Site Assessment Report – Phase 2 Report No. PH 00857 00

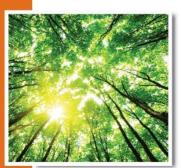












Appendix L – Updated Matrices

1.0	Cultural Heritage	Ferrybank	Kilbride	Shelton Abbey
	Cultural Heritage - Sites			
1.1.1	Potential to impact (direct/indirect) on National Monuments (designated sites)	Imperceptible	Imperceptible	Imperceptible
1.1.2	Potential to impact (direct/indirect) on RMPs (designated sites)	Imperceptible	Imperceptible	Imperceptible
1.1.3	Potential to impact (direct/indirect) on RPS/NIAH (designated sites)	Imperceptible	Imperceptible	Imperceptible
1.1.4	Potential to impact (direct/indirect) on CH sites (previously unrecorded sites)	Imperceptible	Slight - greenfield site	Imperceptible
1.1.5	Potential to impact (direct) on water courses and environs (areas of archaeological potential)	Imperceptible	Imperceptible	Imperceptible
1.1.6	Potential to impact (direct/indirect) on historic designed landscapes	Imperceptible	Imperceptible	Imperceptible
1.1.7	Potential to impact (direct) on townland boundaries (cultural heritage significance)	Imperceptible	Imperceptible	Imperceptible
1.2	Cultural Heritage - Route Corridors	Ferrybank	Kilbride	Shelton Abbey
1.2.1	Potential to impact on RMPs	Imperceptible	Imperceptible	Imperceptible
1.2.2	Potential to impact on National Monuments	Imperceptible	Imperceptible	Imperceptible
1.2.3	Potential to impact on RPS/NIAH	Imperceptible	Imperceptible	Imperceptible
1.2.4	Potential to impact on CH sites	Imperceptible	Moderate - corridor thorugh	Moderate - corridor thorugh
			greenfield lands	greenfield lands
1.2.5	Potential to impact on historic designed landscapes	Imperceptible	Imperceptible	Imperceptible
1.2.6	Potential to impact on ACA	Imperceptible	Imperceptible	Imperceptible
1.3	Cultural Heritage - Outfalls	Ferrybank	Kilbride	Shelton Abbey
1.3.1	Potential to impact on RMPs	Imperceptible	Imperceptible	Imperceptible
1.3.2	Potential to impact on National Monuments	Imperceptible	Imperceptible	Imperceptible
1.3.3	Potential to impact on RPS/NIAH	Imperceptible	Imperceptible	Imperceptible
1.3.4	Potential to impact on CH sites	Imperceptible	Imperceptible	Imperceptible
1.3.5	Potential to impact on Recorded shipwreck sites	Imperceptible	Imperceptible	Imperceptible
1.3.6	Potential to impact on inter-tidal archaeology (previously unknown)	Imperceptible	Imperceptible	Imperceptible
2.0	Landscape & Visual	Ferrybank	Kilbride	Shelton Abbey
2.1	Landscape & Visual - Sites	Ferrybank	Klibilde	Sileiton Abbey
2.1.1	Potential to impact on views from scenic routes (designation in Wicklow CDP)	Imperceptible	Imperceptible	Imperceptible
2.1.2	Potential to impact on areas of 'Highly Sensitive Landscape' (designation in Wicklow CDP)	Imperceptible	Imperceptible	Imperceptible
2.1.3	Potential to impact on views from heritage/tourist/amenity features	Imperceptible	Imperceptible	Imperceptible
2.1.4	Potential to impact on the character of the landscape	Imperceptible	Slight - existing 'rural' character	Imperceptible
2.1.5	Potential that landscape screening will be ineffective or contribute to landscape and visual impacts	Imperceptible	Imperceptible	Imperceptible
2.1.6	Potential to impact on views from settlements	Imperceptible	Imperceptible	Imperceptible
2.1.7	Potential to impact on views from dwellings / local roads	Moderate - Closest site to Arklow	Slight - Elevated site visible form	Imperceptible
		town centre	surrounds	
2.1.8	Potential to impact on views from M11 motorway	Imperceptible	Imperceptible	Slight - visible from M11 bridge
				(northbound)
2.1.9	Potential to impact on views from Dublin - Rosslare rail line	Imperceptible	Imperceptible	Slight - visible from railway line
2.1.10	Potential to impact on views from other major roads (national or regional roads)	Imperceptible	Imperceptible	Imperceptible
	Potential to disrupt landscape structure (hedgerows / field pattern etc.)	Imperceptible	Imperceptible	Imperceptible
2.1.12	Potential to impact on historic designed landscapes	Imperceptible	Imperceptible	Imperceptible
2.1.13	Potential to impact on woodlands and significant tree groups	Imperceptible	Imperceptible	Imperceptible

2.2	Landscape & Visual - Route Corridors - Pipelines	Ferrybank	Kilbride	Shelton Abbey
2.2.1	Potential to impact on views from scenic routes (designation in Wicklow CDP)	Imperceptible	Imperceptible	Imperceptible
2.2.2	Potential to impact on areas of 'Highly Sensitive Landscape' (designation in Wicklow CDP)	Imperceptible	Imperceptible	Imperceptible
2.2.3	Potential to impact on views from settlements	Imperceptible	Imperceptible	Imperceptible
2.2.4	Potential to impact on views from dwellings / local roads	Imperceptible	Imperceptible	Imperceptible
2.2.5	Potential to impact on views from motorways	Imperceptible	Imperceptible	Imperceptible
2.2.6	Potential to impact on views from other major roads (national or regional roads)	Imperceptible	Imperceptible	Imperceptible
2.2.7	Potential to impact on views from Dublin - Rosslare rail line	Imperceptible	Imperceptible	Imperceptible
2.2.8	Potential to impact on views from heritage/tourist features	Imperceptible	Imperceptible	Imperceptible
2.2.9	Potential to disrupt landscape structure (treelines / hedgerows / field pattern etc.)	Imperceptible	Slight - Changes during	Slight - Changes during
			construction phase along route	construction phase along route
2.2.10	Potential to impact on woodlands and significant tree groups	Imperceptible	Imperceptible	Imperceptible
2.2.11	Potential to impact on rivers and streams	Imperceptible	Imperceptible	Imperceptible
2.2.12	Potential to impact on historic designed landscapes	Imperceptible	Imperceptible	Imperceptible
2.3	Landscape & Visual - Outfalls (Landward side)	Ferrybank	Kilbride	Shelton Abbey
2.3.1	Potential to impact on views from scenic routes (designation in Wicklow CDP)	Imperceptible	Imperceptible	Imperceptible
2.3.2	Potential to impact on 'Highly Sensitive Landscape' (designation in Wicklow CDP)	Imperceptible	Imperceptible	Imperceptible
2.3.3	Potential to impact on coastal walks (indicated in Wicklow CDP)	Imperceptible	Imperceptible	Imperceptible
2.3.4	Potential to impact on bathing locations (indicated in Wicklow CDP)	Imperceptible	Imperceptible	Imperceptible
2.3.5	Potential to impact on views from settlements	Imperceptible	Imperceptible	Imperceptible
2.3.6	Potential to impact on views from dwellings / local roads	Imperceptible	Imperceptible	Imperceptible
2.3.7	Potential to impact on views from major roads (national or regional roads)	Imperceptible	Imperceptible	Imperceptible
2.3.8	Potential to impact on views from Dublin - Rosslare rail line	Imperceptible	Imperceptible	Imperceptible
2.3.9	Potential to impact on views from heritage/tourist features	Imperceptible	Imperceptible	Imperceptible
2 3 10	Potential to Impact on Character of the Coastal Landscape	Imperceptible	Imperceptible	Imperceptible

2.0	Ecology			
	Ecology - Sites	Ferrybank	Kilbride	Shelton Abbey
	Potential to impact on Natura 2000 Sites	Imperceptible	Imperceptible	Imperceptible
3.1.2	Potential to impact on Habitats Directive Annex II listed species in freshwater	Imperceptible	Imperceptible	Slight - Disturbance of previously land-filled areas may have a potential to mobilise contaminants that could enter watercourses connected to Arklow Town Marsh and the Avoca river and may require additional geotechnical site investigation
3.1.3	Potential to impact on Habitats Directive Annex II listed species in coastal and marine waters	Imperceptible	Imperceptible	Imperceptible
3.1.4	Potential to impact on pNHAs and Conservation Zones	Imperceptible		Slight - Disturbance of previously land-filled areas may have a potential to mobilise contaminants that could enter watercourses connected to Arklow Town Marsh and the Avoca river and may require additional geotechnical site investigation
3.1.5	Potential to impact upon ecological corridors, nature development area or high value habitats	Imperceptible	Slight - Arklow Town and Environs Development Plan 2011-2017 Objectives: BD1, BD2, BD3, BD4, BD5, BD6 are considered to be capable of being implemented given the size of individual field areas within the land parcel.	Imperceptible
3.1.6	Potential to impact on breeding habitat for Annex 1 bird species	Imperceptible	Imperceptible	Imperceptible
3.1.7	Potential to impact on IWeBS identified areas of importance	Imperceptible	Imperceptible	Imperceptible

3.2	Ecology - Route Corridors/Pipelines	Ferrybank	Kilbride	Shelton Abbey
	Potential to impact on Natura 2000 sites	Imperceptible	Imperceptible	Imperceptible
3.2.2	Potential to impact on Habitats Directive Annex II listed species in freshwater	Imperceptible	Imperceptible	Slight - Disturbance of previously land-filled areas may have a potential to mobilise contaminants that could enter watercourses connected to Arklow Town Marsh and the Avoca river and may require additional geotechnical site investigation
3.2.3	Potential to impact on Habitats Directive Annex II listed species in coastal and marine waters	Imperceptible	Imperceptible	Imperceptible
	Potential to impact on pNHAs and Conservation Zones	Imperceptible	Slight - Arklow Town and Environs Development Plan 2011-2017 Objectives BD2, WS2 require avoidance of construction within Arklow Town Marsh, and avoidance of hydrological impacts on the Marsh. Disturbance of previously land-filled areas may have a potential to mobilise contaminants that could enter watercourses connected to Arklow Town Marsh and the Avoca river and may require additional geotechnical site investigation	Development Plan 2011-2017 Objectives BD2, WS2 require avoidance of construction within Arklow Town Marsh, and avoidance of hydrological impacts on the Marsh. Disturbance of previously land-filled areas may have a potential to mobilise contaminants that could enter watercourses connected to Arklow Town Marsh and the Avoca river and may require additional geotechnical site investigation
3.2.5	Potential to impact upon ecological corridors, nature development area or high value habitats	Imperceptible	Imperceptible - Arklow Town and Environs Development Plan 2011- 2017 Objectives: BD1, BD2, BD3, BD4, BD5, BD6 are considered to be capable of being implemented in the context of a revised pipeline corridor	Imperceptible
3.2.6	Potential to impact on breeding habitat for Annex 1 bird species	Imperceptible	Imperceptible	Imperceptible
3.2.7	Potential to impact on IWeBS identified areas of importance	Imperceptible	Imperceptible	Imperceptible

	Ecology - Outfalls	Ferrybank	Kilbride	Shelton Abbey
3.3.1	Marine Outfall; Coastal Natura 2000 sites	Slight - Potential impacts on the	Slight - Potential impacts on the	Slight - Potential impacts on the
		coastal SACs Magharabeg Dunes	coastal SACs Magharabeg Dunes	coastal SACs Magharabeg Dunes
		SAC, Buckroney – Brittas Dunes	SAC, Buckroney – Brittas Dunes	SAC, Buckroney – Brittas Dunes
		and Fen SAC, and Kilpatrick	and Fen SAC, and Kilpatrick	and Fen SAC, and Kilpatrick
		Sandhills SAC and their	Sandhills SAC and their	Sandhills SAC and their
		conservation interests	conservation interests	conservation interests
332	Marine Outfall; Marine Natura 2000 sites	Imperceptible	Imperceptible	Imperceptible
	Marine Outfall; Habitats Directive Annex II listed species	Imperceptible - Marine Mammal	Imperceptible	Imperceptible
0.0.0	The state of the s	Observer (MMO) is to be employed	por σοραίοιο	рогоориви
		during any geophysical survey or		
		piling operations for the protection		
		of individual marine mammals		
		from noise-related injury or		
		disturbance		
		disturbance		
3.3.4	Marine Outfall; Birds Directive Annex 1 listed species	Imperceptible	Imperceptible	Imperceptible
	Potential to impact on IWeBS identified areas of importance	Imperceptible	Imperceptible	Imperceptible
3.3.6	River outfall; Habitats Directive Annex II listed species in freshwater	Imperceptible	Imperceptible - A river outfall	Imperceptible - A river outfall
			option from the Kilbride land parcel	option from the Shelton Abbey
			will be required to be subject to	land parcel will be required to be
			appropriate treatment levels and	subject to appropriate treatment
			licencing requirements in order to	levels and licencing requirements
			maintain or improve the	in order to maintain or improve the
			conservation status of Habitats	conservation status of Habitats
			Directive Annex II listed fish	Directive Annex II listed fish
			species that occur in the Avoca	species that occur in the Avoca
			river and its estuary; Salmon, Sea	river and its estuary; Salmon, Sea
			lampreyand River lamprey.	lampreyand River lamprey.
			ampreyana raver lamprey.	ampreyana raver lamprey.
3.3.7	Potential to impact on breeding habitat for Annex 1 bird species	Imperceptible	Slight - Kingfisher survey of river	Slight - Kingfisher survey of river
			banks near outfall location required	banks near outfall location required
			at detailed design stage	at detailed design stage
	Hydrology	Ferrybank	Kilbride	Shelton Abbey
	Hydrology - Sites	,		·
	Proximity to water bodies in terms of flooding and as an indicator of sensitive surface water receptors	Imperceptible - no significant difference	Imperceptible - no significant difference	Imperceptible - no significant difference
4.1.2	Culverting requirement - used to indicate impact on flood-prone watercourses due to reduced conveyance.	Imperceptible - no culverting	Imperceptible - no culverting	Imperceptible - no culverting
		requirement envisaged	requirement envisaged	requirement envisaged
4.1.3	Area prone to flooding (based on historical data and predicted flood extents adjacent to the site as well as up		Imperceptible. No recorded	Imperceptible. No recorded
	and downstream locations)	instance of flooding	instance of flooding	instance of flooding
	Potential Impact on ecologically important and designated sites.	Imperceptible	Imperceptible	Imperceptible
4.2	Hydrology - Route Corridors Previously to water hadies in terms of fleeding and as an indicator of consitive surface water recenters	Ferrybank	Kilbride	Shelton Abbey
4.2.1	Proximity to water bodies in terms of flooding and as an indicator of sensitive surface water receptors	Imperceptible - no significant difference	Imperceptible - no significant difference	Imperceptible - no significant difference
422	Culverting requirement - used to indicate impact on flood-prone watercourses due to reduced conveyance.	Imperceptible - no culverting	Imperceptible - no culverting	Imperceptible - no culverting
7.2.2	Carrorang requirement accords influence impact of nood-profile watercourses due to reduced conveyance.	requirement envisaged	requirement envisaged	requirement envisaged
123	Area prone to flooding (based on historical data and predicted flood extents adjacent to the site as well as up		Slight - historic instances of	Slight - historic instances of
7.2.3	Area profile to flooding (based of historical data and predicted flood extents adjacent to the site as well as up and downstream locations)	flooding along route ofpipeline	flooding along route ofpipeline	flooding along route ofpipeline
	and downstream rocations)	corridor	corridor	corridor
121	Potential Impact on ecologically important and designated sites.	Imperceptible	Slight - Arklow Marsh - pNHA	Slight - Arklow Marsh - pNHA
4.2.4	r otermal impact on ecologically important and designated sites.	Imperceptible	Slight - Arkiow Marsh - PINTA	Slight - Arkiow Marsh - pMA

	Hydrology - Outfalls	Ferrybank	Kilbride	Shelton Abbey
4.3.1	Proximity to water bodies in terms of flooding and as an indicator of sensitive surface water receptors	Imperceptible - no significant	Imperceptible - no significant	Imperceptible - no significant
		difference	difference	difference
4.3.2	Potential to impact Shellfish Waters	Imperceptible. Study Area is not	Imperceptible. Study Area is not	Imperceptible. Study Area is not
	, and the second	located within the designated	located within the designated	located within the designated
		shellfish waters	shellfish waters	shellfish waters
4.3.3	Area prone to flooding (based on historical data and predicted flood extents adjacent to the site as well as up		Imperceptible - no significant	Imperceptible - no significant
	and downstream locations)	difference	difference	difference
4.3.4	Potential Impact on ecologically important and designated sites	Imperceptible	Imperceptible	Imperceptible
5.0	Hydrogeology	Ferrybank	Kilbride	Shelton Abbey
	Hydrogeology - Sites	renybank	Klibilde	Sileiton Abbey
5.1.1	Aquifer Classification - importance of the groundwater resource to a given area	Slight - Locally Important Bedrock Aquifer	Slight - Locally Important Bedrock Aguifer	Slight - Locally Important Bedrock Aquifer & Locally Important Gravel
		7.194.1101	, iquiloi	Aguifer
5.1.2	Vulnerability Classification - potential for groundwater contamination	Imperceptible - "Low"	Moderate - "High" to "Extreme" to	Slight - "Moderate"
			"Rock at near Surface or Karst"	
5.1.3	Groundwater Supplies - identification of water supply springs and bored wells based on GSI & EPA records.	Imperceptible - 1 no. well -	Imperceptible - 1 no. well -	Imperceptible - No wells
		ID:3217SWW051 Accuracy: 2km	ID:3217SWW043 Accuracy:	
			100m	
5.1.4	Groundwater Source Protection Area's and Zones of Contribution as per available GSI & EPA data	Imperceptible - No SPA's of ZOC's	Imperceptible - No SPA's of ZOC's	Imperceptible - No SPA's of ZOC's
		in close proximity	in close proximity	in close proximity
5.1.5	Identification of hydrogeological features from the GSI karst database	Imperceptible - No karst feature	Imperceptible - No karst feature	Imperceptible - No karst feature
		within 2 km	within 2 km	within 2 km
	Hydrogeology - Route Corridors	Ferrybank	Kilbride	Shelton Abbey
5.2.1	Aquifer Classification - importance of the groundwater resource to a given area	Slight - Locally Important Bedrock	Slight - Locally Important Bedrock	Slight - Locally Important Bedrock
		Aquifer	Aquifer & Locally Important Gravel	Aquifer & Locally Important Gravel
			Aguifer	
5.2.2				Aquifer
1	Vulnerability Classification - potential for groundwater contamination	Imperceptible - "Low"	Imperceptible - "Low"	Imperceptible - "Moderate" to
			Imperceptible - "Low"	Imperceptible - "Moderate" to "Low"
	Vulnerability Classification - potential for groundwater contamination Groundwater Supplies - identification of water supply springs and bored wells based on GSI records.	Imperceptible - no significant	Imperceptible - "Low" Imperceptible - no significant	Imperceptible - "Moderate" to "Low" Imperceptible - no significant
5.2.3	Groundwater Supplies - identification of water supply springs and bored wells based on GSI records.	Imperceptible - no significant difference	Imperceptible - "Low" Imperceptible - no significant difference	Imperceptible - "Moderate" to "Low" Imperceptible - no significant difference
5.2.3		Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's	Imperceptible - "Low" Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's	Imperceptible - "Moderate" to "Low" Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's
5.2.3	Groundwater Supplies - identification of water supply springs and bored wells based on GSI records. Groundwater Source Protection Area's and Zones of Contribution as per available GSI data	Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity	Imperceptible - "Low" Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity	Imperceptible - "Moderate" to "Low" Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity
5.2.3	Groundwater Supplies - identification of water supply springs and bored wells based on GSI records.	Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity Imperceptible - No karst feature	Imperceptible - "Low" Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity Imperceptible - No karst feature	Imperceptible - "Moderate" to "Low" Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity Imperceptible - No karst feature
5.2.3 5.2.4 5.2.5	Groundwater Supplies - identification of water supply springs and bored wells based on GSI records. Groundwater Source Protection Area's and Zones of Contribution as per available GSI data Identification of hydrogeological features from the GSI karst database	Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity Imperceptible - No karst feature within 2 km	Imperceptible - "Low" Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity Imperceptible - No karst feature within 2 km	Imperceptible - "Moderate" to "Low" Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity Imperceptible - No karst feature within 2 km
5.2.3 5.2.4 5.2.5	Groundwater Supplies - identification of water supply springs and bored wells based on GSI records. Groundwater Source Protection Area's and Zones of Contribution as per available GSI data Identification of hydrogeological features from the GSI karst database Hydrogeology - Outfalls	Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity Imperceptible - No karst feature within 2 km Ferrybank	Imperceptible - "Low" Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity Imperceptible - No karst feature within 2 km Kilbride	Imperceptible - "Moderate" to "Low" Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity Imperceptible - No karst feature within 2 km Shelton Abbey
5.2.3 5.2.4 5.2.5	Groundwater Supplies - identification of water supply springs and bored wells based on GSI records. Groundwater Source Protection Area's and Zones of Contribution as per available GSI data Identification of hydrogeological features from the GSI karst database	Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity Imperceptible - No karst feature within 2 km Ferrybank Slight - Locally Important Bedrock	Imperceptible - "Low" Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity Imperceptible - No karst feature within 2 km Kilbride Slight - Locally Important Bedrock	Imperceptible - "Moderate" to "Low" Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity Imperceptible - No karst feature within 2 km Shelton Abbey Slight - Locally Important Bedrock
5.2.3 5.2.4 5.2.5	Groundwater Supplies - identification of water supply springs and bored wells based on GSI records. Groundwater Source Protection Area's and Zones of Contribution as per available GSI data Identification of hydrogeological features from the GSI karst database Hydrogeology - Outfalls	Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity Imperceptible - No karst feature within 2 km Ferrybank	Imperceptible - "Low" Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity Imperceptible - No karst feature within 2 km Kilbride Slight - Locally Important Bedrock Aquifer & Locally Important Gravel	Imperceptible - "Moderate" to "Low" Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity Imperceptible - No karst feature within 2 km Shelton Abbey Slight - Locally Important Bedrock Aquifer & Locally Important Gravel
5.2.3 5.2.4 5.2.5 5.3 5.3.1	Groundwater Supplies - identification of water supply springs and bored wells based on GSI records. Groundwater Source Protection Area's and Zones of Contribution as per available GSI data Identification of hydrogeological features from the GSI karst database Hydrogeology - Outfalls Aquifer Classification - importance of the groundwater resource to a given area	Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity Imperceptible - No karst feature within 2 km Ferrybank Slight - Locally Important Bedrock Aquifer	Imperceptible - "Low" Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity Imperceptible - No karst feature within 2 km Kilbride Slight - Locally Important Bedrock Aquifer & Locally Important Gravel Aquifer	Imperceptible - "Moderate" to
5.2.3 5.2.4 5.2.5 5.3.1 5.3.2	Groundwater Supplies - identification of water supply springs and bored wells based on GSI records. Groundwater Source Protection Area's and Zones of Contribution as per available GSI data Identification of hydrogeological features from the GSI karst database Hydrogeology - Outfalls Aquifer Classification - importance of the groundwater resource to a given area Vulnerability Classification - potential for groundwater contamination	Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity Imperceptible - No karst feature within 2 km Ferrybank Slight - Locally Important Bedrock Aquifer Imperceptible - "Low" rating	Imperceptible - "Low" Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity Imperceptible - No karst feature within 2 km Kilbride Slight - Locally Important Bedrock Aquifer & Locally Important Gravel Aquifer Imperceptible - "Moderate" rating	Imperceptible - "Moderate" to
5.2.3 5.2.4 5.2.5 5.3.1 5.3.2	Groundwater Supplies - identification of water supply springs and bored wells based on GSI records. Groundwater Source Protection Area's and Zones of Contribution as per available GSI data Identification of hydrogeological features from the GSI karst database Hydrogeology - Outfalls Aquifer Classification - importance of the groundwater resource to a given area	Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity Imperceptible - No karst feature within 2 km Ferrybank Slight - Locally Important Bedrock Aquifer Imperceptible - "Low" rating Imperceptible - No groundwater	Imperceptible - "Low" Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity Imperceptible - No karst feature within 2 km Kilbride Slight - Locally Important Bedrock Aquifer & Locally Important Gravel Aquifer Imperceptible - "Moderate" rating Imperceptible - No groundwater	Imperceptible - "Moderate" to
5.2.3 5.2.4 5.2.5 5.3.1 5.3.2 5.3.2	Groundwater Supplies - identification of water supply springs and bored wells based on GSI records. Groundwater Source Protection Area's and Zones of Contribution as per available GSI data Identification of hydrogeological features from the GSI karst database Hydrogeology - Outfalls Aquifer Classification - importance of the groundwater resource to a given area Vulnerability Classification - potential for groundwater contamination Groundwater Supplies - identification of water supply springs and bored wells based on GSI records.	Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity Imperceptible - No karst feature within 2 km Ferrybank Slight - Locally Important Bedrock Aquifer Imperceptible - "Low" rating Imperceptible - No groundwater supplies	Imperceptible - "Low" Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity Imperceptible - No karst feature within 2 km Kilbride Slight - Locally Important Bedrock Aquifer & Locally Important Gravel Aquifer Imperceptible - "Moderate" rating Imperceptible - No groundwater supplies	Imperceptible - "Moderate" to
5.2.3 5.2.4 5.2.5 5.3.1 5.3.2 5.3.2	Groundwater Supplies - identification of water supply springs and bored wells based on GSI records. Groundwater Source Protection Area's and Zones of Contribution as per available GSI data Identification of hydrogeological features from the GSI karst database Hydrogeology - Outfalls Aquifer Classification - importance of the groundwater resource to a given area Vulnerability Classification - potential for groundwater contamination	Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity Imperceptible - No karst feature within 2 km Ferrybank Slight - Locally Important Bedrock Aquifer Imperceptible - "Low" rating Imperceptible - No groundwater supplies Imperceptible - No SPA's of ZOC's	Imperceptible - "Low" Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity Imperceptible - No karst feature within 2 km Kilbride Slight - Locally Important Bedrock Aquifer & Locally Important Gravel Aquifer Imperceptible - "Moderate" rating Imperceptible - No groundwater supplies Imperceptible - No SPA's of ZOC's	Imperceptible - "Moderate" to
5.2.3 5.2.4 5.2.5 5.3.1 5.3.2 5.3.3 5.3.4	Groundwater Supplies - identification of water supply springs and bored wells based on GSI records. Groundwater Source Protection Area's and Zones of Contribution as per available GSI data Identification of hydrogeological features from the GSI karst database Hydrogeology - Outfalls Aquifer Classification - importance of the groundwater resource to a given area Vulnerability Classification - potential for groundwater contamination Groundwater Supplies - identification of water supply springs and bored wells based on GSI records. Groundwater Source Protection Area's and Zones of Contribution as per available GSI data	Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity Imperceptible - No karst feature within 2 km Ferrybank Slight - Locally Important Bedrock Aquifer Imperceptible - "Low" rating Imperceptible - No groundwater supplies Imperceptible - No SPA's of ZOC's in close proximity	Imperceptible - "Low" Imperceptible - no significant difference Imperceptible - No SPA's of ZOC's in close proximity Imperceptible - No karst feature within 2 km Kilbride Slight - Locally Important Bedrock Aquifer & Locally Important Gravel Aquifer Imperceptible - "Moderate" rating Imperceptible - No groundwater supplies Imperceptible - No SPA's of ZOC's in close proximity	Imperceptible - "Moderate" to
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6.0	Soils and Geology			<u></u>
	Soils and Geology - Sites	- Ferrybank	Kilbride	Shelton Abbey
	Potential to impact on Geological Heritage Sites / County Geological Sites	Imperceptible - No such sites in	Imperceptible - No such sites in	Imperceptible - No such sites in
		close proximity	close proximity	close proximity
6.1.2	Potential to interact with contaminated land	Moderate - Chance of encountering	Imperceptible - Greenfield Site	Slight - Brownfield Site. History of
		heavy metals & PAH Compounds		industrial activities.
6.1.3	Potential to sterilise mineral resource	Imperceptible - No known mineral	Imperceptible - No known mineral	Imperceptible - No known mineral
		sources or registered quarries in	sources or registered quarries in	sources or registered quarries in
		close proximity	close proximity	close proximity
	Potential to encounter shallow bedrock during construction (interactions with other disciples during	Imperceptible- Bedrock estimated		Imperceptible- Bedrock estimated
	construction - noise, dust etc)	at 10m bgl	portion of the site	at 10m bgl
	Potential impact on karst features	Imperceptible	Imperceptible	Imperceptible
6.1.6	Potential to encounter soft ground	Moderate - Quaternary mapping		Imperceptible - No alluvial deposits
		has noted the subsoil to be an	mapped within Site	mapped within Site
		alluvium gravel deposit consistent		
		with the nature of soils located		
6 4 7	Caila Tunca	near rivers		Made Ground
6.1.7	Soils Types	Made Ground	A sidia dasa wasalu dasina danima wa	
0.4.0	Cub Cail Tunas	Made Ground/Alluvial Gravel	Acidic deep poorly drained mineral Sandstone and shale till	Made Ground
0.1.8	Sub Soil Types		Sandstone and shale till	Made Ground
610	Depth to rock	Deposits ~10m	0 - 10m	5-10m
	Soils and Geology - Route Corridors	Ferrybank	Kilbride	Shelton Abbey
	Potential to impact on Geological Heritage Sites / County Geological Sites	Imperceptible	Imperceptible	Imperceptible
	Potential to interact with contaminated land	Slight - Chance of encountering	Significant - Pipeline route near	Significant - Pipeline route near
0.2.2		heavy metals & PAH Compounds	existing EPA landfill site	existing EPA landfill site
		(associated with made ground)	Saleting El 7 harranii elle	choung Er / tranami one
		(accounted man made greama)		
6.2.3	Potential to sterilize mineral resource	Imperceptible - No known mineral	Imperceptible - No known mineral	Imperceptible - No known mineral
		sources or registered quarries in	sources or registered quarries in	sources or registered quarries in
		close proximity	close proximity	close proximity
6.2.4	Potential to encounter shallow bedrock during construction (interactions with other disciples during	Imperceptible	Moderate - Outcrop shown on GSI	Moderate - Outcrop shown on GSI
	construction - noise, dust etc)		Mapping in the vicinity of M11	Mapping in the vicinity of M11
			motorway	motorway
	Potential impact on karst features	Imperceptible	Imperceptible	Imperceptible
6.2.6	Potential to encounter soft ground	Slight - Quaternary mapping has	Moderate - Quaternary mapping	Moderate - Quaternary mapping
		noted the subsoil to bean alluvium	has noted the subsoil to be an	has noted the subsoil to be an
		gravel deposit consistent with the	alluvium gravel deposit consistent	alluvium gravel deposit consistent
		nature of soils located nearrivers	with the nature of soils located	with the nature of soils located
			near rivers/marsh	near rivers/marsh

6.3	Soils and Geology - Outfalls		Kilbride	Shelton Abbey
6.3.1	Potential to impact on Geological Heritage Sites / County Geological Sites	Imperceptible	Imperceptible	Imperceptible
6.3.2	Potential to interact with contaminated land	Imperceptible - Ensure avoidance	Imperceptible - Negociate exact	Imperceptible - Negociate exact
		of river dregde dump site offshore	location away from gypsum/carbon	location away from gypsum/carbon
			ponds	ponds
6.3.3	Potential to sterilize mineral resource	Imperceptible	Imperceptible	Imperceptible
6.3.4	Potential to encounter shallow bedrock during construction (interactions with other disciples during	Imperceptible	Imperceptible	Imperceptible
	construction - noise, dust etc)			
6.3.5	Potential impact on karst features	Imperceptible	Imperceptible	Imperceptible
6.3.6	Potential to encounter soft ground	Moderate - Banks of Avoca River/	Moderate - Banks of Avoca River	Moderate - Banks of Avoca River
		Coastal Location		
	Agronomy & Landuse - Sites	Ferrybank	Kilbride	Shelton Abbey
7.1	Approximate % Reduction in overall farm holding	Imperceptible	Slight - approx. 6.5% reduction	Imperceptible
7.2	Farming Enterprise	Imperceptible - no farming	Moderate - farming enterprise	Imperceptible - no farming
		enterprise		enterprise
7.3	Number of landowners impacted within site boundary	Slight - 1	Slight - 1	Slight - 1
7.4	Land Quality	Imperceptible - Poor Land Quality	Slight - Good Land Quality	Imperceptible - Poor Land Quality
7.5	Severance based on site location within overall land holdings	Imperceptible	Slight	Imperceptible
	Potential Impacts on landholdings	Imperceptible	Reduction in farm size	Imperceptible
	Crop rotation practiced	No	Yes	No
7.8	Overall Impact	Imperceptible	Moderate	Imperceptible
	Noise & Vibration	Ferrybank	Kilbride	Shelton Abbey
8.1	Potential for Construction phase noise impact at Sensitive receptors	Moderate - 90 dwellings (PIR	Imperceptible - 0 dwellings (PIR	Slight - 6 dwellings (PIR
		Weighted) within 300 m	Weighted) within 300 m	Weighted) within 300 m
8.2	Potential for Operational phase noise impact at Sensitive receptors	Slight -Facility shall reach 55db(A)	Slight - Facility shall reach 55db(A)	Slight - Facility shall reach 55db(A)
		Daytime and 45 db(A) night at	Daytime and 45 db(A) night at	Daytime and 45 db(A) night at
		closest receptor	closest receptor	closest receptor
8.3	Existing Ambient Noise Climate in the Area (significant noise sources)	Close to Arklow Town Centre	Relatively rural farmland area.	Relatively rural farmland area.
			Borders M11 motorway	Borders M11 motorway
8.4	Construction Phase Impact rating	Imperceptible	Imperceptible	Imperceptible
8.5	Operational Phase Impact rating	Imperceptible	Imperceptible	Imperceptible

9.1 Potential for Construction Phase Air Quality Impact at Sensitive Receptors Moderate - Approx. 339 Develtings Within 500m of Site Boundary 94 Potential for Operational Phase Air Quality Impact at Sensitive Receptors Facility shall reach Appropriate Air Quality Standards at Emission Quality Standards Qu	9.0	Air and Odour	Ferrybank	Kilbride	Shelton Abbey
9.2 Potential for Operational Phase Air Quality Impact at Sensitive Receptors 9.3 Potential for Odour Impacts at Operational phase 9.4 Potential for Odour Impacts at Construction phase 9.5 Proximity to EPA Waste Licensed facility 9.6 Proximity to EPA Waste Licensed facility 9.7 EPA Air Quality Zono Glassification 9.8 Wind Rose Assessment 9.8 Wind Rose Assessment 9.8 Wind Rose Assessment 9.8 Wind Rose Assessment 9.9 Ropids and Communities - Sites 9.0 Rose in Tereidential & commercial buildings 100-200m from site boundary 9.10 Potential for impact on known community amenities and facilities within 1 fam from site boundary 10.1 Potential for impact on areas of Significant Population Densities 9.7 EPA Air Quality Zono Glassification or Impacts at Construction of the Country (Fursal Air Quality Classification) 9.8 Wind Rose Assessment or Communities - Sites 9.7 EPA Air Quality Zono Glassification or Impacts at Construction of the Country (Fursal Air Quality Classification) 9.8 Wind Rose Assessment 9.8 Wind Rose Assessment or Construction of the Site within 1 fam of t	9.1	Potential for Construction Phase Air Quality Impact at Sensitive Receptors	Moderate - Approx. 339 Dwellings	Slight - Approx. 5 Dwellings within	Slight - Approx. 10 Dwellings
9.2 Potential for Operational Phase Air Quality Impact at Sensitive Receptors 9.3 Potential for Odour Impacts at Operational phase 9.4 Potential for Odour Impacts at Construction phase 9.5 Proximity to EPA Waste Licensed facility 9.6 Proximity to EPA Waste Licensed facility 9.7 EPA Air Quality Zono Glassification 9.8 Wind Rose Assessment 9.8 Wind Rose Assessment 9.8 Wind Rose Assessment 9.8 Wind Rose Assessment 9.9 Ropids and Communities - Sites 9.0 Rose in Tereidential & commercial buildings 100-200m from site boundary 9.10 Potential for impact on known community amenities and facilities within 1 fam from site boundary 10.1 Potential for impact on areas of Significant Population Densities 9.7 EPA Air Quality Zono Glassification or Impacts at Construction of the Country (Fursal Air Quality Classification) 9.8 Wind Rose Assessment or Communities - Sites 9.7 EPA Air Quality Zono Glassification or Impacts at Construction of the Country (Fursal Air Quality Classification) 9.8 Wind Rose Assessment 9.8 Wind Rose Assessment or Construction of the Site within 1 fam of t					
Quality Standards at Emission Points			,	•	,
Quality Standards at Emission Points	9.2	Potential for Operational Phase Air Quality Impact at Sensitive Receptors	Facility shall reach Appropriate Air	Facility shall reach Appropriate Air	Facility shall reach Appropriate Air
9.3 Potential for Odour Impacts at Operational phase Moderate - Approx. 339 Dwellings Slight - Approx. 5 Dwellings within 500m of Site Boundary within 500m of S					
### S00m of Site Boundary within 500m of Site Boundary 9.4 Potential for Odour impacts at Construction phase 9.5 Proximity to EPA Waste Licensed facility 9.6 Proximity to EPA Waste Licensed facility 9.7 EPA Ar Quality Classification 9.8 Proximity to EPA Interest 9.8 Will Rose Assessment 9.8 Will Rose Assessment 9.8 Will Rose Assessment 10.1 Number of residential & commercial buildings within 500m from site boundary 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Number of acossings required 10.1 Protential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Pop			Points	Points	Points
9.4 Potential for Odour impacts at Construction phase 9.5 Proximity to EPA Waste Licensed facility 9.6 Proximity to EPA Waste Licensed facility 9.7 EPA Air Quality Zone Classification 9.8 Wind Rose Assessment 9.8 Wind Rose Assessment 9.8 Wind Rose Assessment 9.8 Wind Rose Assessment is considered to be the same facilities within 1km of the 3te	9.3	Potential for Odour Impacts at Operational phase	Moderate - Approx. 339 Dwellings	Slight - Approx. 5 Dwellings within	Slight - Approx. 10 Dwellings
during plant commissioning Imprecipible - No EPA Waste Licensed facility within 1km of the Site Site Imprecipible - No EPA Waste Licensed Facility within 1km of the Licensed Facility within 1km of the Site Site Imprecipible - No EPA Waste Licensed Facility within 1km of the Site Site Imprecipible - No EPA Licensed Intensive Agricultural Facility Within 1km of the Site Site Imprecipible - No EPA Licensed Intensive Agricultural Facilities within 1km of the Site Site Imprecipible - No EPA Licensed Intensive Agricultural Facilities within 1km of the Site Site Site Site Site Site Site Sit			within 500m of Site Boundary	500m of Site Boundary	within 500m of Site Boundary
during plant commissioning Imprecipible - No EPA Waste Licensed facility within 1km of the Site Site Imprecipible - No EPA Waste Licensed Facility within 1km of the Licensed Facility within 1km of the Site Site Imprecipible - No EPA Waste Licensed Facility within 1km of the Site Site Imprecipible - No EPA Licensed Intensive Agricultural Facility Within 1km of the Site Site Imprecipible - No EPA Licensed Intensive Agricultural Facilities within 1km of the Site Site Imprecipible - No EPA Licensed Intensive Agricultural Facilities within 1km of the Site Site Site Site Site Site Site Sit					·
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Licensed Facility within 1km of the Site Site Site Site Site Site Site Sit			during plant commissioning	during plant commissioning	during plant commissioning
Site	9.5	Proximity to EPA Waste Licensed facility			
Imperceptible - No EPA Licensed Intensive Agriculture Facilities Imperceptible - No EPA Licensed Intensive Agricultural Facilities within 1km of the Site wi			Licensed Facility within 1km of the	Licensed Facility within 1km of the	Licensed Facility within 1km of the
Intensive Agricultural Facilities within 1km of the Site within 1k					
### within 1km of the Site within 1km of the Site Dear Deast of the Country (Rural Air Quality Classification) 9.8 Wind Rose Assessment 9.8 Wind Rose Assessment is considered to be the same for all 3 Shortilisted Sites 9.8 Sites 9.8 Sight - Approx. 13 9.9 People and Communities - Sites 10.1 Number of residential & commercial buildings 100-200m from site boundary 10.1 Number of residential & commercial buildings within 500m from site boundary 10.1 Petential to impact on known community amenities and facilities within 1km from site boundary. 10.1 Potential to impact on known community amenities and facilities within 1km from site boundary. 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on areas of Significant Population Densities 10.1 Potential to impact on	9.6	Proximity to EPA IPPC Licensed Intensive Agriculture Facility	Imperceptible - No EPA Licensed		Imperceptible - No EPA Licensed
Sylic Pe Air Quality Zone Classification Single Pe Air Quality Zone Classification Air Quality Classification Air Qualit			Intensive Agricultural Facilities	Intensive Agricultural Facilities	Intensive Agricultural Facilities
Air Quality Classification Air Quality Classification Given the Small Area, the Wind Rose Assessment is considered to be the same for all 3 Shortlisted Sites					
Given the Small Area, the Wind Rose Assessment is considered to be the same for all 3 Shortlisted Sites Sites	9.7	EPA Air Quality Zone Classification			Zone D Rest of the Country (Rural
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Sites Site					
10.1 Number of residential & commercial buildings 100-200m from site boundary Slight - Approx. 39 Slight - Approx. 5 Slight -					
10.1 Number of residential & commercial buildings 100-200m from site boundary Moderate - Approx. 339 Slight - Approx. 5 Slight - Approx. 10					
10.1 Number of residential & commercial buildings within 500m from site boundary. Moderate - Approx. 339 Slight - Approx. 5 Slight - Approx. 10			•		
Potential to impact on known community amenities and facilities within 1km from site boundary. Moderate - Arklow leisure centre, skate park/BMX, running track & playing plitches is c. 200 m to the south. Bridgewater shopping centre is located c. 520 m from the boundary of the site while the Marina Village residential development lies 200 m from the site boundary 10.1 Potential to impact on areas of Significant Population Densities					Ü
skate park/BMX, running track & playing pitches is c. 200 m to the north and the goff links c. 500 m to the south. Bridgewater shopping centre is located c. 520 m from the boundary of the site while the Marina Village residential development lies 200 m from the site boundary 10.1 Potential to impact on areas of Significant Population Densities 11.0 Traffic - Sites 11.1 Length of access road required 11.2 Number of crossings required 11.3 Potential impact on landowners 11.4 Works required to provide safe access entrance 11.5 Potential impact on surrounding local road network 11.6 Prequency of accidents on surrounding pletwork (indication of general road safety issues) 11.8 Frequency of accidents on surrounding network (indication of general road safety issues) 12. Number of crossings required limperceptible Imperceptible					0 11
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the south. Bridgewater shopping centre is located c. 520 m from the boundary of the site while the Marina Village residential development lies 200 m from the site boundary 10.1 Potential to impact on areas of Significant Population Densities 11.0 Traffic - Sites 11.1 Length of access road required 11.2 Number of crossings required 11.3 Potential impact on landowners 11.4 Number of crossings required 11.5 Potential impact on landowners 11.6 Potential impact on surrounding local road network 11.7 Prequency of accidents near entrance 11.8 Prequency of accidents near entrance 11.9 Frequency of accidents near entrance 11.1 Prequency of accidents near entrance 11.2 Number of crossings required 11.3 Potential impact on surrounding network (indication of general road safety issues) 11.4 Prequency of accidents on surrounding network (indication of general road safety issues) 12. Surrounding local road network (indication of general road safety issues) 13. East. 14. Imperceptible Imperce					
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11.8 Frequency of accidents on surrounding network (indication of general road safety issues) Low Low Low					
11.0 Road link impacted upon by all construction traffic (excluding major routes) Moderate Moderate					
11.3 Toda initial influence apon by an construction trainic (excluding major routes) moderate moderate moderate	11.9	Road link impacted upon by all construction traffic (excluding major routes)	Moderate	Moderate	Moderate

12.0	12.0 Planning Policy - Sites	Ferrybank	Kilbride	Shelton Abbey
	Existing Land Use on site	Derelict	Agricultural	Commercial/Landfill
	Site zoning	Waterfront Zone	Action Area	Employment
	Local Objectives/Constraints on site	Imperceptible - No	Imperceptible - No	Significant - Zone B - Flood Plain.
	•	Objectives/Contraints	Objectives/Contraints	Justification Test Required
12.4	Land Uses present within 100m of site boundary	Imperceptible Impact: Varied - No	Imperceptible Impact: Varied - No	Imperceptible Impact: Varied - No
		Significant Difference	Significant Difference	Significant Difference
12.5	Zoning present within 100m of site boundary	Commercial Uses	Agricultural Uses	Agricultural Uses
	Zoning present within 1km of site boundary	Active Open Space/Existing	Conservation Zone / Employment	Amenity/Existing
		Residential	(E2) / Existing Residential	Residential/Conservation Zone
			. ,	
12.7	Other Local Objectives present within 1km of site boundary	Imperceptible - None	Slight - SEVESO II – Inside	Slight - SEVESO II - Inside
			1000m buffer. Consultation	1000m buffer. Consultation
			required	required
	Engineering Design - Pipelines	Ferrybank	Kilbride	Shelton Abbey
13.1	Pipeline Length	•		•
	Total Length as Open Cut	510 m	2530 m	3250 m
	Total Length as Tunnel	0 m	0 m	0 m
	Total Length in Marine Outfall	900 m	0 m	0 m
	Total Length in River Outfall	0 m	340 m	125 m
	Total Pipeline Length	1410 m	2870 m	3375 m
	Power Requirements	Ferrybank	Kilbride	Shelton Abbey
	Power Requirement from Load Centre to WwTP Site (18,000 pe)	22154	188262	190292
	Power Requirement from Load Centre to WwTP Site (36,000 pe)	51156	409271	423455
	Total Average Power Requirements	36655	298766.5	306873.5
13.3	Carbon Emissions Tatal and had Salary	Ferrybank	Kilbride	Shelton Abbey
	Total embodied Carbon	119,975.49 780.24	244,205.43 6367.01	287,175.38 6367.01
	Total Lifetime Operational Carbon	120755.73	250572.44	293542.39
	Total Carbon (tonnes CO ₂)			
	Health and Safety	Ferrybank	Kilbride	Shelton Abbey
	Health & Safety	Moderate - Construction of long	Imperceptible - no significant	Imperceptible - no significant
		sea outfall.	difference	difference
	Access / Right of Way / Wayleaves along Pipeline Corridors	Ferrybank	Kilbride	Shelton Abbey
	Restrictions Along Pipeline Corridors to WwTP Sites	2	2	-
	Crossings - Waterways, Rail, etc. along Pipeline Corridors Main River Crossings	Ferrybank 0	Kilbride 0	Shelton Abbey 0
	Stream Crossings	0	0	1
	Canal Crossings	0	1	1
	Motorway Crossings	0	0	1
	National Road Crossings	0	0	0
	Regional Road Crossings	0	1	1
	Railway Crossings	0	0	0
	Total Crossings	0	2	4
	Potential to Impact on Physical Infrastructure along Pipeline Corridors	Ferrybank	Kilbride	Shelton Abbey
	,,,	More Impact on Local Roads	More Impact on Regional Roads	More Impact on Regional Roads
13.8	Potential to Impact on Strategic Utility Services along Pipeline Corridors	Ferrybank	Kilbride	Shelton Abbey
	,, ,, ,, ,,	Imperceptible - no significant	Imperceptible - no significant	Imperceptible - no significant
		differecne	differecne	differecne

13.9	Presence of Public Utilities within Sites	Ferrybank	Kilbride	Shelton Abbey
	Public Utilities within the Site	38kV station & associated	No major public utilities within the	No major public utilities within the
		underground/submarine power	site	site
		cables in close proximity to site		
13.10	Land Ownership and Titles along Pipeline Corridors	Ferrybank	Kilbride	Shelton Abbey
		Least Ownerships	Most Ownerships	Most Ownerships
13.1 [′]	1 Route Traffic Management	Ferrybank	Kilbride	Shelton Abbey
		No Significant Impact after	No Significant Impact after	No Significant Impact after
		Construction Stage	Construction Stage	Construction Stage
13.12	2 Construction Risk along Pipeline Corridors	Ferrybank	Kilbride	Shelton Abbey
		Imperceptible - tunelling works no	Imperceptible - tunelling works not	Imperceptible - tunelling works no
		necessary	necessary	necessary
13.13	3 Operation	Ferrybank	Kilbride	Shelton Abbey
		Imperceptible - no significant	Imperceptible - no significant	Imperceptible - no significant
		difference	difference	difference
	Engineering Design - WwTP	— Ferrybank	Kilbride	Shelton Abbey
14.	1 Engineering Design/Treatment Processes Required - WwTP	· ·	1	,
		Moderate - Assumed need for	Significant - Assumed need for	Profound - Assumed need for
		further odour control	tertiary treatment	tertiary treatment & flood mitigation
				works
14.2	Health & Safety - WwTP Construction	Ferrybank	Kilbride	Shelton Abbey
		Imperceptible - no significant	Imperceptible - no significant	Imperceptible - no significant
		difference	difference	difference
14.3	Remediation Works -WwTP & Pipelines	Ferrybank	Kilbride	Shelton Abbey
		Moderate - asbestos removal	Moderate - EPA landfill	Moderate - EPA landfill
		required	remediation required (outfall	remediation required (rising mair
			pipeline)	
14.4	4 Capital & Operational Costs	Ferrybank	Kilbride	Shelton Abbey
	Annual Energy Costs - SBR Treatment Process	€161,000.00	€319,000.00	€319,000.00
	Annual Sludge Disposal Costs - SBR Treatment Process	€364,000.00	€284,000.00	€284,000.00
	Annual Labour & Maintenance Costs - SBR Treatment Process	€289,000.00	€289,000.00	€289,000.00
	Total Annual Operational Costs	€814,000.00	€892,000.00	€892,000.00
44	Capital Costs of WwTP	€7,030,000.00	€12,332,000.00	€12,332,000.00
14.	Carbon Emissions - WwTP Annual Carbon Emissions associated with SBR Treatment Process	Ferrybank	Kilbride	Shelton Abbey
15 0		824,000 kg/year	1,631,000 kg/year	1,631,000 kg/year
	Land Valuation	— Ferrybank	Kilbride	Shelton Abbey
	1 Land Valuation - Sites & Wayleaves Price per area - Site		Lower than Formthank Higher thes	
10.	TEDGE DEL ATEX - 50E	Most Expensive – 4 times more	Lower than Ferrybank, Higher than Shelton Abbey – 2 times more	Least Expensive
10.	The per and the		1 Spelich Appey – 7 times more	Least Expensive
10.	The portained the	than Shelton Abbey		
10.		than Shelton Abbey	expensive	
10.	Price - Wayleaves Required for Pipelines	than Shelton Abbey Least Expensive (Smaller pipe	expensive Higher that Ferrybank, lower than	Most Expensive (Longest pipe
10.		•	expensive Higher that Ferrybank, lower than Shelton Abbey (Longer pipe	Most Expensive (Longest pipe lengths)
		Least Expensive (Smaller pipe	expensive Higher that Ferrybank, lower than	