

Galway Harbour Company



Galway Harbour Extension

Response to An Bord Pleanála Sept. 2024

EIS Addendum Chapter 6

Soils



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6.1. Introduction

Chapter 6 of the Environmental Impact Statement (“EIS”) as submitted in January 2014 sets out the Soils aspects of the development Galway Harbour Extension in detail. The chapter details the information sources, site investigation, geology, ground conditions, groundwater, engineering characteristics of the soils, sediment quality, engineering characteristics of rock, geotechnical implications, impacts and mitigations, interactions and conclusions.

This Chapter of the EIS is reviewed by Denis Maher of TOBIN. Denis is a Senior Structural Engineer in TOBIN with extensive geotechnical experience. Denis has over 40 years of professional experience and is a Chartered Engineer. Denis has been involved in numerous private and public sector projects over his professional career.

Brendan Rudden of TOBIN assisted Denis Maher on this Chapter and there was collaboration with Anthony Cawley. Brendan’s experience is outlined in Chapters 1 and 4 and Anthony’s experience is outlined in Chapter 8.

The chapter provides full details in relation to how the soils are addressed for the construction of the proposed development. There are no changes to the layout and therefore no changes to the design of the project and therefore no changes to the approach to the soils in the construction.

6.2. Report Format

The EIS Chapter 6 outlines in detail the description of the project and the approach to soils for the construction of the Galway Harbour Extension (“GHE”). The Chapter was largely based on the detailed site investigation work carried out for the planning stage.

6.3 Review of any material changes to relevant chapter in original EIS

The purpose of this report is to bring the EIS up to date. There are no changes to the proposed development and so the purpose of this section of the EIS Addendum 2024 is to confirm that there are no updates required to Chapter 6 as there are no changes in design and no changes to the ground conditions of the proposed development since 2014 and therefore no changes in the approach to soils.

6.4. Summary of previous conclusions of chapter in original EIS.

The proposed development has been designed to best suit the soil conditions pertaining rock, silt and sand.

The proposed design incorporates a beneficial re-use of dredged sediments for fill and surcharge. The design facilitates the re-use of all dredged soils for land reclamation purposes. Rock excavated within the site will be incorporated into the construction of lagoon walls, quays and haul roads.

The proposed design has been developed to satisfy the following requirements:

- Removal of soils from over rock to curtail soil disturbance from the drilling, blasting and removal of rock.
- Minimum rock dredge with appropriately controlled drilling, blasting and rock excavation as per the noise and vibration limits detailed in Chapter 10 of the EIS.
- Balance of sediment dredging and re-use as land reclamation.
- Minimum release of suspended sediments to sea by the implementation of suitable construction methods and practices thereby ensuring Minimum impact on the surrounding Galway Bay Environs.
- Practical phasing of development which best suits the methodology of construction regarding lagoons, dredging and quay construction.
- The working of soils as proposed will not have a significant impact on the waters where work will be undertaken.

6.5. Any additional surveys, data or policy developments of relevance.

As part of Galway Harbour seabed navigation channel monitoring, regular bathymetric surveys of the Galway Docks basin area and the navigation approach channel are conducted on a 6-month basis. The most recent survey conducted by Hydro Survey in March 2024 and showed little change in bed levels occurring (Refer to Appendix 6.1 and Appendix 6.2 for bathymetric survey drawings). The overall tendency over the years is for very slight accretion within the artificially deepened navigation channel (dredged to 3.4m below chart datum). The last maintenance dredging of the deepened navigation channel was carried out in September 2001 and no maintenance dredging campaign has been required since. This indicates that the seabed levels at the proposed development site are stable and not subject to any significant changes in level either from deposition or erosion. Within the Corrib Channel section and the entrance to Lough Atalia, the velocities maintain a stable rocky bed with no deposition. Therefore, the seabed description from the seabed cores carried out previously for the 2014 EIS remain valid for the project and this update.

The detailed analysis remains valid in terms of how the soils are addressed and the conclusion remains the same as outlined above.

6.6. Cumulative Impacts

Purpose of this section

This section identifies updates to potential cumulative impacts from the GHE project in combination with other developments in the surrounding area which have been built or approved since the EIS was submitted. The Environmental Protection Agency (“EPA”) defines a cumulative effect as:

“The addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant effects.”

Cumulative assessment area

Current best practice initially involves identifying the cumulative assessment area. This area encompasses:

- All potential impacts within range of the proposed development
- Other developments which are in potential range of these, including existing developments, developments under construction, and projects previously permitted but not yet built. Mooted projects which are widely recognised, or due to enter the planning process shortly, may also require consideration.

A review of all proposed future projects currently approved, in construction or in planning, was carried out within the Inner Galway Bay environs and any potential future projects within the catchment that could give rise to significant in-combination impacts with the Harbour Extension Development in respect to Soils was assessed.

The size of this assessment area varies by discipline. In relation to soils, the area typically extends out to 1 km for a project such as the GHE proposal. Taking into account the characteristics of the project, and the likely nature of other potential projects in the local area, the 1 km assessment radius is considered appropriate here.

Projects identified in assessment area

The project team identified an exhaustive list of development projects approved by various authorities in the Galway area since the 2014 EIS was submitted (See Chapter 2). Projects within a 1 km assessment radius of the GHE boundary have been reviewed to determine if:

- Any new relevant sites have been constructed since 2014 in closer proximity to the GHE site than impacts assessed in the 2014 EIS.
- Any new relevant sites have been permitted in proximity to the GHE site in recent years, but which have not yet built.
- Any new proposals of note have been approved within 1 km of the GHE site since 2014, which might affect soils.
- Any new proposals within 1 km have received permission, but have not yet been built, and may thus result in construction or operational impacts of note in future years.

A fundamental component of the EIS is to consider and assess the potential for cumulative effects of the project with other projects, plans and activities.

The potential for significant effects is mainly due to proximity. In summary the potential for cumulative effects on Land, Soils and Geology is as a result of localised disturbance of potential contaminated land sites. However, the only impact is localised and is not capable of giving rise to cumulative effects.

The cumulative impact is predicted to be localised, short-term and not significant. The sensitivity and magnitude of the cumulative impact are considered to be low to negligible. There are no significant cumulative impacts with other projects predicted. All residual impacts are predicted to be not significant.

Table 6-1 summarises a review of identified projects listed in the project databases searched. The review indicates that there are no projects of potential cumulative significance, and therefore cumulative impacts are not expected.

Table 6-1: Projects of potential cumulative significance.

Database	Analysis
Part 8 applications	No new sites constructed or proposed since 2014 nearer to the GHE boundary than those assessed in the 2014 EIS, or which might themselves influence soils.
An Bord Pleanála cases 2014-2016	No new sites constructed or proposed since 2014 nearer to the GHE boundary than those assessed in the 2014 EIS, or which might themselves influence soils.
An Bord Pleanála cases 2016-2024	84 projects listed within 1 km of the GHE boundary. None of these are, or will be, nearer to the GHE boundary than those assessed in the 2014 EIS, and none currently, or will in future, influence soils.
Waste databases	Permission granted for four projects within 1 km (Colas oil depot, Topaz oil depot, Hazel Mountain Chocolate, wastewater treatment plant). The 2024 baseline survey indicates that none of these influences the soils.
EPA licensed waste facilities	There are no facilities within 1 km.
EPA licensed IPC facilities	There are no facilities within 1 km.
EIA location point	Most identified points relate to the proposed N6 Galway Bypass, and the proposed Bus Connects scheme. The bypass project does not have any implications for the soils

	proposed GHE development. The Bus Connects scheme does not have any implications for the soils in the proposed project. Both projects will have localised impacts with their own mitigations measures similar to the Galway Harbour Extension.
Seveso points	The Circle K oil depot at the Galway Harbour Enterprise Park is the only site in proximity. This facility does not influence the soils.
Local authority planning applications 2014-2024	<p>136 projects located within 1 km of the GHE boundary. None of these are, or will be, nearer to the GHE boundary than receptors assessed in the 2014 EIS. The following projects were further considered:</p> <ul style="list-style-type: none"> - Ceannt Station original planning reference 1418, Ceannt Station amendment planning reference 2287, Augustine Hill most recent planning reference 2047: These sites have localised site works and will have their own mitigation measures. - Planning reference 173: Bitumen storage facility at Galway Harbour Enterprise Park. The facility does not include any soils excavations of significance. - Planning reference 1785: New playing pitch and walkway/cycleway at Ballyloughnane, Renmore. No impacts attributable to this development were noted. - Planning reference 18402: Improvements to sportsground facilities at College Road. Facilities have been located here for many years previously, and thus the development has not resulted in soils changes.

While the 1km assessment is noted above, wider analysis has been undertaken and the review of the projects identified a substantial number of large residential developments, student accommodation developments, and a number of large commercial developments that includes office buildings, commercial, light industry and hotel development involving new extensions or new constructions. The potential impact arising from these developments on soils would only arise if contaminated sediments are released into the Corrib during construction stage. In the majority of cases there are no direct pathways for such sediment to reach the Corrib or Galway Bay. Normal good construction practices should prevent any potential for significant amounts of contaminated sediment to reach and settle out in estuarine and marine waters of Inner Galway Bay or to combine with the sediments dredged and released during the construction of the proposed harbour development that would give rise to a significant combined impact on bed sediments quality and quantity. Contaminated sediments identified on construction sites would have to be suitably treated if disturbed or removed off site so as to be suitably disposed of in a licensed land-fill site.

Other specific projects

6.6.1 Galway Flood Relief Scheme – Coirib Go Cósta

This project is still at feasibility and design stage and a proposed scheme has not been fully developed. It is understood that the likely solution to coastal flooding will be shoreline defences in the form of walls, rock armouring, embankments and possibly demountable defences. The proposed New

Harbour will not obstruct any potential defence locations, nor will it compromise the soils or required defence heights in such areas which included the Galway Docks, Claddagh Basin, Southpark, and Salthill promenade. The protection measures are likely to be land based and will follow standard construction measures for control of silts. The New Harbour development meets the standards regarding soils and will not represent a development requiring protection from the Flood relief scheme.

6.6.2. *Rossaveal Harbour and Marina Developments*

The Rossaveal Harbour and marina development which is under construction is located in Cashla Bay and sufficiently remote from inner Galway Bay as not to result in any potential for cumulative impact either on soils with the Galway Harbour Development.

6.6.3. *Sceirde Rocks Offshore Wind Farm Project*

Currently a Mara foreshore licence for a large area of Galway bay for site investigation in respect to an export cable corridor for a proposed Offshore Wind Farm Development. The nearest corridor to the harbour development makes landfall at Tawin Island, Maree Oranmore.

The impact of the Harbour Development on the marine environmental in respect to soils and water quality has been shown to be very localised to marine waters in the vicinity of the development and, consequently, will not combine with either the offshore wind farm or the proposed pipeline export corridor to result in any significant cumulative impact on Galway Bay.

Conclusions in relation to impacts

In conclusion, there are no current future projects that would combine to produce a significant impact on Soils within the Corrib estuary or transitional and coastal waters of Galway Bay including the existing Galway Harbour area and Lough Atalia and Renmore Lough.

From a Soils perspective, the construction phase of adjacent projects may also be dealing with soil and excavations and so were considered. As the works on soil / excavation in the Galway Harbour Extension are localised, remote from the city in an underwater zone or on ground that has already been developed in the Galway Harbour area, the cumulative impact is imperceptible. The Galway Harbour Extension project will have its own mitigation measures as will any projects that are adjacent. All projects will follow standard construction measures for control of silts.

No projects of cumulative significance have been constructed since the original EIS was submitted in 2014, and there are no permitted but unbuilt projects of potential cumulative significance.

6.7. Assessment of validity of earlier conclusions or any necessary amendments to same.

There are no changes to the previous conclusion as outlined in the section above. The extensive mitigation measures remain appropriate for the proposed development.

6.8. Conclusion

The description of the development has not changed, and the methods proposed, site layout, design and how the soils are addressed all remain the same. The approach to the soils of Galway Harbour Extension is all still relevant as the development proposal remains in line with the brief and criteria of the EIS as originally submitted in 2014. The design proposed is the optimum in terms of how the soils are addressed e.g. beneficial re-use of dredged material and, therefore, there are no changes and the conclusion remains valid.

