

EIAR FOR POWERSTOWN BIOENERGY

Volume 2- Main Body of the EIAR

Chapter 18 – Schedule of Commitments

Prepared for:

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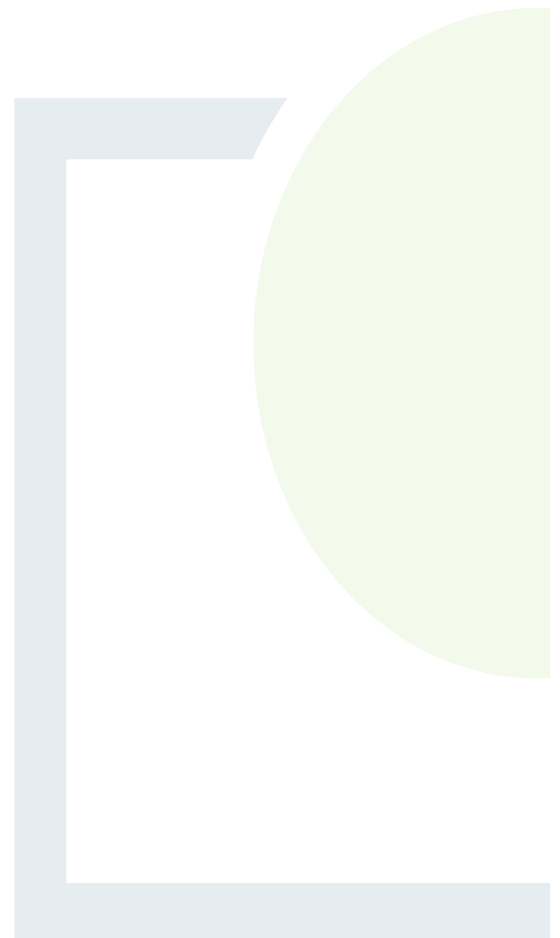


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18. SCHEDULE OF COMMITMENTS

18.1 Introduction

This chapter summarises the mitigation measures (environmental commitments) in the Environmental Impact Assessment Report for the proposed development and proposed gas pipeline. Where similar commitments appear in multiple chapters or sections, these have been included in this chapter within their respective sections for completeness.



18.2 Chapter 6: Traffic and Transportation

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
1	6.8.1	A Construction Traffic Management Plan will be prepared, including measures to provide information to affected parties, including advising land and property owners in advance of any diversions. Local access shall be maintained at all times. In addition, it is proposed that temporary signage shall be put in place to minimise disruption and ensure all road users understand that construction works are in progress.	Construction
2	6.8.1	A detailed CEMP sets out the allowable working day, construction traffic, parking arrangements and incorporates environmental protection measures.	Construction
3	6.8.1	The Construction Traffic Management Plan (CTMP) will be prepared and agreed with the local authority in advance of works commencing.	Construction
4	6.8.1	Construction HGV routes will be defined to avoid local residential areas and sensitive receptors, with access limited to designated haul routes.	Construction
5	6.8.1	Construction deliveries will be scheduled to avoid local network peak hours where possible.	Construction
6	6.8.1	Wheel-wash facilities will be used where necessary to prevent deposition of mud or debris on public roads.	Construction
7	6.8.1	All construction vehicles will be required to comply with safety standards, including visible identification, reversing alarms, and, where relevant, banksmen assistance for manoeuvres.	Construction
8	6.8.2.1	HGV deliveries and exports will be spread evenly throughout the day, avoiding unnecessary clustering and reducing potential for congestion.	Operation
9	6.8.2.1	The proposed development will operate a delivery management system to monitor and manage HGV scheduling.	Operation
10	6.8.2.1	Regular road maintenance and inspection of the site entrance will be conducted to ensure safety and cleanliness of the immediate road interface.	Operation



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
11	6.8.2.2	When commencing the operational phase of the proposed development drivers that will be using the site will be required to attend a HGV driver induction lecture which the Applicant has initiated at other similar sites and considers a crucial tool for ensuring that all drivers are fully aware of the rules and expectations regarding safety, adherence to the haul route, speed limits, and courteous behaviour towards other road users.	Operation
12	6.8.2.2.1	The induction lecture will set clear expectations for drivers, reinforce the importance of safety, compliance, and courtesy, and ensure that drivers are aware of the operational and legal requirements associated with the new development and haul route in particular including: Haul Route Overview - Identify specific roads and lanes to be used. - Identify any restricted areas or routes to avoid. - Locations of entry and exit points to and from the development. - Identify the specified internal routes. - Supply each driver with maps of the haul route and highlight the key landmarks, turnings, and any signage to follow. Importance of Dedicated Haul Route: - Explain why the dedicated route has been established, such as protecting local infrastructure, and ensuring road safety. - Emphasise that deviation from the designated haul route will not be tolerated and could lead to disciplinary action, as well as legal and safety consequences. - Highlight the risks of damage to public roads not designed for HGVs. - Make clear the relationship with local community. Speed Limits on the Haul Route: Clearly state the speed limits along various sections of the haul route, emphasising the need for strict compliance.	Operation



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
		- Differentiate between speed limits within the application site, public roads, and sensitive areas like near schools or residential zones. - Stress the importance of obeying speed limits for safety, vehicle control, and preventing wear and tear on local roads. - Outline the consequences of speeding, including the use of speed monitoring systems (speed cameras), and the penalties for violations. Driving Behaviour and Courtesy: - Reinforce the importance of being courteous to other road users, particularly along the haul route. - Encourage drivers to be mindful of smaller vehicles, cyclists, and pedestrians that may use parts of the haul route. - Employ best practices for courteous driving by maintaining safe following distances, particularly in traffic or around vulnerable road users. - Avoid aggressive driving behaviours, like tailgating or overtaking in dangerous conditions. - Always signal intentions early and avoid abrupt manoeuvres. - Give way to emergency vehicles and local traffic where appropriate. Personal Safety: - Emphasise the importance of safety protocols within the development, including the use of high-visibility clothing, hard hats, and other required personal protective equipment (PPE). Vehicle Safety Checks: - Stress the need for daily vehicle inspections (tires, brakes, lights, mirrors, and fluid levels) before starting the haul, to ensure vehicle safety and compliance with regulations. Load Safety: Ensure drivers understand how to secure their loads properly to prevent accidents, especially during transport on public roads.	



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
		Minimising Environmental Impact: Remind drivers to be aware of the environmental implications of their work, such as reducing dust, preventing fuel spills, minimizing noise pollution and advise them of feedstock/digestate spillage protocols. Waste Disposal: Instruct drivers on proper waste disposal practices at the proposed plant and along the haul route, ensuring that no litter or waste material is discarded improperly. Incident Reporting Procedures: • Inform drivers of the procedures to follow in case of accidents or breakdowns, both within the AD Plant and along the haul route. • Provide contact information for emergency services, roadside assistance, and plant management. • Encourage the reporting of near misses and unsafe conditions to help identify and mitigate potential risks. • Legal Compliance and Licensing: • Reaffirm with regular checks, that drivers have the appropriate Heavy Goods Vehicle (HGV) licenses and certifications to operate[CK82.1]. • Emphasize that all drivers are expected to comply with local and national road traffic laws at all times. • Remind drivers of the legal requirements for maintaining tachograph records and adhering to limits on driving hours and rest periods.	



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
13	6.8.2.3	Proposed Advance Warning Signing At the time of the application there were no advance warning signs on the approaches to the existing junction serving the development from L3045. The planning application[TR1.1] for the AD Plant includes proposals for the erection of advance warning signing and proposes the following configuration with the sign size conforming to Traffic Signs Manual (Department of Transport, 2024)for 60km/h roads and located in the verge 50m and 100m in advance of the existing access junction on the L2045 on both approaches. The final configuration of the signs, which may include speed limit signs, must be agreed with the Roads and Transportation Section of Carlow County Council. The development access is located on Local Road L3045 where the speed limit is 60km/h. It is hoped that in agreeing the signs a configuration which includes the suggested layout below can be combined with the existing speed limit signs (above warning sign) on a single grey background in order to avoid roadside clutter.	Operation



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
		 The Applicant respectfully invites an appropriate condition in this regard. The layout and detail of the signs can be agreed in writing with Carlow County Council prior to the intake of materials should the planning authority determine to grant permission for the proposed development.	
14	6.8.2.4	The developer will maintain the adjoining public road in a clean state, free from mud and debris caused by haulage associated with the site.	Operation



18.3 Chapter 7: Population and Human Health

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
1	7.6.1.4	Construction traffic will be managed through designated haul routes and a detailed Traffic Management Plan (Refer to CEMP in Appendix 3.1 of Volume 3 of this EIAR) to avoid disruption to local access and community services.	Construction
2	7.6.1.4	Visual and noise disturbance will be reduced through adherence to defined working hours, good-practice construction methods, and the noise- and dust-control measures.	Construction
3	7.6.1.4	Site activities will be confined within the project boundary, with appropriate signage and communication provided to the local community through the appointed Community Liaison Officer.	Construction
4	7.6.1.4	The proposed gas pipeline works will be managed by GNIs Community Liaison Officer to ensure adequate notice of works and traffic management.	Construction
5	7.6.1.5	Construction methods will follow established best practice to minimise emissions, noise, dust, and vibration, while all works will be undertaken strictly within designated working hours to avoid undue disturbance to nearby residents.	Construction
6	7.6.1.5	The project will be executed in full compliance with relevant health and safety regulations, ensuring safe working conditions on site and preventing risks to the public.	Construction
7	7.6.1.5	Mitigation-by-design measures such as defined construction access routes and layout choices that minimise interface with sensitive receptors will further reduce the potential for any adverse health effects.	Construction
8	7.6.1.5	Best practice construction dust management measures have been compiled for the proposed development and are detailed in Section 8 in this Chapter 8. The best practice mitigation measures will focus on the control of dust and other air pollutants, to minimise generation of emissions at source.	Construction
9	7.6.1.5	Mitigation during the construction phase for climate impacts involves a change in the use of materials as detailed in Section 9 in this chapter.	Construction



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
10	7.6.1.5	Noise and vibration impacts during construction traffic and on-site works will be effectively minimised through adherence to defined working hours, advance community consultation for any out-of-hours activities, and ongoing communication via the Community Liaison Officer.	Construction
11	7.6.1.5	All construction activities will follow best-practice guidance set out in BS 5228-1:2009+A1:2014 (British Standards Institution, 2014) and BS 5228-2:2009+A1:2014 (British Standards) and the noise and vibration control measures detailed in the CEMP.	Construction
12	7.6.1.5	Good practice measures will be implemented throughout the works, including proper plant maintenance, minimising drop heights, limiting on-site speeds, orienting noisy equipment away from sensitive receptors, and ensuring operators are trained to reduce unnecessary noise.	Construction
13	7.6.1.5	Contractors will comply with all relevant noise legislation and regulations.	Construction
14	7.6.2.5	A proper safety management system and regular repair and maintenance on the plant as well as suitable plant design will be implemented to reduce the potential for human health impacts	Operation
15	7.6.2.5	Confined space training and portable gas detection will be mandatory for all operators within the proposed development.	Operation
16	7.6.2.5	Equipment lockout procedures will be strictly enforced to avoid unnecessary accidents. Proper training on processes and equipment will be mandatory for all biogas plant operators.	Operation
17	7.6.2.5	Health and safety equipment will be routinely checked for precision and calibration. Proper hygienic procedures (showers, hands cleaning, etc.) will be enforced to avoid pathogen-linked disease contamination and spread.	Operation
18	7.6.2.5	The staff of the proposed development will be trained in basic firefighting skills.	Operation
19	7.6.2.5	A permit-to-work system (a formal recorded process used to control work which is identified as potentially hazardous) will be used for high-risk tasks relating to hazardous substances.	Operation



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
20	7.6.2.5	All workers coming into contact with electrical networks will have up-to-date electrical safety training.	Operation
21	7.6.2.5	A risk-reduction strategy will be developed to limit the risk of mechanical hazards on human health.	Operation
22	7.6.2.5	Explosion mitigation measures will also be enforced, through the use of primary, secondary, and tertiary explosive protection.	Operation
23	7.6.2.5	The facility will be designed and operated in full compliance with the Chemicals Act (Control of Major Accidents Involving Dangerous Substances) Regulations 2015 (COMAH) requirements, including the implementation of appropriate safety management systems and measures to prevent major accidents and limit their consequences for human health and the environment.	Operation
24	7.6.2.5	HGVs on site will use auto idle shut off technology to avoid engines idling for long periods.	Operation
25	7.6.3.2	Nevertheless, the contractor will be encouraged to source labour locally where feasible, ensuring that any short-term employment benefits are retained within the surrounding area.	Decommissioning
26	7.6.3.2	The decommissioning works will be carried out in accordance with an approved Closure Plan	Decommissioning
27	7.6.3.5	General decommissioning activities will be managed through appropriate mitigation measures, including controlled work practices, emissions management, and traffic management plans.	Decommissioning
28	7.6.3.5	As the dust emissions during the decommissioning phase are expected to be of a similar or lesser magnitude to those identified during the construction phase, the mitigation measures applicable to construction phase dust emissions are also considered suitable for those during the decommissioning phase.	Decommissioning
29	7.6.3.5	As good practice, the noise control measures outlined in the Appendix 3.1 Construction Environmental Management Plan, in Volume 3 of this EIAR will be implemented, in addition to any measures in best practice guidance available at the time of decommissioning.	Decommissioning



18.4 Chapter 8: Air Quality

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
1	8.11.1	Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.	Construction
2	8.11.1	Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager.	Construction
3	8.11.1	Display the head or regional office contact information	Construction
4	8.11.1	Storage areas/containers with loose dust-generating material will be covered to prevent wind whipping.	Construction
5	8.11.1	Cutting, grinding or sawing equipment will be fitted with or used in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.	Construction
6	8.11.1	Equipment will be readily available in the construction works areas site to clean any dry spillages. Spillages will be cleaned up as soon as reasonably practicable after the event using wet cleaning methods.	Construction
7	8.11.1	Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.	Construction
8	8.11.1	Make the complaints log available to the local authority when asked.	Construction
9	8.11.1	Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book.	Construction
10	8.11.1	All vehicles' engines will be switched off when stationary – no idling vehicles.	Construction
11	8.11.1	Avoid the use of diesel- or petrol-powered generators and use mains electricity or battery powered equipment where practicable.	Construction
12	8.11.1	Impose and signpost a maximum-speed-limit of 25 kmph on surfaced and 15 kmph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).	Construction



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
13	8.11.1	Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and carsharing).	Construction
14	8.11.1	Avoid scabbling (roughening of concrete surfaces) if possible.	Construction
15	8.11.1	Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.	Construction
16	8.11.1	Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.	Construction
17	8.11.1	For smaller supplies of fine powder materials, ensure bags are sealed after use and stored appropriately to prevent dust.	Construction
18	8.11.1	Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use.	Construction
19	8.11.1	Avoid dry sweeping of large areas.	Construction
20	8.11.1	Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.	Construction
21	8.11.1	Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.	Construction
22	8.11.1	Record all inspections of haul routes and any subsequent action in a site log book.	Construction
23	8.11.1	Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.	Construction
24	8.11.1	Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).	Construction
25	8.11.1	Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.	Construction



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
26	8.11.1	Access gates to be located at least 10 m from receptors where possible.	Construction
27	8.11.1	Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This will include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 100 m of site boundary, with cleaning to be provided if necessary.	Construction
28	8.11.1	Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked.	Construction
29	8.11.1	Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.	Construction
30	8.11.3	As the dust emissions during the decommissioning phase are expected to be of a similar or lesser magnitude to those identified during the construction phase, the mitigation measures applicable to construction phase dust emissions are also considered suitable for those during the decommissioning phase.	Decommissioning
31	8.11.3	A Closure, Restoration and Aftercare Management Plan (CRAMP) will be implemented, in line with EPA Industrial Emissions Licence requirements.	Decommissioning
32	8.11.3	Monitoring will remain in place for the duration of the decommissioning phase as required by the EPA.	Decommissioning



18.5 Chapter 9: Climate

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
1	9.6.2	Mitigation during the construction phase involves a change in the use of materials as detailed in Table 9-16 of Chapter 9 Climate and the outcomes in terms of GHG emissions are detailed in Table 9-17 of Chapter 9 Climate, in Volume 3 of this EIAR. The construction stage will implement these measures resulting in savings of 11,191 tCO ₂ e.	Construction
2	9.6.3	Mitigated operational impacts have been quantified based on engineering information provided are shown in Table 9-18 of Chapter 9, Climate, in Volume 2 of this EIAR. The operational stage will implement these measures resulting in savings of 2,610 tCO ₂ e.	Operation



18.6 Chapter 10: Noise and Vibration

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
1	10.10.2	The noise and vibration impacts for construction works traffic will be mitigated by restricting movements along access routes to the standard working hours, unless specifically agreed otherwise.	Construction
2	10.10.2	Any out of hours working would be agreed in advance with the planning authority. In addition, residents will be informed of construction activities through the Community Liaison Officer.	Construction
3	10.10.2	The general construction works on site will be carried out in accordance with the guidance set out in BS 5228-1:2009+A1:2014 (British Standards) and BS 5228-2:2009+A1:2014 and the noise and vibration control measures set out in Appendix 3.1 Construction Environmental Management Plan, in Volume 3 of this EIAR.	Construction
4	10.10.2	Proper maintenance of plant will be employed to minimise the noise produced by any site operations.	Construction
5	10.10.2	Machinery that is used intermittently will be shut down or throttled back to a minimum during periods when not in use.	Construction
6	10.10.2	All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the project, with particular attention paid to the lubrication of bearings	Construction
7	10.10.2	Plant known to emit noise strongly in one direction will, when possible, be orientated so that the noise is directed away from noise-sensitive locations.	Construction
8	10.10.2	A speed limit of 15km/h will be enforced on-site.	Construction
9	10.10.2	Drop heights for construction equipment/materials will be minimised.	Construction
10	10.10.2	Training will be provided by the Site Manager to workers and drivers to ensure smooth machinery operation/driving, and to minimise unnecessary noise generation.	Construction
11	10.10.2	The hours of construction activity will be limited to avoid unsociable hours where possible. Construction operations shall be restricted to between 07:00hrs and 18:00hrs, Monday to Friday, and 08:00hrs to 14:00hrs on Saturdays. No construction work is permitted on Sundays or bank holidays. If it is necessary to work outside these hours, any such out of hours working would be agreed in advance with the planning authority and in consultation with the local community.	Construction



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
12	10.10.2	Construction contractors will be required to comply with the requirements of the European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations, 1988 as amended in 1990 and 1996 (S.I. No. 320 of 1988, S.I. No. 297 of 1990 and S.I. No. 359 of 1996), and the Safety, Health and Welfare at Work (Control of Noise at Work) Regulations, 2006 (S.I. No. 371 of 2006).	Construction
13	10.10.2	A noise barrier may provide approximately 5 dB attenuation where the line of sight between the source and receiver is partially obscured and by 10 dB where the line of site is fully obscured. Noise barriers that fully block the line of sight between the source and receiver will be used at properties within 50m during the gas connection works and will result in noise attenuation of approximately 10 dB. Noise barriers will have a minimum mass per unit surface area of greater than 7kg/m ² , with no gaps at the joints.	Construction
14	10.10.2	Residents will be informed by the Community Liaison Officer of any construction activities that may give rise to perceptible vibration in advance of the works.	Construction
15	10.10.2	A noise and vibration monitoring programme will be agreed with the Planning Authority prior to the commencement of construction works and will include agreed monitoring locations and durations, a complaint handling procedure, and set noise and vibration limits for the duration of the works. Construction Noise Threshold Levels (CNTLs) are proposed for the construction stage of this development during daytime: - Residential receptors: 65 dB L_{Aeq,1hr} Daytime - Commercial receptors (offices): 75 dB L_{Aeq,1hr} Daytime	Construction
16	10.10.3	Purchasing low noise generating equipment free from significant acoustic features, such as tonal/intermittent/impulsive sound characteristics.	Operation
17	10.10.3	Roller doors will be closed during operation of internal equipment.	Operation
18	10.10.3	Equipment will be properly maintained and inspected regularly	Operation
19	10.10.3	Roads and surfaces will be maintained in good repair.	Operation
20	10.10.3	A speed limit of 15km/h will be enforced on-site.	Operation



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage												
21	10.10.3	The unnecessary revving of engines shall be avoided, and equipment shall be switched off when not in use.	Operation												
22	10.10.3	Regular training for site personnel and drivers on best practice noise control measures. The operator will apply the principles of Best Available Techniques (BAT) to noise control from site operations and will commit to ensuring that no tonal or impulsive noise emissions from site operations are audible at any noise sensitive location.	Operation												
23	10.10.3	Routine noise monitoring and assessment will be undertaken during the operational phase, including an assessment of acoustic characteristics (e.g. tonal/impulsive components), in accordance with the requirements of the EPA IE Licence for the site. Noise limits as per Chapter 10 are: Operational noise limits at noise sensitive locations: <table><tr><th>Period</th><th>Noise Limit Area of Low Background Noise (R3)</th><th>Noise Limit All Remaining Noise Sensitive Locations</th></tr><tr><td>Daytime (07:00 to 19:00 Hrs)</td><td>45 dB(A) LAr,T</td><td>55 dB(A) LAr,T</td></tr><tr><td>Evening (19:00 to 23:00 Hrs)</td><td>40 dB(A) LAr,T</td><td>50 dB(A) LAr,T</td></tr><tr><td>Night-time (23:00 to 07:00 Hrs)</td><td>35 dB(A) LAeq,T</td><td>45 dB(A) LAeq,T</td></tr></table> In addition to the numerical limit, the NG4 guidance note states that during the daytime and evening periods, rigorous efforts should be made to avoid clearly audible tones and impulsive noise at all noise sensitive locations. A penalty of 5 dB for tonal and/or impulsive elements is applied to the daytime and evening measured LAeq,T values to determine the appropriate rating level LAr,T. During night-time, no tonal or impulsive noise from the facility should be audible at any noise sensitive location. Operational Noise Limits at Commercial Offices Daytime (07:00 to 19:00hrs): 55 dB LAeq	Period	Noise Limit Area of Low Background Noise (R3)	Noise Limit All Remaining Noise Sensitive Locations	Daytime (07:00 to 19:00 Hrs)	45 dB(A) LAr,T	55 dB(A) LAr,T	Evening (19:00 to 23:00 Hrs)	40 dB(A) LAr,T	50 dB(A) LAr,T	Night-time (23:00 to 07:00 Hrs)	35 dB(A) LAeq,T	45 dB(A) LAeq,T	Operation
Period	Noise Limit Area of Low Background Noise (R3)	Noise Limit All Remaining Noise Sensitive Locations													
Daytime (07:00 to 19:00 Hrs)	45 dB(A) LAr,T	55 dB(A) LAr,T													
Evening (19:00 to 23:00 Hrs)	40 dB(A) LAr,T	50 dB(A) LAr,T													
Night-time (23:00 to 07:00 Hrs)	35 dB(A) LAeq,T	45 dB(A) LAeq,T													



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
24	10.10.4	As good practice, the noise control measures outlined in the Appendix 3.1 Construction Environmental Management Plan, in Volume 3 of this EIAR, and in Section 10.10.2 will be implemented, in addition to any measures in best practice guidance available at the time of decommissioning.	Decommissioning



18.7 Chapter 11. Biodiversity

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
1	11.8.1	Standard best practice measures will be carried out during the construction of the project as set out hereunder. Control of water pollution from construction sites - Guidance for consultants and contractors (C532). Construction Industry Research and Information Association, London (CIRIA, 2001) Control of Pollution from Linear Construction Project; Technical Guidance (C648). Construction Industry Research and Information Association, London (CIRIA, 2006) Environmental Good Practice on Site (4th edition) (C741). Construction Industry Research and Information Association, London (CIRIA, 2015) Guidelines on protection of fisheries during construction works in and adjacent to waters (IFI, 2016). PPG1 - General Guide to Prevention of Pollution (UK Guidance Note). PPG5 – Works or Maintenance in or Near Watercourses (UK Guidance Note). Guidelines for the treatment of bats during the construction of national road schemes (TII, 2005, reissued 2025). Bat mitigation guidelines for Ireland - V2 (Marnell et al, 2022) UK Bat mitigation guidelines (Reason et al, 2025) Guidelines For the Treatment of Otters Prior to the Construction of National Road Schemes (TII, 2006, reissued 2025) Guidelines For the Treatment of Badgers Prior to The Construction of National Road Schemes (TII, 2006, reissued 2025) The management of invasive alien plant species on national roads – technical guidance (TII, 2020)	Construction



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
2	11.8.1.2	Badger Given that badgers can reinhabit setts, and a burrow occupied by rabbits was confirmed on site that may have been a historical sett entrance, a pre-construction survey must include assessment of this burrow. Given that the burrow is on the bank (approximate 1.5m above the working level of the site, there is no possibility of inadvertent damage to the burrow. The following will be considered should surveys uncover badger activity: • As per NRA Guidance, during the breeding season (December to June inclusive) no works will be undertaken within 50m of an active sett or pile driving within 150m of active setts. • All supervision and surveys will be undertaken or supervised by an appropriately qualified ecologist in advance of construction. The Consenting Authority will be contacted immediately should any of the following events occur: • A new sett is recorded during any works. • There is evidence of badger persecution during surveys. Pre-mitigation monitoring and ecological supervision will ensure correct implementation of badger mitigation measures at construction stage.	Construction



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
3	11.8.1.2	Bats During construction, avoid any excessive light-spill on the linear ecological features surrounding the works areas by using appropriately directed lighting. The existing lighting plan for the operational biogas facility has considered the light spill to surrounding areas and will include the following measures for bats: • LED luminaires within the warm light range (2700-3000 Kelvin) should be used for any lights contributing to light spill into the surrounding linear ecological features. • Use lights with reduced UV, white and blue wave lengths or apply filters to achieve the same. This will also reduce insects swarming the lights. • Luminaires will be mounted horizontally, with no light output above 90° and/or upward. • Baffles, hoods or louvres will be considered in addition to the above to achieve zero light-spill on surrounding habitats. • Reduce reflective surface around lighting.	Construction
4	11.8.1.2	Birds Article 19 of the Wildlife Act 1976 (as amended) provides for the protection of wild birds, their nests and eggs. It is an offence to wilfully take or remove the eggs or nest of a protected wild bird; to wilfully destroy, injure or mutilate the eggs or nest of a protected wild bird; and to wilfully disturb a protected wild bird on or near a nest containing eggs or unflown young. The nesting season for breeding birds in Ireland is between the 1st of March and 31st of August (inclusive). However, under Article 22 of the Wildlife Act, 1976 (as amended) it is not an offence to unintentionally to kill or to injure a protected wild bird or to destroy, injure or mutilate the eggs or nest of a protected wild bird while carrying out building/construction works.	Construction



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
		As such, a pre-site clearance survey will be carried out immediately prior to any vegetation clearing during the bird nesting season to identify any active nests within the site or along the gas pipeline where vegetation clearance is required and avoid any contraventions of the Wildlife Act. On-site mitigation for the protection of birds and their nests would be prescribed in the event of the occurrence of nesting birds in site clearance areas. Survey methodology will comprise ground-level walked transects through the areas to be cleared, searching for nests and nesting activity. Survey will be conducted in the morning as there is generally an increase in bird activity (e.g., territorial singing and foraging) during morning hours. While the composition and diversity of all bird species present on site will be recorded, the aim of the survey will be to identify any active nests. Nesting behaviour will be looked for which includes adults bringing food, adults carrying faecal sacs, sounds of young begging for food, adults giving alarm calls or exhibiting agitated behaviour. Any nests encountered will be documented as follows: • The nest location (ITM co-ordinate) • Habitat in which it occurs • Bird species • Number of eggs / young • Nest status – active or inactive (i.e. birds have fledged) • Adult behaviour at the nest e.g. incubating, building, distraction displays, alarm calls etc. In the event that a nest or suspected nest is observed, a nest buffer where no site clearance is permitted will be established. A minimum 30m buffer will be established using posts and tape. However, there may be cause to increase the size and shape of the buffer depending on type and amount of surrounding vegetation cover, species' sensitivity to disturbance, rareness of the species in the local/regional area, site topography, and the type and extent of clearing activities that will be occurring next to the buffer.	



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
		No clearing activities within the established buffer areas will occur until after the Ornithologist has determined that nesting and fledging are complete, or if the status of the nest has been changed from active to inactive.	
5	11.8.1.2	Herpetofauna In the event that construction is required to proceed during the breeding season of common frog (approximately January to midsummer) or smooth newt (approximately February to June), a pre-construction survey will be completed of the pools on site. If these species are present and it is not feasible to delay works until froglets and efts have matured and dispersed from breeding sites, translocation under licence will be completed by a qualified ecologist.	Construction
6	11.8.2.1	Orchids Protection of orchid and greater knapweed plants will require that the mitigation measures detailed below are implemented before vegetation clearance commences under the supervision and direction of an ECoW. In carrying out these activities the following is also undertaken: Communicating the importance of the activities that need to be undertaken to the contractor and prevent inadvertent damage to the habitats being retained, compensated or that are part of the orchid donor / receptor sites. Orchids will be translocated out of the construction footprint of the proposed development. Pending the onset of construction activities, the receptor sites (edges of hedgerows / treelines where orchids will not be over-shadowed) for the local bee orchid populations will be prepared before the first flowering season to ensure that the bee orchids can be relocated directly to receptor sites and reduce handling of the orchids. This will include mimicking the local substrate conditions where the bee orchid was recorded within the receptor site, ensuring well-drained, sandy or loamy substrate enriched with a phosphorus / potassium fertiliser as per recommendations. Areas with drizzled sunlight will be most suitable, so target grassland blocks adjacent to hedgerows, treelines and scrub. prepare the receptor sites as follows:	Construction



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
		• Dig a hole twice the size of the root ball and to a depth that will allow the root ball to sit at or just below surface. • Dig the holes so that plants are spaced 30cm apart. • Have mulch (bark chips / shredded leaves) available to place over the transplanted bee orchids. • Have water available for adequate watering. If the receptor sites cannot be prepared in time, then intermediate planting will be required into pots with similarly prepared substrate, which can be left on site but will need to be checked daily to ensure the substrate is adequately moist. Areas where the orchids were recorded and could be disturbed by construction activities will be cordoned off as a no-go areas before construction commences, to safe guard these areas. The orchids from these areas will be translocated to the prepared receptor sites by an ecologist with experience in habitat translocation, in accordance with proven best practice methods¹ which must involve the translocation of orchid turf to sufficient depth to retain the mycorrhiza and dormant plants to the pre-pared receptor site. Typically, this is 100–300 mm depth in order to maintain associated soil biota. Translocation will be in late summer / early autumn or in spring (pre-flowering) so as to avoid periods of flowering and full dormancy. The following translocation, the receptor site will be monitored and managed by the Ecologist for the duration of operation of the proposed development. On the gas pipeline route, there will be no temporary storage of materials or equipment for the gas pipeline in any areas along the gas pipeline designated as GS1 or GS2 habitats to protect the orchids associated with these habitats and the habitat characteristics associated with the soil substrate in these habitats.	

¹ Including regard to Phillips, R.D., Reiter, N., & Peakall, R. (2020). *Orchid conservation: from theory to practice*. Annals of Botany, 126(3), 345–362.
<https://doi.org/10.1093/aob/mcaa093>



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
7	11.8.2.1	Greater Knapweed Individual Greater Knapweed plants were recorded outside of the western boundary of the proposed development site. No works are proposed to take place at this location. However, in order to avoid accidental damage of these plants, the area will be cordoned off as a no-go area before construction commences. There will be no temporary storage for materials for the gas pipeline along the R448 road near the western boundary of the proposed development site to safeguard the existing greater knapweed plants.	Construction
8	11.8.2.1.1	Ephemeral Pools While the loss of ephemeral pools on the proposed development site have not been identified as a significant effect on herpetofauna, an on-site pond is proposed as part of the landscaping design at the site, and as such will provide alternative aquatic habitat at the site for common frog (confirmed to use the pools for spawning), and new habitat for newt. Establishment of a pond on site must consider the following: - The 'Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes' (TII, 2008, republished 2025) in terms of scheduling of works, management and monitoring. 'Herpetofauna Worker's Manual' (Gent, et al., 1998, revised 2003) for Irish amphibians. The Irish Pond Manual: A Guide to the Creation and Management of Ponds (O'Rourke, et al., 2024) provides step by step guide for creating ponds and informs the Landscape Plan (included in Volume 4 Drawings) and the pond creation on site. In determining an adequate area for the pond for amphibians the following is considered: - The pond can be small (<100m²), but needs to be exposed to sun with shallow sloped sides that warm quickly and a deeper middle (exceed 30cm depth).	Construction Operation



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
		- The pond needs to be planted with local native emergent and submerged vegetation, ensuring at least a third of the pond surface is exposed (rather than covered with pond weed). - The pond needs to be managed to prevent drying out during all but extreme seasons. - There needs to be space for log piles and other debris within the vicinity of the pond to provide for hibernation sites. - The surrounds provide opportunity for varied landscape (scrub, long and short grass) linked to other ecological features for dispersal. In general the pond will be established as follows: - The area will be marked as a no-go area during construction. - The pond area will be excavated and shaped during construction phase when access to machinery will be available. - The pond will be lined with appropriate pond liner - Planting of emergent and submerged vegetation will commence once the pond has accumulated enough water. - Planting will be completed as part of the landscaping activities - Hibernacula / refugia will be established in the vicinity and surrounds of the pond. In terms of establishing and managing the pond, the following is relevant: - Autum to early winter should be used for any necessary restoration / management. No more than a third of the water body should be cleared annually of overgrown vegetation and / or silt. - Amphibian-proof fencing can be considered to prevent frogs from entering the biogas plant working areas if amphibians are noted to move into operational areas.	



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
9	11.8.2.1.2	The Third Schedule Himalayan balsam and the non-native snowberry were found on the boundary of the proposed development site on the earth banks. The Himalayan balsam must be controlled on site and the specific measures that follow must be incorporated into the invasive species management plan (ISMP) in the CEMP (Appendix 3.1 in Volume 3 of this EIAR). A single area of growth was observed along the northern boundary of the site. All works will be undertaken in accordance with the Transport Infrastructure Ireland guide (TII, 2020) and under the supervision of a suitably qualified ECoW with specialist knowledge in alien invasive plant species management. The mitigation measures focus on the manual and mechanised treatment only. The treatment aims at the prevention of flowering. Given the location of the plant, mowing is not considered and manual pulling of plants (referred to as 'balsam bashing') is the recommended treatment for site. Himalayan balsam has shallow roots and has no barbs or thorns that make handling dangerous. The following will be undertaken: • A marker will be placed at the existing area of growth, to make the location known and visible. This will reduce the need to search for the non-flowering plant and improve biosecurity measures (reduce risk of spreading seeds across the area when searching for the plant). • Balsam bashing (pulling of plants out by the roots) will be completed in late April or early May (when plants are around 1m high for ease of pulling) before flowering. • Pulled plants will be broken to discourage flowering (plants that have been removed from the ground can still flower if not broken). • Before leaving the infested area, the soles and edges of shoes will be scrubbed clean of any clinging soil and clothing will be rubbed clean of any cling soil/vegetation.	Construction Operation



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
		- The existing seed bank could germinate and balsam bashing needs to be repeated later in the season before the seedlings flower. August is considered a suitable time, but growth of plants in the area should be monitored and balsam bashing timed accordingly before flower buds present themselves. - Monitoring of the infected site and localised hand pulling should be conducted for at least two years but continue as long as monitoring indicates the need. - Monitoring of the site for invasive species should be ongoing for the life of the biogas facility. A suitably qualified ECoW with specialist knowledge in alien invasive plant species should be consulted if new infestations or species are noted. - Broken plant material can be placed in piles to decompose naturally. It can also be disposed of by composting if this can be left undisturbed for at least two years. Plant material can be disposed to a licensed landfill or incineration facility or by shallow or deep burial. In addition to the above, good biosecurity measures will be established on site. This will include: - Self-contained wheel washing / equipment washing facilities will be provided at the construction site and washing will be undertaken of all wheels, undercarriages and equipment coming from off-site locations and leaving the site. - A final visual inspection will be made of all cleaned vehicles / equipment for stubborn debris which will be manually removed. - The debris will not enter the water drainage features and will be contained on site and treated as invasive plant material to be disposed of at licensed landfill or incineration facility or by shallow or deep burial.	



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
10	11.8.2.2.	Protection of Aquatic Ecosystems Works adjacent to drains and watercourses including as part of HDD crossings will adhere best practice guidelines for the control of water pollution as listed in Section 11.8.1.1. of Chapter 11 The following are additional mitigation measures to protect aquatic ecology: 1. Timing of the Works: Works within 60m of the drain and watercourse crossings will be carried out outside of the salmonid and lamprey spawning seasons (i.e. works will be confined to between 1st July to 30th September to avoid Atlantic salmon and lamprey species spawning seasons). 2. Measures to prevent Surface water runoff from works areas at/near watercourse crossings: A double row of silt fences will be established along the perimeter of source areas of contaminated runoff at the following works locations: • Surrounding the works area at the HDD launch and exit pits for all the drain /waterbody crossings • For all in-road open cut crossings of drains and watercourses Silt fencing will be installed by the construction contractor in advance of the works. Silt fencing will consist of a UV-stabilized geotextile membrane (e.g., Hy-Tex Terrastop Premium or similar) attached to wooden posts. The fabric will be buried at least 100-250mm below ground level and anchored, with clean drainage stone, to prevent undercutting. The silt fencing will be left in place until the works are completed (which includes removal of any temporary ground treatment). Silt fences will not be removed during heavy rainfall.	Construction



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
		The integrity of the silt fencing will be checked daily and after poor weather conditions (rain or wind) and any failures rectified immediately. Any build-up of sediment along the fence will be removed in accordance with manufacturers requirements. A record of when it was installed, inspected and removed will be maintained. 3. Measures to prevent frac-out from HDD Specialist drilling contractors will be employed with experience in working in gravel aquifers for all HDD works. The Contractor will report daily to the Developer's Engineer and the Engineer will also be present on site to supervise all HDD works. The HDD works will be informed by detailed geotechnical investigations prior to drilling. Drilling tools and mud programme will be selected to match soil/rock conditions. The approach to HDD will focus on the three pillars of environmental protection: mechanical stabilisation of borehole integrity, fluid non-toxicity, and physical containment: • Mechanical Stabilisation - Mechanical Stabilisation in the gravelly, non-cohesive aquifer, will be managed by installing steel conductor casing through the shallow gravels to bypass the cover zone (i.e. the material above the bore depth) where fluid would be most likely to breach the surface. This casing acts as a physical barrier, protecting the riverbed from pressure spikes and ensuring returns are directed back to the entry pit rather than into the sensitive substrate.	



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
		- Fluid non-toxicity - The drilling fluid/bentonite will be non-toxic and naturally biodegradable (i.e., Clear Bore Drilling Fluid or similar will be used). Biocompatible Drilling Fluids (European Standards) utilize NSF/ANSI Standard 60 or CE-marked additives which are high-performance, biodegradable viscosifiers and will be used to provide the necessary "gel strength" to suspend heavy gravel cuttings. Fluid loss will be controlled using biodegradable sealants, which create a thin, flexible filter cake on the borehole wall to prevent fluid migration into the aquifer. These products break down naturally, ensuring no permanent alteration to the hydraulic conductivity of the aquifer. These products break down naturally, ensuring no permanent alteration to the hydraulic conductivity of the aquifer or the delicate micro-habitats of QIs. - Physical containment - Real-time annular pressure monitoring will be mandatory. By keeping pressures below the Delft Equation limits, operators can detect lost circulation before it becomes a surface fracture blow-out (frac-out release of drilling fluid through cracks/fissures/weaknesses in the substrate).	



18.8 Chapter 12. Soils, Geology, and Hydrogeology

No potential for significant effects. No mitigation measures required.

18.9 Chapter 13. Surface Water and Hydrology

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
1	13.6.1	A CEMP will be implemented. Standard best practice measures will be carried out during the construction of the project as set out hereunder (measures 1-11)	Construction
2	13.6.1	Construction of drainage infrastructure will follow a phased approach to ensure that permanent drainage and treatment features are operational at the earliest practicable stage.	Construction
3	13.6.1	Temporary sediment control measures will be installed, including silt fences, settlement areas, and temporary interceptor drains with check dams.	Construction
4	13.6.1	Discharge from the stormwater lagoon will be contained in sealed tankers for off-site disposal.	Construction
5	13.6.1	Water will be treated through a sequence of drainage elements, including the temporary and permanent sediment-control measures listed above. The lagoon will also support particle settlement, as it will be constructed with both a settling zone and a forebay.	Construction
6	13.6.1	Excavations and exposed soils will be managed to minimise erosion, this will include temporary stabilisation where required.	Construction
7	13.6.1	Fuels, oils, and chemicals will be stored in bunded, sealed and designated areas, with refuelling restricted to controlled locations.	Construction
8	13.6.1	Spill kits and training in spill response procedures will be provided to construction personnel.	Construction
9	13.6.1	Strict control of concrete works will be enforced to prevent alkaline runoff. All concrete wash-out water will be collected in a dedicated tank and transported off Site by a permitted contractor to an authorised private WWTP.	Construction



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
10	13.6.1	Protection of watercourse crossings along the gas pipeline route will be enforced, with works undertaken at existing culverts or bridges in accordance with Inland Fisheries Ireland (IFI) guidance and OPW.	Construction
11	13.6.1	Protection of the stormwater lagoon from uncontrolled inflows will be enforced during early construction phases.	Construction
12	13.6.1.1	All HDD Work Areas associated with the River Barrow crossing will remain outside the River Barrow and River Nore SAC boundary, mapped flood extents and the river corridor itself.	Construction
13	13.6.1.1	A minimum stand-off distance of 10 m will be maintained between HDD Work Areas and the SAC boundary and Flood Zone B/extreme flood extents.	Construction
14	13.6.1.1	No direct in-stream works will be undertaken within the River Barrow, the other streams or associated drainage channels.	Construction
15	13.6.1.1	HDD Work Areas will incorporate bunded storage and containment measures to prevent accidental discharge of contaminants to surrounding lands, drains or watercourses.	Construction
16	13.6.1.1	Refuelling activities associated with HDD works will only occur in designated areas with appropriate spill containment measures.	Construction
17	13.6.1.1	Spill kits and emergency response equipment will be available at all HDD Work Areas throughout the construction phase.	Construction
18	13.6.1.1	Bentonite-based drilling fluids will be managed within a closed-loop containment system to prevent uncontrolled discharge to the environment.	Construction
19	13.6.1.1	HDD drilling fluid storage tanks and associated infrastructure will be located within contained areas with secondary containment measures.	Construction
20	13.6.1.1	Daily inspections of HDD Work Areas, drilling fluid systems and containment infrastructure will be undertaken during active drilling operations.	Construction
21	13.6.1.1	Measures will be implemented to monitor and manage the risk of inadvertent drilling fluid return (“frac-out”).	Construction



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
22	13.6.1.1	In the event of an accidental drilling fluid release, works will cease immediately and emergency containment and clean-up procedures will be implemented in accordance with the CEMP.	Construction
23	13.6.1.1	Surface water runoff generated within HDD Work Areas will be managed through temporary drainage controls and sediment management measures.	Construction
24	13.6.1.1	Excavated materials generated during HDD activities will be stored away from watercourses and protected from rainfall runoff generation.	Construction
25	13.6.1.1	Reinstatement works will be undertaken following completion of HDD activities to restore disturbed areas.	Construction
26	13.6.1.1	HDD works beneath the River Barrow and the other streams will be undertaken in accordance with relevant Inland Fisheries Ireland guidance documents and best practice measures for works adjacent to watercourses.	Construction
27	13.6.2	Routine inspection and maintenance of the stormwater lagoon will be undertaken throughout the operational life of the development.	Operation
28	13.6.2	Sediment accumulated within the forebay and settlement zone will be removed periodically as required to maintain the design storage volume and treatment performance of the lagoon.	Operation
29	13.6.3	Preparation of a Decommissioning Environmental Management Plan, proportionate to the scale and nature of the works.	Operation
30	13.6.3	Fuels, chemicals, and wastes from the site will be removed prior to dismantling activities.	Decommissioning
31	13.6.3	The drainage, lagoon, and treatment systems will be used to manage runoff during decommissioning works.	Decommissioning
32	13.6.3	Removal of structures will be controlled to minimise soil disturbance and sediment mobilisation.	Decommissioning
33	13.6.3	Restoration of site surfaces to prevent long-term erosion or uncontrolled runoff will be undertaken.	Decommissioning



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
34	13.8	Monitoring A surface water monitoring programme will be implemented to verify the effectiveness of mitigation measures and ensure ongoing protection of the receiving environment. Monitoring will include: - Monitoring in accordance with the IE licence issued by the EPA. - Routine inspection of the plant drainage network, roof drainage network, interceptor drainage, penstocks, spillage containment system, and pumping infrastructure. - Inspection and maintenance of lagoon, including monitoring of sediment accumulation within the forebay and settling zone. - Continuous monitoring of water quality using automated water-quality sensors installed within: - the plant drainage network. - bunded areas; and - lagoon pump station. - Verification that exceedance flows discharged from the lagoon are released progressively over a minimum 24-hour period (minimum retention time), in accordance with the design discharge rate and retention requirements. Recording of flow and water quality data is required. - Confirmation that penstock closure, spill diversion, and pump inhibition functions are triggered automatically in response to adverse water-quality conditions. - Monitoring of water quality at the lagoon and, where appropriate, at upstream and downstream locations in receiving waters. - Water-quality parameters to include: - pH - Electrical Conductivity (EC) - Temperature - Turbidity	Construction, Operation and Decommissioning



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
		○ Phosphate ○ Ammoniacal Nitrogen ○ any other parameters to comply with IE licence ● Visual inspections for evidence of pollution, sediment release, or abnormal conditions. ● Review of monitoring results and implementation of corrective actions where required. Monitoring records will be submitted to the EPAs online licence reporting website LEAP in line with IE licence requirements.	



18.10 Chapter 14 Material Assets

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
1	14.6.2	During construction, utility interactions will be managed through standard best practice measures, including utility mapping where available, service identification, and coordination with relevant infrastructure providers.	Construction
2	14.6.2	Temporary utility demand will be met through planned and temporary arrangements, ensuring no disruption to existing services.	Construction
3	14.6.2	Construction of the proposed gas pipeline (as assessed within this EIAR) will be undertaken in accordance with Gas Networks Ireland specifications, including appropriate service protection, road crossing management, and reinstatement.	Construction
4	14.6.2	Construction and excavation materials will be managed through a Construction Environmental Management Plan (CEMP), with emphasis on reuse of on-site soils and inert materials.	Construction
5	14.6.2	Only a limited volume of clean inert material will be exported off-site, with all movements subject to appropriate classification and recovery/disposal routes.	Construction
6	14.6.3	Operational electricity demand will be supplied via ESB Networks infrastructure. As the detailed connection design and routing has not been provided at the time of assessment, this infrastructure will be subject to separate ESB-led design and consenting as a statutory undertaker.	Operation
8	14.6.3	Water demand will be fully met on-site, eliminating demand on public water supply infrastructure.	Operation
9	14.6.3	Foul water will be fully contained and removed off-site by licensed contractors, and stormwater will be managed via a segregated drainage and attenuation system to protect receiving environments.	Operation
11	14.6.4	A Closure Plan will be implemented in accordance with the Industrial Emissions Licence.	Decommissioning



18.11 Chapter 15. Archaeological, Architectural, and Cultural Heritage

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
1	15.6.2	A suitably qualified archaeologist will be employed to supervise ground works along the proposed gas pipeline route during the construction phase under a licence issued by the National Monuments Service.	Construction
2	15.6.2	There will be constant monitoring of all ground works within the environs of the present location of a high cross fragment (CW012-044002-) as well as within the potential location of a nearby unlocated holy well (CW012-044003-) reputed to have been covered by road widening works. The constant monitoring of ground works within this area will be carried out between Chainages 1100.0m to 1550.0m	Construction
3	15.6.2	A programme of constant archaeological monitoring will also be carried out within the section of road adjacent a large enclosure site (CW012-213----). The constant archaeological monitoring at this location will be carried out between Chainages 7100.0m to 7500.0m.	Construction
4	15.6.2	The monitoring strategy within the environs of the above archaeological sites will entail the removal of road fill material, or topsoil layer within road verges, in order to expose the underlying soil which will then be subject to careful inspection by the appointed archaeologist to determine if any archaeological features are present.	Construction
5	15.6.2	The excavation of the trench within underlying soils will proceed only when the archaeologist has confirmed that no archaeological features are present.	Construction
6	15.6.2	In the event that any archaeological features are identified, an archaeological watching brief of other construction phase ground works within the footprint of existing modern road infrastructure will be carried out by the appointed archaeologist, and this will include the compilation of a written and photographic record of construction phase works. This watching brief will entail periodic site inspections at intervals based on profession judgement of the appointed archaeologist and the frequency of these inspections will be agreed with the National Monuments Service as part of the licence application process.	Construction



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
		In the event that the appointed archaeologist identifies any areas with the potential to contain archaeological remains beneath modern fill material within the corridors of existing road infrastructure then constant archaeological monitoring of ground works will be carried out in the relevant area.	
7	15.6.2	In the event that any sub-surface archaeological features are identified by the appointed archaeologist during monitoring of trenching works, the ground works will halt at the relevant location while the identified archaeological remains are manually cleaned, recorded and left in situ. The identified remains will then be securely cordoned off and resealed while the appointed archaeologist notifies the National Monuments Service who will be consulted to determine any further appropriate mitigation measures, which may include preservation in situ (by avoidance) or preservation by record (archaeological excavation).	Construction
8	15.6.2	Constraints (protected structures, as well as an undesignated water pump feature) will be identified during construction phase site inductions to ensure that onsite staff are informed of their locations, which will be clearly defined as no entry areas.	Construction



18.12 Chapter 16 Landscape and Visual Impact

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
1	16.8.3.1	All construction activities should follow best practice methods to reduce environmental impacts upon the environment, as outlined in a Construction and Environmental Management Plan (CEMP).	Construction
2	16.8.3.1	It is noted that a CEMP Coordinator with appropriate experience should be appointed for the duration of the construction phase so that the CEMP is effectively implemented.	Construction
3	16.8.3.2	Visual impact during the construction phase can be mitigated somewhat through appropriate site management measures and work practices to ensure the site is kept tidy, dust is kept to a minimum, and that public areas are kept free from building material and site rubbish.	Construction
4	16.8.3.2	To reduce the potential Adverse impacts during the construction phase, good site management and housekeeping practices should be adhered to.	Construction
5	16.8.3.3	With regard to the protection of the retained trees on site during proposed construction works, these should be undertaken with reference to BS5837: Trees in relation Design, Demolition and Construction – Recommendations (British Standards, 2012).	Construction
6	16.8.4	Implementation of the Landscape Plan see Drawing No. P24188-FT-XX-XX-DR-CE-3000. The principal design objectives of the landscape mitigation are to: - Assimilate the proposed development into the landscape and minimise adverse visual effects through landscape treatments that minimise views of proposed structures for visual receptors in the surrounding landscape. - Enhance landscape character and the quality of existing views through the reinforcement of existing characteristic landscape features. - Enhance the biodiversity value of the site through diversification of existing vegetation present within and around the boundaries of the site.	Construction and Operation



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
		Provide planting of suitable maturity to accelerate visual softening during early operational years and to support the long-term establishment of a robust vegetative framework.	
7	16.8.4.1	The only vegetation to be removed will be to facilitate sightlines at the gate, or to facilitate the installation of the gate along the L3045 or installation of the proposed gas pipeline or drainage pipes. Only the removal of individual plants is anticipated, rather than any land clearance.	Construction and Operation
8	16.8.4.2	Most of the existing hedgerows and other vegetation along the boundaries of the site is proposed to be retained and bolstered with under-planting and inter-planting of whip transplants (i.e. Hedgerow Type 1 refer to Figure 16-10 in Chapter 16) in order to ensure dense and consistent screening of the site in perpetuity, and to improve the overall structure of this existing vegetation. This will be undertaken where required to thicken and fill gaps in the existing hedgerow network prior to the construction phase.	Construction and Operation
9	16.8.4.2	Advanced nursery stock in the form of 8-10cm girth trees will be used to fill any noticeable gaps and plant species will be selected to complement the existing broadleaf hedgerow species mix around the site and will be native and local species.	Construction and Operation
10	16.8.4.2	Where not already exceeded by existing vegetation, it is intended to manage hedgerows up to 3-4m in height. This height will be achieved by a combination of allowing lower sections of existing hedgerows to mature, filling obvious gaps with advanced nursery stock and providing an additional line of whip planting to selected hedgerows that require densification	Construction and Operation
11	16.8.4.2	It is also proposed to plant new 'Type 2' hedgerows (Refer to Figure 16-11 in Chapter 16), with whips and a high proportion of advance nursery stock trees (native and local species) (c.3m planted height), along the boundaries of the site where the existing hedgerow is required to be removed to accommodate the proposed development. The design will include for species that flower at different times of the year. All of this planting will be allowed to mature up to a maintained height of 3-4m to aid in screening and softening the effect of the proposed development from receptors and surrounding local and regional roads.	Construction and Operation



Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/Commitments	Stage
12	16.8.4.3	Once the construction stage works are complete, the road surface and/or areas of grass surrounding the pipeline corridor should be fully reinstated, with appropriate verge seeding employed to reinstate grass areas disturbed through installation of the pipeline.	Construction and Operation
13	16.8.6	Monitoring Landscape tender drawings and specifications will be produced to ensure that the landscape work is implemented in accordance with best practice. This document will include tree work procedures, soil handling, planting and maintenance. The contract works will be supervised by a suitably qualified landscape architect. The planting works will be undertaken as soon as practicable in conjunction with the main civil engineering and building work, but latest by the next available planting season after project completion. All tree protection requirements will be installed on commencement of the development and removed on a phased basis as required, as stages of the development are completed.	Construction
14	16.8.6	Monitoring Monitoring works will comprise of weed control, replacement planting, and formative maintenance works (pruning etc). All landscape works will typically be managed during an establishment phase for the initial three years from planting. All planting will be monitored on an ongoing basis to ensure successful establishment and ongoing vigour.	Operation
15	16.8.5	Decommissioning phase mitigation would be similar to construction phase mitigation. This would include following best practice methods for all decommissioning activities, implementing appropriate site management procedures, and establishing protection measures for existing trees and hedgerows to be retained.	Decommissioning



18.13 Bibliography

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