

18 SUMMARY OF IMPACTS AND MITIGATION MEASURES

18.1 INTRODUCTION

Table 18.2 presents a summary of the assessment of potential impacts and impact mitigation for the construction and the operation phases of the proposed development extracted from Chapters 6 – 16. The table has been spilt into potential impacts upon the human environment, natural environment, and on cultural heritage. A description is provided of the potential impacts and the predicted residual impact i.e. the impact remaining after mitigation. In addition, a summary is provided of the proposed mitigation and monitoring measures that will when implemented reduce the potential impacts. SEPIL are committed to implementing these measures, and achieving a level of environmental management and performance consistent with national and international standards and legislation.

It is important to note that certain specialists based their assessment of impacts on different significance criteria and therefore for a complete understanding of potential impacts, reference should be made to the relevant chapters.

Generally, the assessments of impact duration have considered the EPA criteria as outlined in Table 18.1 below:

Table 18.1: EPA Classification Criteria for Duration of Impacts.

Temporary	Impact lasting for one year or less.
Short-term	Impact lasting one to seven years.
Medium-term	Impact lasting seven to fifteen years.
Long –term	Impact lasting fifteen to sixty years.
Permanent	Impact lasting over sixty years.

Table 18.2 Summary of Potential Impacts and Mitigation Measures.

SOURCE AND SCALE OF POTENTIAL IMPACT	MITIGATION, PREVENTATIVE AND MANAGEMENT MEASURES	RESIDUAL IMPACT ¹	CHAPTER
OPERATIONAL PHASE			
- Long-term restriction of development within wayleave (generally 14m wide but 20m wide in peatlands) (localised)	- Compensation - Careful Reinstatement	Minor	Chapter 6
- Long-term visible impact of Landfall Valve Installation (LVI).	- Design of LVI in excavated lower terrain position dished - Careful Reinstatement	Moderate	Chapter 10
- Loss of 20mx22m of grassland habitat	- Natural regeneration of grassland areas on the slopes - Careful Reinstatement & Monitoring	Slight –moderate (long term)	Chapter 12
CONSTRUCTION PHASE			
HUMAN ENVIRONMENT			
Construction Traffic			
- Temporary, localised disturbance from increased traffic	- Traffic Management Plan - Dust Management Measures - Ongoing Community Liaison	None	Chapters 6 to 9
- Temporary, localised increased vehicular emissions	- Noise Monitoring - Environmental Management Plan		
- Temporary, localised increase in dust	- Noise Monitoring - Traffic Management Plan - Ongoing Community Liaison		
- Temporary, localised increase in noise	- Traffic Management Plan	Imperceptible	Chapter 8
- Temporary, localised / global (for GHG) Impact on Climate	- Traffic Management Plan - Ongoing Community Liaison	Imperceptible	Chapter 7
- Temporary, localised increased traffic on local road network			
- Temporary, localised impact on local roads			
All Construction Activities			
- Temporary, localised structural issues resulting from increased vibration (piling and rock breaking, trafficking)	- Pre-construction monitoring and structural survey	None	Chapter 9

SOURCE AND SCALE OF POTENTIAL IMPACT	MITIGATION, PREVENTATIVE AND MANAGEMENT MEASURES	RESIDUAL IMPACT ¹	CHAPTER
- Temporary, localised change in landscape character - Increased Visual Impact	- Careful Reinstatement and Monitoring	None	Chapter 10
- Temporary, localised decrease in development potential	- Environmental Management Plan - Compensation	Slight	Chapters 6, 11
- Temporary, localised disturbance to landowners/occupiers/commonage share holders - Localised removal of land from production (turf cutting and forestry)	- Compensation - Ongoing Landowner Liaison	Minor – Grazing Minor – Turf cutting / Forestry	Chapter 11
- Temporary, localised intermittent disruption to accesses, water supplies, etc, noise /dust/traffic impacts.	- Ongoing Landowner Liaison - Ongoing Community Liaison	Slight	
- Temporary, localised and regional creation of employment opportunities	n/a	None	Chapter 6
NATURAL ENVIRONMENT			
Stream Crossings & Leenamore River Crossing			
- Temporary, localised release of Suspended Solids/Contaminants - Temporary, localised disruption to Freshwater habitat/ invertebrates/ spawning beds	- Liaise and agree construction methods with NWRFB - Use of appropriate Construction Methods (flume pipe, pumping, sedimentation control, retain streambed substrate) - Monitoring and appropriate treatment of hydrostatic test water - NWRFB supervision of works - Spill Contingency Measures - Surface Water Management Measures - Hazardous Substance Management	Minor- Negligible	Chapter 13
- Temporary, localised disturbance to otters	- Liaise and agree construction methods with NPWS - Vegetation clearance measures - Exclusion Zones/Screening ² - Evacuation of holts ² - Ramps in trenches	Moderate (short term) Neutral (long term)	Chapter 12
- Temporary, localised destruction / loss of habitat (saltmarsh) (Leenamore River Crossing)	- Liaise and agree construction methods with NPWS - Specialist Construction Techniques (Turving) - Careful Reinstatement & Monitoring - Vegetation clearance measures.	Slight-moderate (short term) Neutral /Imperceptible (long term)	Chapter 12

SOURCE AND SCALE OF POTENTIAL IMPACT	MITIGATION, PREVENTATIVE AND MANAGEMENT MEASURES	RESIDUAL IMPACT ¹	CHAPTER
Sruwaddacon Bay Crossings			
- Temporary, localised disruption to smolt/salmonids & other fish	- Liaise and agree construction methods with NPWS and NWRFB - Monitor movement of smolt - Stop works to allow smolt to run - NWRFB supervision of works - Retention of excavated material and reinstatement - Bentonite monitoring & bunding of bentonite batching and recycling facilities. - Spill Contingency Measures - Surface Water Management Measures - Careful Reinstatement & Monitoring	Imperceptible (short term)	Chapter 13
- Temporary, localised loss/change of sediment habitat			Chapter 14
- Temporary, localised change in water quality and sediment load			
- Temporary, localised increased Noise pollution (marine fauna excl. avi-fauna)			Chapter 12
- Temporary, localised disturbance of bird population		Imperceptible to Neutral (short term) Long term (neutral)	Chapter 12
- Temporary, localised loss/deterioration of habitat			Chapter 14
- Temporary, localised scour and deposition effects	- Use of scour protection - Appropriate sizing and shape of pit - Reinstatement of sediment scour around features	Slight - imperceptible	
- Temporary, localised disturbance to otters			Chapter 12
- Temporary, localised destruction / loss of habitat (saltmarsh)	As outlined in Leenamore River crossing.	Neutral (long term) Slight-moderate (short term) Neutral/Imperceptible (long term)	
Construction in Blanket Bog			
- Temporary, localised potential weakening of peat structure/stability	- Liaise and agree construction methods with NPWS and NWRFB - Specialised Construction Techniques (Turving) - Restriction of storage of peat in designated and intact blanket bog - Use of low permeability material, where necessary (e.g. peat plugs) - Vegetation clearance measures - Surface Water Management Measures - Careful Reinstatement & Monitoring - Spill Contingency Measures - Surface Water Management Measures - Hazardous Substance Management Measures	Imperceptible (after reinstatement)	Chapter 15
- Temporary, localised disturbance of natural hydrology			
- Temporary, localised increased potential for water ponding			
- Temporary, localised consolidation of peat			
- Temporary, localised contamination into eco-hydrology			
- Temporary, localised destruction/loss of habitat			

SOURCE AND SCALE OF POTENTIAL IMPACT	MITIGATION, PREVENTATIVE AND MANAGEMENT MEASURES	RESIDUAL IMPACT ¹	CHAPTER
Construction of LVI			
- Temporary, localised disturbance to faunal species which forage in the agricultural grassland	- Liaise and agree construction methods with NPWS - Protective Fencing around exclusion zone - Vegetation clearance measures - Careful Reinstatement & Monitoring As above.	Slight/ Moderate (short-term) Imperceptible - slight (long-term)	Chapter 12
- Temporary, localised destruction / loss of habitat (improved agri. Grassland,)		Imperceptible to Slight (short-term) Neutral (long term)	
- Temporary, localised disturbance to sand martin colony		Slight negative (short-term) Neutral (long-term) Neutral	
General Construction Activities			
- Temporary, localised destruction of habitat (area of marshy ground)	- Liaise and agree construction methods with NPWS - Specialised Construction Techniques (if feasible, turving in wet grassland & marshy habitats)	Slight negative (short-term) Neutral (long-term) Neutral	Chapter 12
- Temporary, localised destruction / temporary loss of habitat (Sod (earthen) banks, scrub (gorse & willow), conifer)	- Liaise and agree construction methods with NPWS - Protective Fencing - Vegetation Clearance Measures - Careful Reinstatement & Monitoring	Slight (short-term) Neutral – slight (long-term)	
- Temporary, localised disturbance to badgers ² Irish Hare, Stoat, and Pine marten, small mammals, frogs/lizards		Slight (short-term) Neutral (long-term)	
- Temporary disturbance or displacement of bird species in temporary working area			
CULTURAL HERITAGE			
Topsoil stripping & Excavation & Trafficking within Temporary Working Areas			
- Temporary, localised disturbance of Archaeological Sites	- Pre-construction testing and analysis (under license from DoEHLG) - Archaeological monitoring during topsoil stripping and excavation (under license from DoEHLG)	None	Chapter 16
- Temporary, localised disturbance of field systems and townland boundaries	- Fencing of potential archaeological sites and temporary construction sites		

Note 1: Residual impacts are post construction unless otherwise stated.

Note 2: If active setts/holts are located within the temporary working area.

Following an extensive study of the potential impacts of the proposed development summarised in Table 18.2, it can be concluded that the proposed development will not have a significant negative impact on the human, natural environments and on cultural heritage. The majority of impacts will occur during the construction phase of the development. Therefore, these impacts are considered to be transient and of a temporary to short-term nature. Measures that will be used in the mitigation of any adverse impacts have been identified.

The preparation of this Environmental Impact Statement represents one stage of the Environmental Management process for the development. This process will continue throughout the duration of the project, during the detailed design, construction, commissioning and operation phases of the project. The assessments and surveys carried out to date are detailed in this EIS. Further surveys will be undertaken prior to, during and after construction to ensure and demonstrate that all potential environmental impacts are considered and adequately addressed. An outline of the requirements for these is further detailed in the relevant EIS chapters. Detailed specifications for the surveys will be developed and agreed with the relevant regulatory authorities.

Consultation will continue during the pre-construction and construction (including reinstatement) phases, with all relevant bodies, to ensure that construction and reinstatement methods are carried out in the most satisfactory manner.

18.2 ENVIRONMENTAL MANAGEMENT PLAN

SEPII is committed to achieving a level of environmental management and performance consistent with national and international standards and in compliance with all relevant statutory obligations. They are committed to making sure that the most environmentally sound technology and procedures are incorporated into the design of the project, including the preparation and implementation of a detailed Environmental Management Plan (EMP) to ensure optimal management of all activities.

The EMP and its associated method statements for the construction of the proposed development will bring together all of the recommended mitigation measures from this EIS to ensure that environmental impacts are avoided and minimised. With the adoption of these measures, the level of negative impacts will be considerably reduced. The EMP will be prepared prior to the commencement of works.

The EMP will be used during the construction activities as a tool to manage and ensure compliance with all relevant environmental regulations and standards, as well as the commitments set out in this EIS. A full time Environmental Liaison Officer (see Chapter 5) will work with the contractor to monitor and oversee the implementation of the EMP. The summary of mitigation measures listed in Table 18.2 (more detailed descriptions of these are contained in the relevant chapters of the EIS) will form the basis for many of the environmental procedures and method statements that will form part of the EMP. Plans for mitigation against both the actual and potential impacts will be drawn up, describing or referencing the procedures and equipment to be used to prevent, monitor and manage possible effects. The EMP will include:

- Measures to provide environmental protection, conservation and, where appropriate, enhancement whilst ensuring the viability of the project;
- Detailed Method Statements;
- Monitoring programmes and management practices to be undertaken during the execution phases of the project;
- Arrangements for effective liaison with regulatory authorities and other interested parties on environmental matters regarding mitigation;
- Arrangements to ensure that the conditions imposed by the EMP are enforced;
- Contingency measures.

Typical topics to be covered by the EMP are listed below:

- Community Liaison
- Landowner Liaison
- Audits and review
- Pollution Control
- Waste Management
- Licensing and Permits
- Traffic Management Plan (See Appendix E)
- Hazardous substance management
- Environmental Health and Safety (EHS) performance
- Spill Contingency
- Dust Management
- Noise Management
- Reinstatement Management/Monitoring
- Disease Prevention
- Vegetation clearing
- Surface Water Management Plan
- Environmental Liaison and Consultation
- Environmental Supervision & Training (all personnel)

The EMP will also establish monitoring protocols for ecology, archaeology, water, dust, noise and sediment control. The monitoring programmes will be set out in detail in the EMP, and will include the timing and frequency of monitoring and reporting.

The EMP will be based on the detailed design information in combination with the conditions of the various regulatory consents associated with the development. Once construction commences, the EMP will be reviewed regularly and updated if necessary in consultation with relevant regulatory authorities. Reinstatement monitoring reports will be prepared in accordance with the frequencies agreed with the relevant statutory bodies.

18.2.1 Roles, responsibilities and Reporting

A full time Environmental Officer will supervise the works from an environmental perspective. This will include monitoring the implementation and compliance with the EMP and approved construction method statements, and ensuring that the EMP is effective and up to date through regular reviews.

The Environmental Officer will have the power to stop any works not following agreed method statements or the environmental procedures set out in the EMP. The Environmental Officer will also ensure that all construction personnel receive appropriate induction training, including pollution awareness and control prior to commencing work. The Environmental Officer will co-ordinate and be the site focal point for communication with the relevant statutory bodies e.g. NPWS and NWRFB. The construction works will also be monitored by a dedicated Project Ecologist and Project Archaeologist.

Environmental liaison and consultation with statutory bodies, local authorities and non-statutory organisations (where required) will continue throughout the construction of the onshore pipeline system.

18.2.2 Monitoring

The EMP will provide systems for the effective environmental management of the construction process covering important items such as waste management and pollution control. Environmental auditing will be carried out to ensure compliance with the EMP and continued monitoring and reporting will be carried out on the environmental aspects of the work in compliance with the EMP. Site inspections will also be carried out during construction and operation of the proposed development.

18.2.3 Environmental Labelling and Signage

Notices and appropriate warning signs will be erected on the site to inform staff of the precautions and measures required when working close to designated conservation sites, protected species or other relevant environmental constraints or sensitivities.

