scheme consists of a written statement and a plan indicating the manner in which a site, to which the scheme relates is to be developed, including:

- The types of development which may be permitted to establish on the site.
- The extent of any such proposed development.
- Overall design criteria proposals including maximum heights, the external finishes of structures and their general appearance and design.
- Transportation proposals including public transportation, the roads layout, the provision of parking spaces and traffic management.
- Service provision proposals including the provision of waste and sewerage facilities and water, electricity and telecommunications services, oil and gas pipeline.
- Proposals relating to minimising any adverse effects on the environment including the natural and built environment and on amenities of the area,

There is an overarching legislative framework which provides the statutory basis for the preparation of plans and strategies and for the protection of the environment at the international, EU and national levels. The policies and objectives of the draft SDZ comply with the above hierarchy of plans.

Strategic Environmental Assessment (SEA) is a formal process that is being carried out in parallel with the preparation of the Planning Scheme. SEA is the systematic, ongoing process of evaluation of the likely significant environmental effects of implementing a plan or programme (such as the IWAK SDZ Planning Scheme) in order to ensure that these effects are appropriately addressed before a decision is made to adopt it. It also gives the public and other interested parties an opportunity to comment and to be kept informed on decisions that may impact on the environment and on how they were made. This report records the process and findings of the SEA and its preparation is part of the SEA process.

The SEA is being carried out in order to comply with EU SEA Directive 2001/42/EC. This Directive was transposed into Irish law through the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations (S.I. No 435 of 2004) and the Planning and Development (SEA) Regulations (S.I. No. 436 of 2004).

In order to ensure that the proposed Ireland West Airport Knock SDZ Planning Scheme does not have any adverse effects on any designated conservation site, the Natura 2000 network, a separate assessment called a Habitats Directive Assessment (HDA) was also carried out.



## 1.3 Plan Structure and Summary

The Planning Scheme has been prepared and is on public display; the contents of the Planning Scheme are as follows:

- 1. Introduction
- 2. Planning Scheme Framework
  - Land use and Development
  - Movement and Transport
  - Green Infrastructure, Biodiversity and Natural Heritage
  - Economics
  - Services, Infrastructure and Energy
  - Overall Proposal for Development
- 3. Development Districts and Development Areas
- 4. Phasing, Implementation and Monitoring
- 5. Minimising Adverse Effects on the Environment

#### **Natura 2000 and Environmental Reports**

Strategic Environmental Assessment (SEA) Environmental Report Appropriate Assessment: Natura Impact Report

#### **Accompanying Documents**

Strategic Flood Risk Assessment

# **Section 2: Contents of SEA Environmental Report**

#### 2.1 Approach to the SEA

The SEA has been carried out alongside the SDZ Planning Scheme preparation. Table 1 below sets out the stages in the SEA process and how these relate to the plan preparation so far.

Table 1 Stages in SEA and Plan preparation process

Stages of SEA	Plan
Stage 1- Screening	Screening is the first stage of SEA to determine if the plan requires full SEA. In the case of SDZ Planning Schemes they automatically require full SEA, so this stage is not required in
	this instance
Stage 2-	The purpose of this stage is to work out what environmental topics and issues should be
Scoping	included in the SEA. The Scoping report was issued to statutory bodies including the EPA and
	National Parks and Wildlife Service to discuss the potential environmental issues, baseline
	information, and approach to the SEA. Pre-draft consultation that was held in relation to the
	Draft Planning Scheme also raised a number of environmental issues and these helped to
	inform the Scope of the SEA also.
Stage 3-	This is the current stage of the SEA and the Planning Scheme. The Environmental Report tells
Environmental	the story of the Planning Scheme and how environmental considerations have been
Report-	addressed and included during the draft plan preparation process. The screening for
Current Stage	appropriate assessment is also discussed in the Environmental Report. This report is the
	main consultation document of the SEA process and hence is on display alongside the plan
	along with supporting reports. Following the public display period there may be changes to
	the plan and the SEA will also assess these and update the Environmental Report as required.
Stage 4- SEA	This stage is the final output of the SEA process and tells the story of the SEA process. It is
Statement	prepared once the plan is finalised and adopted.

### 2.2 Relationship to other relevant plans and programmes

Under the SEA Directive, the relationship between the plan and other relevant plans and programmes must be taken into account. A review of the relevant plans and programmes can be found in Appendix 5 of the SEA Environmental Report (SEA ER) and a list of same is presented in Chapter 3 of the SEA ER. The preparation of the plan must be considered within the context of a hierarchy of policies, plans and strategies which include international, national, regional and local level policy documents. These documents set the policy framework within which the plan will operate.

## 2.3 Current Baseline

In order to assess the environmental effects of the draft SDZ Planning Scheme, it is necessary to understand the current state of the environment (the baseline environment) of the SDZ area. The baseline information outlines the environmental context within which the SDZ will operate and the opportunities, constraints and targets that this context puts on the SDZ. Current environmental issues likely to be significantly affected by the implementation of the SDZ are identified at this stage of the process in order to more accurately assess potential future impacts.

The base line data is required to:

- allow environmental problems to be identified
- provide a baseline against which future monitoring can be carried out
- provide a basis for impact prediction.

The environmental baseline is set out in terms of the following environmental components; biodiversity, flora and fauna; population and human health; soils and geology; water; air quality and climatic factors; material assets; cultural heritage and landscape.

#### 2.3.1 Baseline Overview

#### Bio-diversity, Flora and Fauna

There are no designated sites within the proposed Ireland West Airport Knock SDZ area. However, the River Moy Special Area of Conservation (SAC) is located approximately 2km to the north and south of the study area. Two proposed Natural Heritage Areas (pNHA) are located within 4km of the plan area, namely Killaturly Turlough pNHA and Lough Gower pNHA.

The River Moy comprises almost the entire freshwater element of the Moy and its tributaries, including both Loughs Conn and Cullin. The site is designated as a SAC for a variety of reasons, from priority habitats in Annex I of the EU Habitats Directive to numerous species on Annex II of the Habitats Directive. There are a number of streams and watercourses located within the SDZ area that are tributaries of rivers in the area, some of which eventually lead to the River Moy. There is potential that the SDZ may impact on the conservation objectives of the protected area. Such potential impacts are highlighted in the Habitat's Directive Article 6 Appropriate Assessment of the SDZ.

Killaturley Turlough, located 4.9km to the northwest of the SDZ area, is a permanent lake and surrounded by bog, the site is of value as a composite wetland and therefore warrants NHA status. Lough Gower NHA is located 4.1km to the southeast of the SDZ area. This small lake lies in the catchment of the Boyle River. The lake is of importance as a lake of low nutrient status, which shows no sign of eutrophication.

A CORINE land cover map is available of the main habitats in the area. Corine Land Cover (CLC) is a map of the European environmental landscape based on interpretation of satellite images. The main habitats within the plan area have been identified and described as part of the Ireland West Airport Knock Cumulative EIS, prepared by the Airport Authority, and classified accordingly. They include cutover bog; wet grassland; wet heath; dry humid acid grassland; and improved agricultural grassland. Also present are eroding upland rivers; dry siliceous heath; exposed siliceous rock and buildings.

There are no mature trees within the study area which would provide suitable roosting sites for local bat populations. However, neighbouring old buildings, bridges and mature woodlands on the banks of the Sonnagh River may provide suitable roosting sites. The stream valleys would also provide an adequate food supply of insects. Bats have been recorded within the River Moy catchment, and there may be a possibility of bat activity in the area. A number of hares were observed in the heathlands to the south of the study area on the day the survey was carried out.

Badger setts were not located within the study site. Badger setts may be found in the hedgerows and farmland of the surrounding landscape. There was no evidence of otter within the study area. The presence of adequate supplies of fish is the critical factor determining the presence of this species. Otter have been recorded in the River Moy catchment, therefore the tributaries that drain the site may support this species.

Few birds were recorded on the day of the field visit, particularly within the confines of the airport. This is a result of the airport's bird control measures, which comprises a gunshot being sounded intermittently. Birds seen and heard in the hinterland of the airport include common farmland birds. The wooded ravines of the Sonnagh River and agricultural land surrounding the site may support good number of common and farmland bird species. Old farm buildings can also provide valuable roosting sites for bird species.

The baseline study identified a number of environmental problems relating to bio-diversity, flora and fauna. The heath and bogland habitats within the study area are sensitive to changing conditions or

influences. The area of cutover bog directly north of the existing Airport Terminal and car park has been extensively drained and is vulnerable to scrub encroachment. It is also severed from similar habitats by a series of access roads, which have also contributed to the drying out the bog. Other areas of bog habitats have been subject to extensive turbary activities and some grazing pressure. Also, one of the environmental problems is the effect of the operation of the airport on birds in the area and the potential for bird strikes.

#### **Population and Human Health**

In order to analyse the demographic profile of the area for the airport, all of the urban areas with a 25 km radius were examined. These include; Charlestown, Swinford, Knock, Kiltimagh, Ballyhaunis, Tubercurry, Ballaghdereen, Castlerea and Claremorris. These towns only represent part of the receiving population as there is a significant rural area within the catchment. However, it is considered that using the data for the towns only would give an overall trend to the demographic profile of the area surrounding the airport.

The airport also draws on the linked hub towns of Castlebar and Ballina and the regionally important towns of Boyle, Strokestown, Roscommon and Carrick on Shannon. In this context all of the towns in the area surrounding the airport and wider area form part of the policy growth areas outlined in the National Planning Framework, Regional Planning Guidelines and County Development Plans.

The population changes for the local catchment area and the wider catchment area are illustrated as follows:

Area	Total Population		% Change	Population 2016	%Change
	2006	2006 2011			
State	4,239,848	4,588,252	+8.2%	476,1865	+3.7%
Mayo	123,839	130,638	+5.4%	130,507	-0.17%
Local	22,974	24,606	+7.1%	25,009	+1.6%
Catchment					

Source: Census of Population 2006,2011 and 2016

Human health has the potential to be impacted upon by environmental factors including water, soil and air. These factors are examined in greater detail under the relevant environmental topics of this environmental report. In relation to airport activities Public Safety Zones (PSZs) are used to protect the public on the ground from the small, but real possibility that an aircraft might crash Public Safety Zones (PSZs). Public Safety Zones are used to prevent inappropriate uses of land where the risk to the public is greatest. These zones run parallel to the runway with triangular sections tapering away from the end of the runways. The inner zones are located closest to the runways. The ground area located within these inner zones has the greatest likelihood of an aircraft accident occurring. The likelihood of an accident to occur in the outer public safety zones is less than the inner zones.

A report was prepared for Mayo County Council to established PSZs for Ireland West Airport Knock. The report recommends a policy that relates to permissible uses to the third-party risk from the possibility of aircraft crashing near an airport. The Inner PSZ extends a maximum of 1325m from the runway thresholds and is never more than 96 metres wide. The Outer PSZ extend a maximum of 5647m from the runway thresholds and is never more that 261m wide. The permissible uses and restrictions relating to the PZSs are set out in Appendix 1.

A report was prepared for Mayo County Council to establish noise contour mapping for Ireland West Airport Knock. The report determines airborne aircraft noise contours based on existing and future aircraft traffic movements as a result of implementation of the Ireland West Airport Knock SDZ. The scope of the work includes prediction of noise contours for a 92 day summer period for scenarios based on existing and future aircraft movements. The noise contours are predicted based on actual and predicted aircraft movements using the federal Aviation Administration (FAA) Integrated Noise Model (INM) Version 7.0b aircraft noise prediction software. The contour methodology is recognised worldwide and is in accordance with the methodology used for strategic noise mapping under European Directive 2002/49/EC.

#### **Soils and Geology**

The soil associated with the study area of Ireland West Airport Knock mainly consists of blanket peat, with areas of exposed bedrock in places throughout the blanket peat, and various types of till. The runway and associated developed areas of the airport itself are comprised of made ground. There are also areas of sandstone sands and gravels, bordering the north and south of the study area. The study area comprises mostly of the Ordovician volcanic sequence of the Charlestown Inlier. This sequence runs from oldest to youngest as follows: Horan Formation basalts with chert and siltstone, Carracastle Formation of andesitic volcaniclastic rocks and Tawnyinah Formation of quartz-felspar crystal tuffs and fine felsic tuffs. The Oakport Limestone formation lies to the northwest of the study area and the Boyle Sandstone formation dominates to the south of the study area. Finally, there are slight occurrences of minor intrusive bodies of Caledonian Age — Feldspar Quartz Porphyry and Pyroxene Diorite.

There are no apparent exiting environmental problems relating to soils and geology in the study area. There has been no recorded landslide in the area, but peat is prone to saturation and when disturbed may become saturated and unstable.

#### Water

The Water Framework Directive (WFD) (2000/60/EC) set the framework for the comprehensive management of water resources in the European Community. The fundamental objective of the directive aims at maintaining "high status" of waters where it exists, preventing any deterioration in the existing status of waters and achieving at least "good status" in relation to all waters by 2027. The risk statuses assigned to this Ireland West Airport Knock study area is at significant risk and probably at significant risk of not achieving the principal objective of the WFD, which is to maintain good and high status where feasible and to improve current moderate, poor and bad water bodies' status to at least good status 2027.

The water body ecological status of the Ireland West Airport Knock study area and catchments in its vicinity are not very satisfactory with a large proportion of the study area deemed at poor status, with approximately 30 % designated as good status. This water body, located in the south east of the study area contains a tributary of the River Lung catchment, not considered as noteworthy as a sector of the Moy catchment, that which is identified as poor status. Completing the assessment for this study area is a water body which is of moderate status. This small pocket is located in the south west.

In terms of sensitive waters listed under Part 1 of the Third Schedule of the Urban Waste Water Treatment Regulations, 2001 (S.I. 254 / 2001), there are no designations within the study area or bordering catchments. In contrast, the first and second order streams in the study area are tributaries of the River Moy, a designated Salmonid river under EC (Quality of Salmonid Waters) Regulations (S.I. No. 293/1988). The fresh water ecology baseline data relating to River Moy is set out in the biodiversity, flora and fauna section.

Currently there are no IPPC licenses or Section 4 licences within study area. The Knock Airport WWTP is currently operating less than half the existing capacity and discharges to the Sonnagh River

The primary challenge identified within the study area is the protection and/or restoration of the water bodies in the vicinity of the Ireland West Airport Knock study area. Maintaining the quality of the good (or alternatively a high) status water body is potentially more problematic than restoring a water body, since measures with associated objectives to restore a less-than-good water body are likely to be more achievable than those to maintain a good (or high) status. For example, a small loading of phosphorus will likely have a much more damaging impact on the ecology of a good or high-status system than a similar introduction into an already eutrophic system of less-than-good status. Similarly, small increases in silt inputs, hydromorphological pressures or priority substances will have an apparently disproportionate impact on good or high-status systems relative to the impact of the same inputs to an already degraded system, which must be restored. It is therefore critical that measures to protect good and high-status water bodies from becoming degraded are developed and implemented with due diligence.

#### **Air Quality and Climatic Factors**

#### **Air Quality**

Air quality is dependent on many factors including local and national weather conditions as well as emissions of substances to air from within and outside the study. On assessment of the geographic location for the Ireland West Airport Knock Strategic Development Zone it was noted that no significant pollution emission sources are located within the area and existing air quality monitoring information is considered to be within current air quality standards, based on published EPA data. The primary influences on the existing air quality at Ireland West Airport Knock includes transport emissions from vehicles using the site and vehicles using the N17 national road to the east of the site. The prevailing westerly wind from the Atlantic Ocean ensures good dispersion of pollutants and background air pollutant concentrations are low.

Air quality can be affected by the introduction of pollutants which can chemically react in the atmosphere to produce secondary pollutants such as acid rain or ozone. One of the major features of air pollution is the trans-boundary dispersion of pollutants. Therefore, it important to consider impacts both on the local and wider environment. The primary environmental threats with regard to air quality are road traffic; heat generation and emissions from extractive industries.

#### Noise

The Ireland West Airport Knock study area is located on an elevated site in a rural setting. The predominant influences on the noise climate in this area include road traffic noise from the N17 and R367 road network and intermittent aircraft related noise from the airport. Noise from a gravel quarry which is located to the northwest of the complex may also contribute to the noise climate in the area due to movement of vehicles associated with the quarry. Noise levels were influenced primarily by road traffic noise. Local road traffic noise in particular is dominant intermittent source at certain locations.

#### **Climate Change**

Climate Change is recognised as the most serious and threatening global environmental problem. While natural variation in climate over time is normal, it is recognised that the rate of climate change is increasing as the emission of greenhouse gases into the atmosphere increases. The primary greenhouse gas is carbon dioxide CO<sup>2</sup> generated by the burning of fossil fuels. It is generally accepted that in order to reduce greenhouse gas emissions it is necessary to increase the use of energy from renewable sources. The current strategy for the reduction in the use of fossil fuel and an increase in

renewable energies stems from the Kyoto Protocol, an international agreement linked to the United Nations Framework Convention on Climate Change. The Kyoto Protocol sets binding targets for 37 industrialized countries and the European community for reducing greenhouse gas emissions. The targets amount to an average of five per cent against 1990 levels over the five-year period 2008-2012. Specific baseline data on greenhouse gases is not available for Co. Mayo therefore National data is used as an indicative template for Mayo until specific data becomes available. The increasing rate of climate change is intensifying existing environmental problems arising from more extreme and unstable weather conditions.

#### **Flooding**

'The Planning System and Flood Risk Management Guidelines 2009' were issued by the Minister of the Environment, Heritage and Local Government under Section 28 of the Planning and Development Act 2000, as amended. The Guidelines introduce comprehensive mechanisms, such as Strategic Flood Risk Management (SFRA), for the incorporation of flood risk identification, assessment and management into the planning process. Implementation of the Guidelines is achieved through actions at national, regional, local and site-specific levels.

The main risk of flooding in the study area is from the Pluvial – Extreme category. Pluvial flooding can be defined as flooding which results from rainfall generated overland flow and / or ponding which may occur during or immediately after intense rainfall events, before the runoff enters any water course or sewer. A Strategic Flood Risk Assessment was carried out and the results of which are set out in Appendix 2.

#### **Material Assets**

#### Roads

Access to the Planning Scheme is from the National Primary Route (N17) via the R376 Regional Road. The N17 links the Gateway of Galway to Sligo and also joins the National Primary Route N5 Dublin to Westport approximately 7km to the North of the Airport.

The R376 Regional Road runs through the centre of the SDZ area. To the North of the Regional Road are undeveloped lands, whilst the lands to the South contain the Airport Campus. The Airport is accessed off the R376 by a roundabout with a spur leading to the Airport. Passenger circulation is through the existing car park. The situation is not ideal as the drop off and pick up areas are not separate from the airport parking area.

#### Airport

The original passenger terminal was built in 1986 and is located north of the runway directly west of the current passenger apron. A 3000m<sup>2</sup> extension to the terminal building was opened in 2009 which has resulted in creating more circulation space for passengers, new security screening areas, extended check in facilities, an increased departure lounge space as well as new retail, catering and other facilities.

The existing runway (26-08runway) is 2340 metres long and 45 metres wide. The runway has turning circles, 80 metres in diameter at each end, symmetrical about the runway centreline. The runway strip is a defined area which includes the runway and stop way and is intended to reduce the risk of damage to aircraft running off a runway and to protect aircraft during take-off and landing operations.

#### **Energy**

Currently the airport is supplied by 10 kV from the Charlestown 38kV/MV station via an outlet located at Charlestown (Airport Outlet). Standby provisions from this outlet are located at Swinford and

Tubercurry. Electricity feeds to a 600kVA substation located on the airport property which supplies the airport and adjoining industrial park with power.

EirGrid has confirmed the start and end points for the North Connacht Project, a new electricity line that will connect local renewable energy to the national grid and reinforce the regional electricity system.

A series of economic, socio-economic, environmental and technical network studies have concluded that the line should run between the electricity substations at Moy near Ballina in county Mayo, and Tonroe, near Ballaghadreen, in Co. Roscommon. The other option was a circuit between Moy and Srananagh in Co. Sligo.

During 2018, EirGrid carried out the studies and consulted with the public and stakeholders in Mayo, Sligo and Roscommon.

On the basis of these studies and feedback received, Moy and Tonroe proved the best-performing start and end points for the proposed new line. This 110 kV line can run overhead or underground. If an overhead line is used, the majority of the distance would be carried on twin pole sets.

#### **Waste Water**

The existing Waste Water Treatment Plant was commissioned in 2004 with a design Population Equivalent (PE) of 700. Taking the current usage into consideration, the treatment plant has a spare capacity for PE of 496. The treatment plant uses a Sequencing Batch Reactor design which utilises the activated sludge process to treat the incoming waste water. The final effluent is discharged through a 100mm rising main outfall pipe (length 2,750m) to the Sonnagh River in the townland of Killeen.

The existing treatment plant can easily be expanded to double the capacity to cater for a PE of 1400. Any further expansion would require the construction of a completely new Waste Water Treatment Plant. To enable the Planning Scheme area to develop to its full potential it is expected that a Waste Water Treatment Plant capable of accommodating a population equivalent of at least a 5000 PE will be required.

#### **Drinking Water**

The current water supply is sourced from a well, which is in the ownership of Mayo County Council. Tests on the supply indicate that the safe yield from the supply is 350m³/day. The current usage from this supply is from two sources, the Airport (50m³/day) and the Cloonlyan Group Water Scheme (14m³/day).

In terms of water supply for the SDZ Planning Scheme Area, this is not a sustainable option as this source will only facilitate development in the short term. In the intermediate term upgrading the Kilkelly Water Supply to provide a link to the area would yield an additional 300m³/day of water. Long term, the first option is to connect to the existing Lough Mask Regional Water Supply Scheme and the second is to connect to the proposed Lough Conn/ Lough Talt Scheme.

#### **Waste Management**

County Mayo forms part of the Connaught waste management region. Mayo County Council is the lead and nominated authority in the Region. The current plan 'Connacht Ulster Region Waste

Management Plan 2015-2021'details the regions integrated waste management approach and policies with specific targets that are to be achieved by 2020. The targets are derived from the EU waste Hierarchy and require that of waste arising, 50% is recycled.

#### **Cultural Heritage**

#### **Archaeological Heritage**

County Mayo has a rich archaeological heritage. This wealth is reflected in the RMP which lists and protects monuments and places in Co. Mayo under Section 12 of the National Monuments (Amendment) Act, 1994. Nearly 6,000 areas of archaeological importance (representing almost 8,000 elements) are included in the RMP for Co. Mayo spanning over 7,000 years. This RMP is constantly updated as new sites and monuments are discovered. There are 51 National Monuments in the ownership or guardianship of the State in Co. Mayo and a further 11 National Monuments that are subject to Preservation Orders.

There are 12 (twelve) RMP's within the Strategic Environment Assessment Area of the Proposed Ireland West Airport Knock Strategic Development Zone (SDZ) Planning Scheme.

National Monuments within the study area

RMP. No	Monument Type
MA072-030	Enclosure
MA072-031	Enclosure and Souterrain
MA072-032	Enclosure- Site
MA072-033	Enclosure and Children's Burial Ground
MA072-034	Enclosure
MA072-085	Wedge Tomb
MA072-117	Fulacht Fiadh
MA072-118	Ecclesiastical Remains Possible
	Graveyard-Possible
	Children's Burial Ground-Possible
	House Site
MA072-119	Megalithic Tomb
MA072-120	Fulacht Fiadh
MA073-002	Enclosure and Children's Burial Ground
MA073-034	Mound

#### **Architectural Heritage**

There are no protected structures within the Strategic Environment Assessment Area of the Proposed Ireland West Airport Knock Strategic Development Zone (SDZ) Planning Scheme. The Ireland West Airport Knock Catchment Area extends into Co. Roscommon and Co. Sligo. The following urban areas in Co. Mayo form part of this catchment area; Ballina, Ballyhaunis, Castlebar, Charlestown, Claremorris, Foxford, Kilkelly, Kiltimagh, Swinford. The urban areas of Ballaghadreen, Ballyhaunis, Boyle, Castlerea and Tubbercurry fall within the catchment area and are in adjoining counties. The relevant plans for these areas can be consulted for further details.

#### Landscape

The airport has been established at this location since 1985. The location is on elevated lands adjoining the N17 approximately 8km South of Charlestown. The existing airport facilities and adjoining business park are located on an upper plateau that gently slopes to the West and steeply to

the North. The upper plateau consists mainly of peat land with the various component parts of the airport on reclaimed lands. The runway is located on the upper platform as is an Ordnance Datum of approximately 200m above sea level. On the northern and eastern side of the airport the topography falls steeply. The lands to the eastern side of the airport also have extensive areas of coniferous forestry. Extensive views from the north and northern east are available from the Regional Road. (R367)

There is limited tree cover within the environs of the Strategic Development Zone Area study area. There are areas of coniferous forests to the Eastern side of the airport and on either side of the Regional Road (R367) from the N17. To the North of the R367 the steeply dipping fields consist of poor grassland and post and wire/stone ditch field boundaries. The predominant vegetation cover within the areas of permitted and proposed development is a mixture of existing hardstand, upland grassland and heath.

County Mayo's Landscape Appraisal (Mayo County Development Plan2014-2020) subdivides the County into sixteen distinct landscape character units each containing an area of land with similar character-giving elements such as slope, vegetation and land use. The appearance of the landscape is relatively uniform within each Character Unit.

Ireland West Airport Knock is located within Area K designated in the landscape appraisal as "East – Central Drumlin Spine". This area is made up of glacial drumlins that are uniform at its western end near its transition with the distinct drumlins of Clew Bay. In the east, these become less uniform and severe, and the terrain merges into several sets of geologically distinct and isolated hills as the unit encapsulates the towns of Castlebar, Swinford, and Charlestown. The land cover is a mixture of bog/moorland, poor quality pasture and transitional woodland scrub with better quality pasture to the east and south.

This area is characterised by a mixed land use pattern which includes peat bogs and agricultural lands with significant areas of natural vegetation and transitional woodland scrub. There are also significant areas where pasturelands represent a major land use. Charlestown, Castlebar and Swinford towns display the significance of urban settlement areas in this region of the County.

An environmental problem associated with regard to the environmental component of landscape is the visual impact on the landscape. The airport campus is located in a prominent location to the summit of a hill. The existing buildings and associated lighting can be viewed from a considerable distance. There is very little attempt to screen development on the landscape with the topography of the area offering some form of screening.

# **Section 3: Environmental Protection Objectives and Consideration of Alternatives**

# 3.1 Environmental Protection Objectives

These are the criteria against which the elements of the Draft Planning Scheme are assessed. They are derived from the Mayo County Development Plan 2014-2020 where possible, with some specific EPOs developed for the Planning Scheme.

SEA Topic	Environmental Protection Objectives			
Biodiversity, Flora and	<b>B1:</b> Conserve and protect designated habitats and protected species.			
Fauna	<b>B2:</b> Maintain the biodiversity of interdependent habitats and species in the wider			
	landscape			
Population and Human	HP1: To improve the working populations quality of life based on a high-quality			
Health	working environment, reduction in commuting distance and the promotion of			
	sustainable modes of transport within, to and from Ireland West Airport Knock			
	HP2: To protect human health from incompatible land uses associated with locating			
	at or adjoining airports.			
Soils and Geology	SG1: To identify and protect areas which may be deemed to have a risk of landside			
Water	W1: To prevent deterioration of surface waters of good and high status			
	<b>W2:</b> To restore states of water bodies of moderate, poor and bad to good status			
	W3: To reduce surface water pollution from priority substances			
	W4: To achieve water-related designated protected area objectives and to support			
	the achievement of favourable conservation status wherever such plans exist			
Air Quality	AR1: Maintain good air quality status in line with CAFÉ Directive requirements and			
	the National Climate Change Strategy.			
Noise	N1: To promote appropriate noise control measures on operations within the Ireland			
	West Airport Knock Planning Scheme area.			
	N2: To encourage the implementation of control measures on road traffic noise			
	within the Ireland West Airport Knock Planning Scheme area			
Climate	C1: To maximise the areas contribution to the national decrease in Green House			
	Gases			
Flooding	<b>F1:</b> To prevent development on lands which pose – or are likely to pose in the future			
	– a significant flood risk.			
Roads & Transport	R1: To protect the road network			
Infrastructure	R2: To prevent any interference with the safety and efficiency of aircraft operations			
	in the vicinity of the airport.			
Energy	E1: To reduce the reliance on non-sustainable energy sources by the promotion and			
	use of renewable energy resources			
Waste Water	<b>WW1:</b> To provide adequate waste water infrastructure to meet existing and future			
	demands for such provision			
Drinking Water	<b>DW1:</b> To prevent deterioration of the status of water bodies with regard to quality,			
	quantity and to improve water body status of rivers, lakes and groundwater to at least			
	good status as appropriate to the WFD, providing good sources of abstraction for			
	drinking water.			
Waste Management	WM1: Minimise waste production and maximise recycling and recovery through the			
	introduction of sustainable waste management practices.			
Archaeological	CH1: To protect the archaeological heritage and especially sites identified in the			
Heritage	Record of Monuments and Places, National Monuments in the ownership or			
	guardianship of the State and National Monuments that are subject to Preservation			
	Orders and to safeguard the integrity of the archaeological sites in their setting.			

	CH2: To protect the architectural heritage of County Mayo with regard to protected
	structures, Architectural Conservation Areas and other elements highlighted in the
	baseline date in Section 4.
Landscape	L1: To protect the landscape character of the area.

#### 3.2 Consideration of Alternatives

SEA is also required to assess the likely environmental consequences of a range of alternative development scenarios, in this case the Planning Scheme of Ireland West Airport Knock Strategic Development Zone (SDZ). These alternative development scenarios should meet the following considerations:

- Take into account the geographical scope, hierarchy and objectives of the plan –be realistic
- Be based on socio-economic and environmental evidence be reasonable.
- Be capable of being delivered within the plan timeframe and resources –be implementable.
- Be technically and institutionally feasible be viable.

#### The two main scenarios considered were:

**Scenario 1- Urban Style:** creates a somewhat formal and urban style environment, with a rigid grid layout incorporating a centrally located avenue dissecting the Business and Enterprise campus from east to west. This scenario proposes hotel and conference facilities in the south eastern corner of the business park and a series of public playing pitches in a centrally located section to the north of the central avenue and extending to the tertiary county road along the northern site boundary. The main business and Enterprise elements are in 6 no. individual zones separated by internal access roads. The two largest zones address the primary county road to the south. Three of the smaller business and enterprise zones are in the north eastern corner of the business and enterprise campus adjacent to the tertiary county road to the north. Utilities, including a surface water attenuation pond are located at the western end of the campus immediately opposite a photo-voltaic solar energy park on the southern side of the primary local road.

Scenario 2- Campus Style 'Green Campus': adopts a less formal, parkland style layout than scenario 1 by referencing to a greater degree the rural setting of IWAK. The Business and Enterprise Campus/Hotel and Conference facilities are accessed by a curved boulevard style roadway which, while also dissecting the site from east to west, follows the natural contours of the land at this location. Substantial green/planted buffer zones are proposed around all areas of development within the campus. The playing pitches proposed along the northern site boundary with the county road in Scenario 1 are eliminated and the existing habitat is left largely untouched. This is proposed in order to both maintain existing biodiversity and to function as a facility within the scheme for more passive forms of recreation. This area in turn is connected to the east and west by a pathway that skirts the northern boundary of the Business and Enterprise/Hotel and Conference Campus to two similar untouched areas, thereby creating a type of linear nature and amenity park. All of the open areas can also be incorporated segregated cycling and walking routes. This open area in the north-eastern corner also acts a buffer zone between the main development areas and the existing dwelling houses at this location along the County Road.

From the SEA perspective the preferred alternative (scenario 2) provides the following:

- Allows for the retention of a number of hedgerows
- Surface water attenuation in this alternative has been integrated to the layout and
- forms part of the overall green and blue infrastructure for the planning scheme.

Therefore, the preferred alternative was developed by the planning team and others having regard to the key requirements of:

- Environmental effects identified through the SEA consideration of alternatives, and
- Stated objectives of the Planning Scheme and SDZ designation including economic effects of the development.

# Section 4: Assessment of significant environmental issues and mitigation measures

This section outlines mitigation measures designed to avoid/prevent, minimise/reduce or as fully possible offset/compensate for any significant adverse effects on the environment as a result on implementing the SDZ Planning Scheme. Annex I of the SEA Directive requires the Environmental Report to include measures envisaged to prevent, reduce and as fully as possible offset any significant adverse impacts on the environment of implementing the plan. These measures are referred to as "mitigation" measures. These mitigation measures include proactive avoidance of adverse effects on the environment as well as actions taken after any negative effects are noticed.

# **Section 5: Monitoring Measures**

It is proposed, in accordance with Article 10 of the SEA Directive, to base monitoring on a series of indicators which measure changes in the environment, especially changes which are critical in terms of environmental quality, for example water pollution levels. Monitoring will focus on the aspects of the environment that are likely to be significantly impacted upon by the implementation of the SDZ Planning Scheme.

The targets and indicators are derived from the Environmental Protection Objectives (EPO's). The target underpins the objective whilst the indicators are used to track the progress of the objective and targets in terms of monitoring of impacts.

The monitoring programme will consist of an assessment of the relevant indicators and targets against the data relating to each environmental component. Similarly, monitoring will be carried out frequently to ensure that any changes to the environment can be identified.

Should new data on the following occur, additional monitoring will be required:

- pollution events associated with construction.
- boil notices on drinking water;
- fish kills
- heritage including entries to the Record of Monuments and Places; and,
- complaints received from statutory consultees regarding avoidable impacts resulting from development which is granted permission under the Planning Scheme.

The SEA directive requires significant environmental effects of the implementation of plans and programmes are monitored. Monitoring is based around the indicators which were chosen for the purpose of measuring changes to various environmental components. They allow quantitative measures of trends and progress over time relating to the EPOs used in the evaluation process.

In turn the list below is subject to review at each reporting stage to reflect new data. Should the monitoring regime identify significant impacts (such as impacts on designated sites) early on in the plan implementation, it is recommended that this should trigger a review of the SDZ Planning Scheme and monitoring regime. In addition, the identification of positive impacts from monitoring should also be reported as this will assist in determining successful environmental actions.

Mayo County Council are responsible for the implementation of the SEA Monitoring Programme including:

- Monitoring specific indicators and identifying any significant effects, including cumulative effects:
- Collating the Phased Environmental Reports submitted by developers in the SDZ Planning Scheme
- Reviewing the effectiveness of monitoring/mitigation measures during the lifetime of the Planning Scheme; and
- Identifying any cumulative effects.

Table 2 below presents the SEA Monitoring Table. This table sets out the strategic environmental objectives, indicators and targets to be applied in monitoring the significant environmental effects of the implementation of the SDZ Planning Scheme, in accordance with Section 13J (2) of the Planning and Development (SEA) Regulations 2004, as amended.

Table 2 Monitoring Measures

Environmental Receptor	Targets	Indicators	Source	Frequency of Reporting	Department Responsible
Biodiversity, Flora & Fauna	Target B1i: No loss of protected habitats or species.  Target B1ii: No loss or degradation of locally rare/distinctive habitats/species.	Indicator B1i: Number of sites for Nature Conservation to be adversely affected by the implementation of the Planning Scheme.  Indicator B1ii: Changes in population	Corine Mapping  NPWS Records;  Development  Management Process in	Annually	Forward Planning Forward Planning
	Target B1iii No loss or fragmentation of ecological corridors	and range of protected species.  Indicator B1iii: Number of sites	Mayo County Council	Annually	Forward Planning
	ecological corridors	containing locally rare/distinctive species/habitats to be adversely affected by the implementation of the Planning Scheme.  Indicator B1 iv: Percentage loss of ecological connectivity between areas of local biodiversity as a result of implementation of the Planning Scheme.		Annually Ongoing	Forward Planning
				- 0- 0	Forward Planning
	Target B2i: No loss of protected habitats or species.  Target B2ii: No loss or degradation of locally rare/distinctive habitats/species.	Indicator B2i Number of sites for Nature Conservation to be adversely affected by the implementation of the Planning Scheme.	Corine Mapping  NPWS Records  Planning Register	Annually	Forward Planning
	Target B2iii No loss or fragmentation of ecological corridors	Indicator B2ii: Changes in population and range of protected species.			
		Indicator B2iii: Number of sites containing locally rare/distinctive species/habitats to be adversely		Annually	Forward Planning

		affected by the implementation of the Planning Scheme.  Indicator B2 iv: Percentage loss of ecological connectivity between areas of local biodiversity as a result of implementation of the Planning Scheme.		Annually	Forward Planning
				Ongoing	Forward Planning
Population and Human Health	Target HP1i: Provide a good quality of recreation and green space within the working environment.  Target HP1ii: reduction in commuting distance within the catchment area.  Target HP1iii: increase of sustainable transport options including public transport, cycling and walking.	Indicator HP1i: That all development has sufficient recreation and open space for the working and visiting population to the area.  Indicator HP1ii: reduction in the percentage of persons distance to work that is greater than the distance to the airport from the Census data  Indicator HPiii: promotion of cycleways and walkways for internal circulation throughout the Plan area and any increase in use of public transport or car sharing schemes for employees within the area.	CSO Planning Register Mayo County Council	Annually Periodically	Development Management Department  Forward Planning
	Taurat UD3: To arrays that all	Indicator IID3: The avaidance of	Mayo Cayatu Cayasil	Periodically	Forward Planning
	Target HP2i: To ensure that all development complies with the land use requirements of the public safety zones, safe guarding maps and noise contour maps	Indicator HP2i: The avoidance of incompatible land uses in the area around the airport.	Mayo County Council  Planning Register  Health and Safety Authority (HSA)	Ongoing	Development Management Department
Soils and Geology	Target SG1: No occurrence of landslides	Indicator SG1: Steepness of slopes, moisture content of peat, depth of peat, nature of layer below peat	Geological Survey of Ireland (GSA)	Periodically	Development Management Department, Forward Planning

			Mayo County Council  Planning Register		
Freshwater	Target W1: No deterioration of surface waters of good and high status	Indicator W1: Quality elements for ecological status (biological, hydro morphological, chemical and physic-chemical elements)	WRBD Management Plans  Mayo County Council  EPA  NPWS	Ongoing	Water Services
	<b>Target W2:</b> Achievement of at least good status by 2027 where this is not technically feasible, not environmentally sustainable and / or when restoration costs are disproportionately expensive	Indicator W2: Quality elements for ecological status (biological, hydro morphological, chemical and physic-chemical elements)	WRBD Management Plans  Mayo County Council  EPA  NPWS  GSI	Ongoing	Water Services
	<b>Target W3:</b> No emissions, discharges or losses of priority substances to surface waters	Indicator W3: Chemical and physic-chemical elements of water bodies, in particular, specific pollutants	WRBD Management Plans  Mayo County Council  EPA  NPWS  GSI	Ongoing	Water Services Environment Department
	Target W4: No exceedance of specific water quality standards and no deviation from environmental quality objectives established to protect natural habitats and species	Indicator W4: Quality elements for ecological status (biological, hydro morphological, chemical and physic-chemical elements)	WRBD Management Plans  Mayo County Council  EPA	Ongoing	Water Services Environment Department

			NPWS		
			GSI		
Air Quality	Target AR1i: Ensure monitoring results are maintained within the appropriate emission limit values.	Indicator AR1i: Air monitoring data to indicate compliance with appropriate policies and legislative requirements.	EPA Planning Register	Annually	Environment Department Planning Department
	Target AR1ii: An increase in the percentage of the people travelling to the airport by public transport.	Indicator AR1ii: Percentage of workers/airport users travelling to the airport by public transport or non-mechanical means.			
	Target AR1iii: A decrease in the distance travelled to work/airport by users of Ireland West Airport Knock. A reduction in car dependency will generate a reduction in car-based emissions - increase coach	Indicator AR1iii: Average distance travelled to work/airport by the users of Ireland West Airport Knock.			
	transport, lobby for rail connection.	Indicator AR1iv: No of BER certificates issued for Area.			
	Target AR1iv: Increase the number of energy efficient buildings and Co2 neutral developments in the area. Reduce waste of energy and maximise use of renewable energy sources.	Indicator AR1v: No of Co2 neutral developments in the Area			
Noise	<b>Target N1:</b> Minimise the number of incompatible developments within the various noise contour categories	Indicator N1: Number of developments located with the noise contour categories	Mayo County Council	Periodically	Development Management Department
	<b>Target N2:</b> Reduce the percentages of vehicular traffic at Ireland West Airport Knock	<b>Indicator N2:</b> Number of traffic movements at Ireland West Airport Knock	Mayo County Council  NRA  Planning Process	Periodically	Roads Department
Climate	Target C1i: Increase the number of energy efficient buildings and Co2 neutral developments in the area. Reduce waste of energy, and maximise use of renewable energy sources	Indicator C1i: Number of BER certificates issued for Area.  Indicator C1ii: Number of Co2 neutral developments in the Area	EPA SEAI Mayo Energy Agency	Annually	Climate Action Department
	<b>Target C1ii:</b> To implement the EU Emissions Trading Directive and Irelands National Allocation Plan for Emission Trading to	<b>Indicator C1iii:</b> To promote awareness of energy efficient technologies to offset emissions from increased aircraft	Planning Register		

	ensure that the Area becomes Carbon Neutral	movements to achieve a carbon neutral area.			
Flooding	Target F1: Minimise developments granted permission on lands which pose – or likely	Indicator F1: Number of developments granted permission on land which pose	OPW	Periodically	Environment Department
	to pose in the future- a significant flood risk	<ul> <li>or are likely to pose in the future – a significant flood risk.</li> </ul>	Mayo County Council		
			Planning Register		
Roads & Transport Infrastructure	Target R1i: To ensure that all traffic to the area uses the national road network	Indicator R1i: Increase in traffic movements to and from the area at the	Mayo County Council.	Periodically	Development Management Department
		junction with the national route.	NRA		-
	Target R1ii: To reduce traffic using the local	•			Roads Department
	roads in the area to access the Plan area.	Indicator R1ii: Reduction in traffic	Planning Register		
		movements to and from the area via	0 0		
		the local road network.	CSO		
	Target R2: That all development complies	Indicator AR2: Number of	Mayo County Council	Ongoing	Development
	with safety requirements and uses are	development projects permitted with	·		Management Department
	compatible with location at airports	the safety zones around the airport	Planning Register		•
			Health and Safety		
			Authority (HSA)		
Energy	Target E1: To reduce energy consumption	Indicator E1: Increase in renewable	EPA	Annually	Climate Action
	from non-sustainable sources to a	energy projects			Department
	minimum by the adoption and use of		SEAI		_
	renewable energy sources.	IndicatorE1ii: Promotion of energy			Development
		efficacy in the Plan area	Mayo Energy Agency		Management Department
			Planning Register		
Waste Water	Target WW1i: To upgrade the existing	Indicator WW1i: Upgrade of WWTP	Mayo County Council	Annually	Water Services
	waste water treatment infrastructure to	from 700 PE to 1400PE capacity			
	provide increased capacity for the short		EPA		
	term development	Indicator WW1ii: Provide now WWTP			
		for 5000 PE capacity	Appropriate Water		
	Target C1ii: To provide new waste water		Services Authority		
	treatment infrastructure for the estimated				
	future development of the area.		Planning Register		
Drinking Water	Target DW1i: No deterioration of the	Indicator DW1i: Trophic status and	Mayo County Council	Annually	Water Services
	status of waters and restoration to good	faecal coliform count per 100ml of			
	status of waters currently at moderate,	groundwater	EPA		
	poor or bad status				
			Irish Water		

	Target DW1ii: Comply with the Drinking Water Regulations, 2007 Target DW1iii: progressively reduce chemical pollution in waters  Target DW1iv: Prevent deterioration of and limit pollution inputs to surface water and ground water.	Indicator DW1ii: drinking water annual report (EPA)  Indicator DW1iii: Interim water status report in 2017  Indicator DW1iv: Long Term water status report in 2027	Planning Register- MCC EPA		
Waste Management	Target WM1i: 48%recycled 33%energy recovery and 19% landfilled. Attitude change.  Target WM1ii: All Waste activity is regulated  Target WMiii: Diversion of bio-waste from landfill and reduction in landfill emissions.  Target WMiv: All waste activity is regulated.	Indicator WM1i: Reduced tonnage of waste collected with increased number of customers  Indicator WM1ii: Reduction in enforcement actions required Indicator  Indicator WMiii: Increase in the percentage of customers receiving a refuse collection service and decrease in proportion of waste arising being landfilled and increase in recovery and recycling tonnages	Mayo County Council Planning Register	Annually	Environment Department
Archaeological Heritage	Target CH1: No developments carried out over the lifespan of the Proposed Ireland West Airport Local Area Plan which result in the full or partial loss of the archaeological heritage and especially sites identified in the Record of Monuments and Places, National Monuments in the ownership or guardianship of the State and National Monuments that are the subject of Preservation Orders. No developments which result in the full or partial loss of the integrity of the archaeological sites in their setting.	Indicator CH1: Number of developments carried out in the Proposed Ireland West Strategic Development Zone which result in the full or partial loss of the archaeological heritage and especially sites identified in the Record of Monuments and Places, National Monuments in the ownership or guardianship of the State and National Monuments that are the subject of Preservation Orders. The integrity of the archaeological sites in their setting can also be impacted upon by new developments	Mayo County Council  Department of Culture, Heritage and The Gaeltacht  Planning Register	Ongoing	Development Management Department Archaeology Department
Architectural Heritage	Target CH2i: No development carried out over the lifespan of the Planning Scheme	Indicator CH2i: The number of developments carried out over the	Mayo County Council	Ongoing	Development Management Department

	shall result in the full or partial loss of architectural heritage	lifespan of the Planning Scheme which result in the full or partial loss of architectural heritage.			
	Target CH2ii: No development carried out over the lifespan of the Planning Scheme will result in the full or partial loss of heritage bridges of Mayo				
Landscape	Target L1i: To minimise the intrusion of new developments on the landscape character of the area.  Target L1ii: To minimise the intrusion of exiting development on the landscape character of the area.	Indicator L1i: That all development	. ,	Ongoing	Development Management Department

# **Section 6: Conclusion**

This SEA Environmental Report demonstrates how environmental parameters have been addressed in the planning scheme preparation process. Consultation has been undertaken for the Scoping of this Environmental Report and further opportunity to comment on the Draft Planning Scheme will be possible over the forthcoming weeks.

The preparation of a specific Environmental Management Plan to accompany the SDZ Planning Scheme is the key output of the SEA process and has been developed and refined through the SEA and associated environmental assessment processes to date.

The SEA has been undertaken in line with the Planning and Development (Strategic Environmental Assessment) Regulations 2004 to 2011 (as amended). The SDZ Planning Scheme was prepared in line with Article 6(3) of the EC Habitats Directive and the accompanying Natura Impact Report should be read in conjunction with this SEA ER and the Planning Scheme. Subject to the full and proper implementation of the mitigation measures outlined in this SEA Environmental Report and the SDZ Planning Scheme including detailed design at planning application stage, it is considered that significant adverse impacts on the environment will be avoided.