

Staleen WTP to Duleek- Study Area 1 - Iteration 1

Qualitative Rating System	
Green	Preferred
Amber	Potential Constraints
No colour	No disparity between the sites in relation to that particular criteria i.e. it is not preferred or does not have potential constraints

		2	12	11	3
Ref	Planning Criteria	Pipe Route 1 A	Pipe Route 1 B	Pipe Route 1 C	Pipe Route 1 D
1.0	Land Use				
	The route of the pipeline will be selected with regard to current land uses. The assessment considers compatibility with existing and future uses.				
1.1	Number of landowners affected	It is determined that 14 No. folios (MH4575, MH5119, MH72136F, MH85, MH5279, MH22042F, MH37959F, MH1869F, MH63445F, MH62886F, MH6526, MH17713F, MH51893F and MH11879F) and 1 No. unregistered land will be affected by the route based on an initial review of the Landdirect Mapping.	It is determined that 9 No. folios (MH4575, MH5119, MH72136F, MH85, MH22042F, MH37959F, MH22885, MH3074F and MH47121F) and 1 No. unregistered land will be affected by the route based on an initial review of the Landdirect Mapping.	It is determined that 10 No. folios (MH4575, MH5119, MH72136F, MH85, MH25032, MH477, MH10206F, MH36720F, MH25778F and MH11512) and 2 No. unregistered lands will be affected by the route based on an initial review of the Landdirect Mapping.	It is determined that 11 No. folios (MH4575, MH5119, MH72136F, MH85, MH7758, MH11074F, MH25778F, MH11512, MH19236F, MH10697 and MH69879F) and 1 No. unregistered lands will be affected by the route based on an initial review of the Landdirect Mapping.
1.2	Potential constraints concerning operational and maintenance access to the pipeline	Low/Medium Approximately 25% of this route option is routed on private and public roads, while the rest is through private lands. Pipeline wayleaves are required on private lands, which are accessible via L1609. Use of the farm track would then be required for access along the pipeline section. The section of the pipeline along public and private roads will require traffic management for operation and maintenance. Also require safety measures.	Medium/High Approximately 90% of this route option is routed along public roads and the rest through private lands. Pipeline wayleaves are required on private lands, which are accessible via L1609. Use of the farm track would then be required for access along the pipeline section. The section of the pipeline along public and private roads will require traffic management for operation and maintenance.	Medium Approximately 46% of this route option is routed on public roads, while the rest is through private lands. Pipeline wayleaves are required on private lands, which are accessible via L1609 and L5610. Use of the farm track would then be required for access along the pipeline section. The section of the pipeline along public roads will require traffic management for operation and maintenance.	Low The entire route is routed through private lands. Pipeline wayleaves are required on private lands, which are accessible via L1609, L5610, and L5609. Use of the farm track would then be required for access along the pipeline section.
1.3	Temporary severance of lands (affecting access to residential or commercial properties)	Low No impact	Low No impact	Low/Medium The route temporarily severs the parking area of Blacktop Tarmacadam Company	Low No impact
1.4	Impact on amenity areas	Low Pipeline route does not affect amenity areas	Low Pipeline route does not affect amenity areas	Low/Medium Pipeline route temporarily affects access to a playground.	Low/Medium Pipeline route temporarily affects the GAA training field
2.0	Planning Policy				
	The route of the pipeline will be selected having regard to the planning policies and objectives, as specified in the relevant County Development Plan. The assessment considers compatibility with current planning policy.				
2.1	Uisce Éireann strategic programme risk	Medium Route may lead to a CPO process due to the number of landowners and would delay the programme. Approximately 25% of this route is in roads. This route option is routed along R152 for approximately 1km and will require lane closure during pipeline construction. This route also requires 1 No. River and 1 No. Railway crossings, which could lead to delays with respect to obtaining permits from Irish Railway, or Waterway Ireland.	Medium/High Route may lead to a CPO process due to the number of landowners and would delay the programme. Approximately 90% of this route option is routed along L1609 and R152 which will require lane closure during pipeline construction. Construction in roads will take longer than in fields and will increase the overall construction programme. This route also requires 1 No. River, 1 No. Stream and 1 No. Railway crossings, which could lead to delays with respect to obtaining permits from Irish Railway, or Waterway Ireland. This route is routed through the Duleek Center, which may lead to local objections/protests.	Medium/High Route may lead to a CPO process due to the number of landowners and would delay the programme. Approximately 46% of this route option is routed along L1609, L5610, R150 and L1610. Therefore, it will require lane closure for these roads during pipeline construction. Construction in roads will take longer than in fields and will increase the overall construction programme. Also, temporary L5610 and R150 closure will be required for the construction of the trenchless river crossing. This route also requires 2 No. River and 1 No. Railway crossings, which could lead to delays with respect to obtaining permits from Irish Railway, or Waterway Ireland. This route is routed through the Duleek Center, which may lead to local objections/protests.	Low/Medium Route may lead to a CPO process due to the number of landowners and would delay the programme. Almost entire route option is routed through agricultural fields. This route also requires 1 No. River and 1 No. Railway crossings, which could lead to delays with respect to obtaining permits from Irish Railway, or Waterway Ireland.
2.2	Meath Co. Co. development plan local objectives and policies	The pipeline route does not affect the development zones of the Meath County Council Development Plan 2021 – 2027. Segments of the pipeline going through these zones are routed in existing roads.	The River Nanny crossing for this route affects two development zones classified as High Amenity and Open Space as per the Meath County Council Development Plan 2021 – 2027. The pipeline length in the open space is ~80m and High Amenity zoning 50m. Also, it will be laid near the zones border using trenchless techniques. Therefore, the impact is considered minimal.	The pipeline route does not affect the development zones of the Meath County Council Development Plan 2021 – 2027. Segments of the pipeline going through these zones are routed in existing roads.	Pipeline route does not interfere with the development zones of Meath County Council Development Plan 2021 – 2027.

Ref	Technical Criteria	Pipe Route 1A	Pipe Route 1C	Pipe Route 1D	Pipe Route 1E
3.0	Engineering and Design Constraints				
	The route of the pipeline will be selected having regard to engineering opportunities and constraints with particular emphasis on topography and ground conditions. The assessment examines key engineering aspects associated with each option which have a significant impact on design and deliverability.				
3.1	Length and route of pipeline	Length of pipeline is approx. 4.68km.	Length of pipeline is approx. 4.79km.	Length of pipeline is approx. 5.28km.	Length of pipeline is approx. 5.13km.
3.2	Complexity of construction of pipeline route	Low/Medium Approximately 75 % of the pipeline corridor is in relatively unconstrained private fields. The only constraints identified are crossing a Gas pipe, railway, a few HV and MV overhead lines, and constructing adjacent to the MV overhead lines immediately after leaving Staleen WTP. The rest of the pipeline corridor is along R152 and Duleek Bussiness Park private road. There are a few existing utilities, such as water, gas, MV ESB and telecom cables, along the Duleek Bussiness Park road and the crossing from this road to R152. Thus, it might require utility diversion.	Low/Medium Approximately 10% of the pipeline corridor is in relatively unconstrained private fields. The constraints identified are crossing a Gas pipe, railway, a few HV and MV overhead lines, and constructing adjacent to the MV overhead lines immediately after leaving Staleen WTP. The rest of the pipeline corridor is along L1609 and R152. The pipe corridor along R152 and the section of L1609 before entering Duleek city is relatively unconstrained since there are only existing water pipes and telecom cables. The section of L1609 in the city area has exiting sewer pipes, water pipes, telecom cables and LV and MV ESB lines. Thus, it might require utility diversion.	Medium/High Approximately 54% of the pipeline corridor is in relatively unconstrained private fields. The constraints identified include crossing a Gas pipe, railway, a few HV and MV overhead lines, and constructing adjacent to the MV overhead lines immediately after leaving Staleen WTP. The remaining pipeline corridor is along L1609, L5610, R150, and the road of a housing estate. The pipe corridor along L1609 and L5610 before the first river crossing is relatively unconstrained since there are only existing water pipes and telecom cables. The remaining section along L5610 and R150 has exiting sewer pipes, water pipes, telecom cables and LV and MV ESB lines. Thus, it might require utility diversion. One of the stream crossings on the road is more complex than the other locations due to its constrained site. The section along the housing estate road is complex since it is parallel to an existing gas main. The railway and gas main crossing in the housing estate open area adds extra complexity. ☐	Low Approximately 100% of the pipeline corridor is in relatively unconstrained private fields. The only constraints identified are crossing a Gas pipe, railway, a few HV and MV overhead lines, and constructing adjacent to the MV overhead lines immediately after leaving Staleen WTP.
3.3	Diversion of utilities within pipeline route	Low/Medium Utility diversion might be required for some sections of the route along the Duleek Bussiness Park road and the crossing from this road to R152.	Medium Utility diversion might be required for some sections of the route along L1609 through the Duleek Residential Area.	Medium Utility diversion might be required for some sections of the route along L5610 in the Duleek Residential Area and R150.	Low No utility diversion required
3.4	Potential physical constraints concerning construction of pipeline	Medium - Two trenchless crossings are required, a railway and a river crossing. -The pipeline route crosses a Gas main and some HV and MV ESB lines. - This pipeline option involves a difficult crossing of the R150. The pipeline has to cross a relatively narrow corridor between houses and an elevated sculpture, which is crowded with several existing utilities.	Low/Medium - Three trenchless crossings are required, a railway , a river and a stream crossings. - The pipeline route crosses a Gas main and some HV and MV ESB lines.	Medium/High - Three trenchless crossings are required, a railway and two streams crossings. One of the river crossings is in the heart of Duleek City along R150. - The pipeline route crosses a Gas main and some HV and MV ESB lines. - This pipeline is routed via a narrow corridor at a housing estate constrained by the railway and the gas main. -Pipeline is routed through the parking area of a business	Low/Medium - Two trenchless crossings are required, a railway and a stream crossing. - The pipeline route crosses a Gas main and some HV and MV ESB lines
3.5	Hydraulic and Water Quality Impacts	Low The ground elevation of this route allows for water transmission by gravity. Also, the route does not have any impact on the water quality.	Low The ground elevation of this route allows for water transmission by gravity. Also, the route does not have any impact on the water quality.	Low The ground elevation of this route allows for water transmission by gravity. Also, the route does not have any impact on the water quality.	Low The ground elevation of this route allows for water transmission by gravity. Also, the route does not have any impact on the water quality. Same as other routes.
4.0	Capital and Operational Costs				
	The route of the pipeline will be selected having regard to both capital and operational costs.				
4.1	Estimated Capital Cost of the pipeline	Approx. Capital Cost €3.92 M	Approx. Capital Cost €5.45M	Approx. Capital Cost €5.03M	Approx. Capital Cost €3.97M
5.0	Safety				
	The route of the pipeline will be selected with regard to construction and operation phase safety issues. The assessment will examine safety risks associated with each option.				
5.1	Construction Safety Risk associated with construction of pipeline	Medium - Traffic management risks for the section along R152 and Duleek Bussiness Park road (25% of the route along roads). - Risks associated with 1 No. railway and 1 No. stream crossings. - Risks associated with crossing 1 No. Gas main, 3 No. HV and 9 No. MV power lines. - Section along the private road of Duleek Business Area is routed parallel to an underground MV power line.	Medium/High -Traffic management risks for the section along L1609 and R152 (90% of the route along roads). -Risks associated with 1 No. railway and 2 No. stream crossings. -Risks associated with crossing 1 No. Gas main, 3 No. HV and 9 No. MV power lines. - Section along L1609 is routed parallel to underground MV power lines.	Medium -Traffic management risks for the section along 1609, L5610, R150 and L1610 (54% of the route along roads). -Risks associated with 1 No. railway and 2 No. stream crossings. -Risks associated with crossing 1 No. Gas main, 6 No. HV and 8 No. MV power lines. - Construction parallel to a gas main	Low -Reduced traffic management risks since pipe routed in private lands (0% of the route along roads). -Risks associated with 1 No. railway and 1 No. stream crossings. -Risks associated with crossing 1 No. Gas main, 4 No. HV overhead and 3No. MV overhead lines.
6.0	Traffic				

	The route of the pipeline will be selected to avoid significant traffic impacts during the construction and operational phases of the development.				
6.1	Traffic Management	Low/Medium The pipeline is routed along R152 and Duleek Bussiness Park road for approximately 1 km and 0.5km, respectively. Single-lane closure is required along R152 and the private road. Some local traffic management needed to manage the impact on the entrances to the residential estates and businesses.	Medium The pipeline is routed along L1609 and R152 for approximately 3.5 km. A road closure might be required for some narrow sections along L1609 (<5 m) and sections along this road through Duleek city to facilitate utility diversions. Some local traffic management needed to manage the impact on the entrances to the residential estates and businesses.	Medium/High The pipeline is routed along L1609, L5610, R150, L1610 and a house estate road for approximately 2.5 km. A road closure will be required for L5610 and L150 during the construction of the trenchless stream crossing. Also, road closure might be required for some narrow sections along L1609 (< 5m) and along L5610 to facilitate utility diversions. A lane closure will be required for L1610. Some local traffic management needed to manage the impact on the entrances to the residential estates and businesses. Traffic management will be required for the stream trenchless crossing at R150.	Low Pipeline is routed through private filed. Minimal traffic management is expected only for 3 No. road crossings.

Ref	Environmental Criteria	Pipe Route 1A	Pipe Route 1B	Pipe Route 1C	Pipe Route 1D
7.0	Ecology				
	The route of the pipeline will be selected to avoid significant direct and indirect impacts on designated nature conservation areas and sites with potential to harbour protected habitats and species. The assessment examines the potential impacts to each of the sub criteria from each of the alternatives.				
7.1	Does the route overlap any European Designated Sites (SPAs, SACs)	No	No	No	No
7.2	Designated Sites immediately adjacent or in the vicinity of the routing	No	No	No	No
7.3	Does the route overlap any other Designated Sites (pNHAs, NHAs)	No	Route in vicinity of a proposed PNHA	Route in vicinity of a proposed PNHA	No
7.4	Sensitive habitat types (including water courses, forests etc.)	Route has 1 No. River Crossing	Route has 1 No. River and 1 No. Stream Crossings	Route has 2 No. Stream Crossings	Route has 1 No. Stream Crossing
7.5	Impact on existing hedgerows or ditches	Pipeline route crosses 16 number hedgerows / ditches.	Pipeline route crosses 14 number hedgerows / ditches.	Pipeline route crosses 19 number hedgerows/ditches	Pipeline route crosses 23 number hedgerows / ditches
8.0	Cultural Heritage				
	The route of the pipeline will be selected to avoid significant direct and indirect impacts on archaeological, cultural heritage and architectural heritage designations. The assessment examines the potential impacts to each of the sub criteria from each of the alternatives.				
8.1	Potential to impact on Recorded Monuments and Places	Low/Medium There is 1 No. registered monument, an enclosure, approximately 30m from the route.	High There are 7 No. registered monument, three excavation, two hut-site, one metalwork site, and one building within 50 m proximity to the route.	Low/Medium There is 1 No. registered monument, wayside cross, approximately 25m from the route.	Low There are no registered monument close to the route.
8.2	Potential to impact on Protected Structures	Low There are no protected structures within 5 m proximity of the route	Low/Medium There is 1 No. protected structure within 5 m proximity of the route	Medium There are 2 No. protected structures within 5 m proximity of the route.	Low There are no protected structures within 5 m proximity of the route
9.0	Hydrology and Hydrogeology				
	The route of the pipeline will be selected to avoid significant direct and indirect impacts on the surface water and groundwater. The assessment examines the potential impacts to each of the sub criteria from each of the alternatives				
9.1	Is routing associated with an area at risk to flooding	Approx. 590 m of the pipe is routed through a floodplain.	Approx. 560 m of the pipe is routed through a floodplain.	Approx. 75 m of the pipe is routed through a floodplain.	Approx. 340 m of the pipe is routed through a floodplain.
9.2	Groundwater Protection Zone	There is no distinguishment between routes (Groundwater in SAC Habitats and Groundwater in SAC)	There is no distinguishment between routes (Groundwater in SAC Habitats and Groundwater in SAC)	There is no distinguishment between routes (Groundwater in SAC Habitats and Groundwater in SAC)	There is no distinguishment between routes (Groundwater in SAC Habitats and Groundwater in SAC)
10.0	Soils and Geology				
	The route of the pipeline will be selected to avoid significant direct and indirect impacts on soils and geology, including an assessment of potential contaminated land. The assessment examines the potential impacts to each of the sub criteria from each of the alternatives.				
10.1	Soil and Subsoil Classification	Fine loamy drift with limestones and river alluvium	Fine loamy drift with limestones and river alluvium	Fine loamy drift with limestones	Fine loamy drift with limestones
10.2	Potential for Karstified Areas	Low	Low	Low	Low
10.3	Contaminated Land	No - based on existing desktop information	No - based on existing desktop information	No - based on existing desktop information	No - based on existing desktop information
11.0	Air, Noise and Vibration				
	The route of the pipeline will be selected to avoid significant direct and indirect impacts on humans and sensitive receptors. The assessment examines the potential impacts to each of the sub criteria from each of the alternatives.				
11.1	Potential impacts on human beings / dwellings during construction	The route avoids the Duleek Center. It is expected to impact the Duleek Business Park and less than 50 other dwellings.	The route goes through the Duleek residential area and is expected to impact more than 100 dwellings.	The route goes through the Duleek residential area and is expected to impact less than 80 dwellings.	The route avoids the Duleek Centre and is expected to impact less than 10 dwellings.
11.2	Proximity to human non-dwelling Sensitive Receptors (e.g. Schools, Hospitals, Nursing Homes etc.)	A school was identified within 50 m proximity to the pipe.	A Montessori School and Duleek Veterinary Hospital was identified within 50 m proximity to the pipe.	The Duleek Health Center was identified within 50 m proximity to the pipe.	A Nursing Home was identified within 50 m proximity to the pipe.