MetroLink

Transport Infrastructure Ireland

Addendum to Chapter 24 of the EIAR

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Introduction

This addendum has been prepared to assess the management of waste in the event that the notification to the EPA pursuant to Article 27 is not successful.

While the notification pursuant to Article 27 has been made to the EPA, it has not yet been determined and there is, at present, no indication as to when it will be determined. As such, it is considered appropriate to adopt a precautionary approach and to conduct an assessment of the scenario in which the notification to the EPA pursuant to Article 27 is not successful. Therefore, this addendum presents the effects if the proposed Project was to use soil recovery facilities (SRF) to manage surplus excavated material in the event Article 27 notification is not successful.

The existing assessment includes the use of SRFs as a mitigation measure, however it was not assessed within the Chapter and the mitigation was based on a positive Article 27 determination. Given the uncertainty regarding the timing of this EPA determination, the alternative of using SRFs is now added to the assessment. All the information regarding the use of SRFs is contained within Chapter 24, and this addendum now includes the use of SRFs as a mitigation measure in lieu of the Article 27 determination.

In addition, since Chapter 24 has been published further updates have become available with regards to the baseline information. This addendum has been based on updated capacity and annual throughput information for both landfills and soil SRF for 2022. The baseline information for Landfills is provided in Appendix 1 of this Addendum. The baseline information for SRF is provided in Appendix 2 of this Addendum.

Baseline Landfill Capacity Update

Table A1 in Appendix 1 of this Addendum summarises the remaining capacity and the expected year of closure of the inert and non-hazardous licensed landfill facilities in Ireland. It should be noted that the capacities provided are total capacities, and the potential proportion of that capacity available to the proposed Project in the future will be less than that when other potential construction projects and other waste streams including municipal waste are accounted for.

The actual total capacity is greater than the predicted capacity in Chapter 24, therefore the conservative approach has been taken to use the original figures to reflect that there is uncertainty around what capacity will be available to the proposed Project.

Prior to mitigation potential effects

As discussed above the actual amount of landfill capacity has not changed in the assessment. Therefore the non-mitigation assessment remains valid. The significance of potential effects, prior to the application of mitigation measures, have been assessed and are summarised in Table 1. (Further details can be found in Section 24.4.4 of Chapter 24).

Prior to any mitigation the Sensitivity of the Receptor is Very High, and the Magnitude of Impact is Major resulting significance of effect of Very Large.

Table 1: **Summary of Significant Effects Prior to Mitigation**

Element	Description of Potential Sensitivity of Receptors / Magnitude of Impacts	Significance Criteria	Assessment Summary	Significance of Effect
Inert and Non-Hazardous Waste	The sensitivity of waste relates to the availability of national landfill void capacity. The average volume of waste predicted to be generated nationally has been compared to the remaining inert and non-hazardous landfill void capacity. The future landfill capacity has been calculated and detailed in Section 24.4.4 of Chapter 24, analysing the available data from the EPA. Based on the construction years it has been modelled on average over the nine-year construction period that the inert and non-hazardous landfill void capacity is expected to reduce by over 10% as a result of the waste forecast (without the proposed Project).	**Sensitivity of Receptor**		Significance of effect: **Very large** Significant for the purposes of EIAR: **Yes**
		Across the Construction Phase the baseline/future baseline (without the proposed Project) of national inert and non-hazardous waste landfill void capacity is expected to reduce very considerably (by >10%).	Sensitivity of the receptor: **Very High**	
	The magnitude of impact from waste has been assessed by determining the percentage of the remaining landfill void capacity that will be depleted by the predicted waste during the construction of the proposed Project. Table 24.23 provides the quantities of C&D wastes anticipated to be generated by the proposed Project. Under the worst-case scenario if all this C&D waste generated by the proposed Project (458,017 tonnes) in addition to the 3.025 million m^3 (5,446,058 tonnes) of excavated material was to be classified as waste and disposed of to landfill then it is likely	**Magnitude of Impact**		
		Waste generated by the proposed Project will reduce national landfill void capacity baseline by >10%.	Magnitude of impact: **Major**	

Element	Description of Potential Sensitivity of Receptors / Magnitude of Impacts	Significance Criteria	Assessment Summary	Significance of Effect
	to reduce national annual landfill capacity void in Ireland by 24%.			

Mitigation Measure use of Soil Recovery Facilities

An assessment of data against criteria for Domain 2 in EPA document 'Guidance on Waste Acceptance Criteria at Authorised Soil Recovery Facilities) indicates that 80% of the material generated by the proposed Project would be suitable for SRF with the surplus (20%) being managed as a waste. Further details on how this figure is derived can be found in Environmental Impact Assessment Report Volume 5 – Appendix A20.8 Land Contamination Interpretive Report – paragraph 5.3.3 Scenario 3: Consignment to SRF.

Table 2 Summary of Material Suitability Assessment for SRF (Doman 2)[1] in m³

Material	Non-Compliant with SRF Criteria		Compliant with SRF Criteria	
	Volume (m³)	Percentage (%)	Volume (m³)	Percentage (%)
Made Ground	153,458	5%	0	0%
Soil	157,462	5%	1,662,447	55%
Rock	308,985	10%	743,236	25%
Total	619,905	20%	2,405,683	80%
Total Excavated Material: 3,025,588m³				

To calculate the impact on soil recovery sites and landfill the information needs to be converted into tonnes. Using the conversion factor 1.8[2] tonnes per m³ Table 3 shows the total tonnages for material.

Table 3 Summary of Material Suitability Assessment for SRF (Doman 2) in tonnes

Material	Non-Compliant with SRF Criteria		Compliant with SRF Criteria	
	Tonnes	Percentage (%)	Tonnes	Percentage (%)
Made Ground	276,224	5%	0	0%
Soil	283,432	5%	2,992,405	55%
Rock	556,173	10%	1,337,825	25%
Total	1,115,829	20%	4,330,229	80%
Total Excavated Material: 5,446,058 tonnes				

The surplus waste (i.e., waste which is non-compliant with SRF Criteria) would either be recovered and diverted from landfill or to disposed of to landfill. Therefore the assessment of impact is based on 20% of the excavated material being landfilled as the scenario following mitigation measures.

[1] Table 5.9 from Environmental Impact Assessment Report Volume 5 – Appendix A20.8 Land Contamination Interpretive Report – paragraph 5.3.3 Scenario 3: Consignment to Soil Recovery Facilities

[2] Assumes conversion factor of 1.8 tonnes/m3 for inert soils and stones (allowing for compaction and settlement) non compaction is 1.2 tonne.m3.

The assessment indicates that the construction of the proposed Project will consume large quantities of materials and hence will result in potential impacts on the environment, through the depletion of natural resources. The assessment also shows that constructing the proposed Project will generate large quantities of excavated material and C&D waste, leading to impacts on the available waste management infrastructure (i.e., through the permanent use of landfill void space).

The significance of the residual effect on inert and non-hazardous landfill is assessed in Table 4 after mitigation (i.e., use of SRF for compliant material) is implemented. The update to date baseline information on landfill capacity provided in Table A2 has been used to inform the assessment in Table 4.

Table 4: Summary of Significant Effects after Mitigation

Element	Description of Potential Impacts	Significance Criteria	Assessment Summary	Significance of Effect
Waste (inert and non-hazardous waste)	The sensitivity of waste relates to the availability of national landfill void capacity. The volume of waste predicted to be generated nationally has been compared to the remaining inert and non-hazardous landfill void capacity. The future landfill capacity has been calculated and detailed in Section 24.3 in Chapter 24, analysing the available data from the EPA. Based on the construction years of 2024-2031 is has been modelled on average over the 8-year construction period that the inert and non-hazardous landfill void capacity is expected to reduce by over 10% as a result of the waste forecast (without the proposed Project).	**Sensitivity**		Significance of effect: **Moderate or Large** Significant for the purposes of EIAR: **Yes**
		Across the Construction Phase the baseline/future baseline (without the proposed Project) of national inert and non-hazardous waste landfill void capacity is expected to reduce very considerably (by >10%).	Sensitivity of the receptor: **Very High**	
	The magnitude of impact from waste has been assessed by determining the percentage of the remaining landfill void capacity that will be depleted by the predicted waste during the construction of the proposed Project. It is predicted that approximately 80% of the approximately 3 million m^3 of excavated material suitable for management at soil recovery facilities and thus would not require disposal to landfill. This will significantly reduce the amount of excavated material requiring disposal thus reducing the need for national non-hazardous landfill void capacity to be used. As detailed in Section 24.6.7 of Chapter 24 there is no inert excavated material requiring disposal to landfill. The proposed Project will implement the waste hierarchy and apply good industry practice to management of	**Magnitude**		
		Waste generated by the proposed Project will reduce national landfill void capacity baseline by 1% to 5%	Magnitude of impact: **Minor**	

Element	Description of Potential Impacts	Significance Criteria	Assessment Summary	Significance of Effect
	the waste materials generated by the proposed Project, it is predicted that an overall recovery rate of 95% can be achieved for C&D wastes (excluding soils and stones). This exceeds the Government's 70% target for recovery of C&D waste and reduces the amount of waste requiring disposal. With the implementation of the above and sending the material to soil recovery facilities, the total quantity of inert and non-hazardous waste (999,651[3] tonnes) requiring disposal to landfill during the duration of the proposed Project is likely to reduce national inert and non-hazardous landfill capacity void by 4.1%. This reduces the magnitude of impact from major to minor.			

Post mitigation the Sensitivity of the Receptor remains Very High however the Magnitude of Impact is reduced to Minor following the mitigation resulting significance of effect of Moderate or Large.

[3] Based on Surplus material minus backfill plus C&D waste

Impact on Soil recovery facilities

While not required as part of the EIAR assessment we have assessed the impact of the proposed Project on SRF to demonstrate that the use of these facilities is a reasonable mitigation measure.

Details on the updated availability of SRF in proximity[4] to the proposed Project is provided in Table A2 in Appendix 2. Table A2 shows that the annual authorised intake at soil recovery facilities in the surrounding counties of the proposed Project is approximately 5.6 million tonnes, of which approximately 4.4 million is with 40km of the Project.

Table 5 provides details of the breakdown by construction year of SRF compliant material and waste. If during the peak generation year (year 5) all SRF compliant material (1,299,069 tonnes) was to be sent to SRF within 40km of the project, based on the information in Appendix 2 the material generated by the proposed Project would take up 30% of annual capacity at SRF[5].

Table 5: Details of the Breakdown of SRF compliant material and waste over the Construction Years in tonnes

Year	80% SRF compliant	20% waste	Total
Year 1 of Construction	-	-	-
Year 2 of Construction	-	-	-
Year 3 of Construction	519,628	133,899	653,527
Year 4 of Construction	1,039,255	267,799	1,307,054
Year 5 of Construction	1,299,069	334,749	1,633,818
Year 6 of Construction	909,348	234,324	1,143,672
Year 7 of Construction	562,930	145,058	707,988
Year 8 of Construction	-		
Year 9 of Construction	-		
Year 10 of Construction	-		
Total	**4,330,229**	**1,115,829**	**5,446,058**

[4] Potential total annual licensed soil recovery intake in the counties surrounding the proposed Project.
[5] Potential total annual licensed soil recovery intake in the counties surrounding the proposed Project.

Conclusion

Table 6 below shows a summary of the impact of no-mitigation and mitigation measures.

Table 6: Summary of Significant Effects

Scenario	Description	Sensitivity of the Receptor	Magnitude of Impact	Significance of Effect
No mitigation	All material is landfilled	Very High	Major	Very Large
Mitigation	80% of material is recovered through SRF and 20 % goes to landfill	Very High	Minor	Moderate or Large

Prior to mitigation measures being implemented if all waste was to be sent to inert and non-hazardous landfill, it is likely to reduce national landfill capacity void in Ireland by 24%. This is considered a significant effect (very large).

However once mitigation is implemented through the use of SRF thus diverting more waste from landfill the reduction of national landfill capacity is reduced considerably to 4.1%. Post mitigation the Sensitivity of the Receptor remains Very High however the Magnitude of Impact is reduced to Minor following the mitigation resulting in a significance of effect of Moderate or Large.

This results in the Project having a significant of effect of Moderate or Large in relation to Inert and Non-Hazardous Waste after mitigation measures of using SRF as mitigation has been applied.

The additional mitigation measures, as set out in paragraph 24.6 of Chapter 24 remain valid. The aim of the mitigation measures is to minimise the impact to the environment of the proposed Project through good material resource efficiency practices. All materials consumed and waste generated by the proposed Project will be managed in accordance with circular economy principles and the waste hierarchy, with prevention, reuse, recycling, and other recovery methods favored over disposal. Moving waste up the waste hierarchy will reduce the amount of waste sent to landfill and reduce the overall impact of the project.

In the event of the Article 27 notification process being successful, it is predicted that between 80%-90% of excavated soil could be sent to Article 27 sites instead of being managed via the mitigation measure assessed in this Addendum (use of SRF) which would result in less waste going to landfill and therefore would be the same or an improvement. However, based on previous analysis set out in Chapter 24(where 90% of excavated soil was processed through Article 27) the Magnitude of impact would remain Minor and the Significance of effect would remain Moderate to Large in this scenario.

If during the peak generation year (year 5) all SRF compliant material was to be sent to soil recovery facilities, the proposed Project would take up approximately 30% of annual capacity at soil recovery facilities in the counties surrounding the proposed Project and within 40km.

Appendix 1 – Baseline Information Landfill Capacity

Table A1 summarises the remaining capacity and the expected year of closure of the inert and non-hazardous licensed landfill facilities in Ireland. It should be noted that the capacities provided are total capacities, and the potential proportion of that capacity available to the proposed Project in the future will be less than that when other potential construction projects and other waste streams including municipal waste are accounted for.

Information provided in Table A1 has been taken from RPS (2020) (on behalf of Dublin City Council, on behalf of the regional waste management offices). The Table shows Construction & Demolition Waste – Soil and Stone Recovery / Disposal Capacity estimates at the end of 2018 from which accepted wastes at these inert and non-hazardous landfill sites from 2019 to 2022 have been subtracted. The data used, relative to the amounts of accepted waste from 2019 to 2022, are based on the sites' Annual Environmental Report submissions which are available on the EPA website.

Table A1 Licensed Regional Inert and Non-**Hazardous Landfill Capacity Potentially Available for Disposal of** C&D and Excavated Wastes (2022 data)

Facility Name	Licence Number & Facility Type	Status	Annual Authorised Intake (Tonnes)	Remaining Capacity (Tonnes)	Year of Expected Closure	Source of Information
County Dublin						
Integrated Materials Solutions Ltd	W0129-02 Inert Landfill	Active	500,000 tonnes (inert C&D waste and inert dredging spoil)	2,030,783 tonnes	2028	RWMPOs (2020) and EPA (2024) website
County Kildare						
Walshestown Restoration Ltd	W0254-01 Inert Landfill	Active	330,000 tonnes (total including soils & stones and other waste)	881,503 tonnes	2026/2027	RWMPOs (2020) and EPA (2024) website

Facility Name	Licence Number & Facility Type	Status	Annual Authorised Intake (Tonnes)	Remaining Capacity (Tonnes)	Year of Expected Closure	Source of Information
County Laois						
Kyletalesha Landfill	W0026-03	Active	47,100	Unknown - Landfilling activities ceased on site in 2012 and completion of capping works on the final section of mini-cell 15b was completed in March 2022	Unknown	RWMPOs (2020) and EPA (2024) website
County Meath						
Knockharley Landfill	W0146-02 (W0146-04 in application) Non-hazardous Landfill	Active (Application for increase in permitted annual intake and site changes)	25,000 (C&D for recovery) 70,000 (inert waste for recovery) (Application for increase in total annual authorised intake from 200,000 to 440,000 tonnes)	1,921,953	2032	RWMPOs (2020) and EPA (2024) website
County Wicklow						
Ballynagran Residual Landfill (Greenstar Holdings Ltd)	W0165-02 Non-hazardous Landfill	Active	28,000 (C&D waste)	1,112,221	2026	RWMPOs (2020) and EPA (2024) website
County Kildare						

Facility Name	Licence Number & Facility Type	Status	Annual Authorised Intake (Tonnes)	Remaining Capacity (Tonnes)	Year of Expected Closure	Source of Information
Drehid Waste Management Facility*	W0201-03	Active	120,000	748,185	2026	RWMPOs (2020) and EPA (2024) website
County Cavan						
Corranure Landfill	W0077-04	Active	45,000	Unknown - The main activities on-site during 2022 were the remediation of Cell 4 using non-hazardous soil and alum sludge materials to re-profile and re contour the site and the management of landfill gas, landfill leachate and environmental monitoring.	Unknown	RWMPOs (2020) and EPA (2024) website
Potential total annual landfill capacity in the counties surrounding the proposed Project			**1,392,100 tonnes**	-	-	-
Estimated potential remaining landfill waste capacity in the counties surrounding the proposed Project				**6,694,645 tonnes**	-	-

Appendix 2 – Baseline Information Soil Recovery Facilities

Table A2 summarises the available annual and remaining capacity and the expected year of closure of the soil recovery licensed facilities in the counties surrounding the proposed Project. It should be noted that the capacities provided are total capacities, and the potential proportion of that capacity available to the proposed Project in the future will be less than that when other potential construction projects and other waste streams including municipal waste is accounted for.

The baseline information presented below in Table A2 has been updated from the baseline presented in Chapter 24 submitted with the EIAR in 2022. Table A2 estimates the current licensed soil recovery capacity in Ireland at the end of 2022. Information provided in Table A2 has been taken from RPS (2020) (on behalf of Dublin City Council, on behalf of the regional waste management offices). The Table shows Construction & Demolition Waste – Soil and Stone Recovery / Disposal Capacity estimates at the end of 2018 from which accepted wastes at these soil recovery sites from 2019 to 2022 have been subtracted. The data used, relative to the amounts of accepted waste from 2019 to 2022, are based on the sites' Annual Environmental Report submissions which are available on the EPA website.

Please note that the majority of the sites are all Domain 2 with the exception of Clashford Recovery and Calaray Quarry (Roadstone Ltd) which are Domain 5, however as 69% of the excavated material in complaint with Domain 5 the use of these sites in the assessment remains valid.

Table A2: **Licensed Soil Recovery Facilities in Ireland (Source: RWMPO 2020 and/or EPA** License Search website; accessed February 2024)

Facility Name	Licence Number & Facility Type	Status	Annual Soil Authorised Intake (Tonnes)	Remaining Capacity (Tonnes)	Year of Expected Closure	Source of Information
County Dublin						
Huntstown Inert Clay Facility (Roadstone)[6]	W0277-03	Active	1,500,000 (soil & stones and dredging spoil 17 05 04 and 20 02 02)	0	2051	RPS 2020 & EPA Website
Milverton Waste Recovery (Roadstone)	W0272-01	Active	400,000 (inert soils and stones – 17 05 04 and 20 02 02)	1,881,805	2025	RPS 2020 & EPA Website

Facility Name	Licence Number & Facility Type	Status	Annual Soil Authorised Intake (Tonnes)	Remaining Capacity (Tonnes)	Year of Expected Closure	Source of Information
County Meath						
Clashford Recovery	W0265-01	Authorised (September 2019) Not yet commenced	190,000 (inert soils, stones and dredging material – 17 05 04 and 17 05 06)	805,200	Unknown – approx. 4-6 years from commencement	RPS 2020 & EPA Website
Mullaghcrone Quarry	W0278-01	Authorised (April 2017) Not yet commenced	100,000 (inert soils, stones and dredging material – 17 05 04 and 17 05 06)	1,800,000	Unknown	RPS 2020 & EPA Website
Tullykane - Kilsaran Concrete, Kilmessan	W0296-01 Materials Recovery	Active	400,000 (inert soils and stones – 17 05 04)	4,792,329	2033	RWMPOs 2020 & EPA (2024) website
County Kildare						
Blackhall Soil Recovery (Behans Land Restoration Ltd.)	W0247-01	Active	344,000 (inert soils and stones 17 05 04)	0	2022	RWMPOs 2020 & EPA (2024) website
N&C Enterprises Ltd	W0292-01	Active	345,000 (inert soils and stones 17 05 04)	810,275	2031	RWMPOs 2020 & EPA (2024) website
Kildare Sand & Gravel Ltd	W0295-01	Active	225,000 (inert soils and stones 17 05 04)	1,466,375	2029	RWMPOs 2020 & EPA (2024) website

Facility Name	Licence Number & Facility Type	Status	Annual Soil Authorised Intake (Tonnes)	Remaining Capacity (Tonnes)	Year of Expected Closure	Source of Information
County Wicklow						
Roadstone Limited (Fassaroe Waste Recovery Facility, Fassaroe Avenue, Fassaroe, Bray, Wicklow)	W0269-01	Active	550,000	0	Unknown	RWMPOs 2020 & EPA (2024) website
Calary Quarry (Roadstone Ltd)	W0293-01	2022	300,000 (inert soils, stones and dredging material – 17 05 04 and 17 05 06)	3,280,000	2040	RWMPOs 2020 & EPA (2024) website
County Wexford						
Roadstone Ltd (Brownswood Inert Waste Recovery Facility, Brownswood, Enniscorthy, County Wexford, Wexford)	W0280-01	2022	400000	449,900	Unknown	RWMPOs 2020 & EPA (2024) website
County Kilkenny						
Crystalhill Inns Ltd trading as CHI Environmental (The Quarry, Grannagh, Kilmacow, Co. Kilkenny, Kilkenny)	W0260-01	Active	125,000	221,559	Unknown	RWMPOs 2020 & EPA (2024) website
County Cork						

Facility Name	Licence Number & Facility Type	Status	Annual Soil Authorised Intake (Tonnes)	Remaining Capacity (Tonnes)	Year of Expected Closure	Source of Information
Tulligmore Quarry Solutions Ltd (Tulligmore, Dripsey, Cork)	W0255-02	Active	280,000	5,600,000	2037	RWMPOs 2020 & EPA (2024) website
Mallow Contracts Limited (Mallow Contracts Limited, Lissard & Ballyhilloge, Mourneabbey, Co. Cork, Cork)	W0266-01	Active	50,000	0	Unknown	RWMPOs 2020 & EPA (2024) website
Roadstone Ltd (Garryhesta Pit, Knockanemor, Ovens, Cork)	W0299-01	Active	300,000	2,253,715	Unknown	RWMPOs 2020 & EPA (2024) website
County Mayo						
Lennon Quarries Limited	W0256-02	Active	90,000	Unknown	Unknown	RWMPOs 2020 & EPA (2024) website
Potential total annual licensed soil recovery intake in the counties surrounding the proposed Project			**Approximately 5,599,000 tonnes of which 4,359,000 is within 40km of the project**	-	-	-
Estimated potential remaining licensed soil recovery capacity in the counties surrounding the proposed Project.				**Approximately 23,361,158 tonnes**	-	-