November 30, 2017

Planning Department
Clare County Council
New Road,
Ennis,
Co. Clare

Re: Planning Reference Number #161012

Dear Sir/Madam,

For that past 15 years, Save The Waves Coalition has worked with communities around the world to support the responsible management of their valued coastal resources. The proposal before you now has attracted our attention because of the indisputably negative impact that it will have on Doughmore Beach's natural coastal dynamics; sediment transport disruption, beach narrowing, and eventual need for additional walls and/or hardening schemes in subsequent years. These environmental impacts will lead to a diminished public asset, as the wide beaches that the community and visitors enjoy will be significantly altered and, quite possibly, could lead to beach loss near the wall segments.

We point to the recent example in Aberdeenshire, Scotland[1] where TIGL has been shown responsible for significantly degrading the pristine sand dunes where the golf course is located. The management practices outlined in TIGL's planning documents have not been undertaken and expert ecologists predict that the dunes will be stripped of their special conservation status by the Scottish National Heritage (SNH), as a result. This example underscores the importance of a diligent and careful review of the data, models, and monitoring plans outlined in the RFI response documents.

In our review of TIGL's response to Council's RFI, we find that TIGL again fails to present an objective and technically sound argument for this project. Considering TIGL's coastal mismanagement in Scotland, it is ever more critical that they present a comprehensive understanding of Doughmore Beach's coastal dynamics and consider a range of options that balance the needs of the Doonbeg Golf Resort with the natural coastal environment. TIGL's response systematically fails to meet these standards and proves to be a narrow and short-sighted scheme which threatens this vital community asset.

In this context, our primary concerns with the RFI responses are as follows:

The analysis of alternatives does not cover all reasonable, representative and practicable options. The analysis of alternatives provides 7 coastal defence options and the do-minimum scenario. There are three typical classifications of coastal adaptation approaches used globally; (1) protect, (2) accommodate; and (3) retreat, and each of these approaches may be pursued through the implementation of one of more complementary adaptation options (Linham and Nicholls, 2012)[2]. TIGL's

[1] https://www.theguardian.com/us-news/2017/nov/08/trump-golf-course-has-ruined-dunes-habitat
[2] Nicholls, R. & Linham, M., 2012. Adaptation technologies for coastal erosion and flooding: A review. *Proceedings of the ICE - Maritime Engineering*. **165**: 95-112. 10.1680/maen.2011.29

options only covers the 'protect' approach. As such, no consideration has been made to the presentation of other reasonable, representative and practicable options, such as the relocation of greens etc. away from the dune edge. We believe this is a fundamental flaw in ES (2016) and subsequent response by TIGL to the RFI (2017).

There is a lack of objectivity and errors in the scoring of design and environmental options which undermines the credibility of the assessment. The scoring of the design preferences and environmental preferences (see Table 2.2 and 2.3, Response to RFI, Volume 1) are inconsistent, incomplete and biased.

Firstly, the summary preference design scores do not relate to the individual scores provided in Table 2.2. We have reviewed the scoring of the least preferred, acceptable, preferred and most preferred options by apply a score of 1 – 4 respectively (a usual practice with multi-criteria analysis). Our review found that:

1) Preferred option: the 'do-minimum' design as this scored the highest
2) Joint second preferred: the 'rock revetment with sand covering' and 'rock augmentation' options;
3) Joint third preferred: toe berm protection and the 'groyne with cobble recharge' options.

This is in contradiction to TIGL's stated preference for the toe berm protection. As such, it is impossible to see how the 'preferred' toe berm protection option has been selected by TIGL, based on the scoring they provide.

Secondly, the environmental option evaluation detailed in Table 2.3 is clearly biased in its scoring for the criteria, artificially inflating the scores relating to the 'preferred' toe berm protection option and deflating the scores for the do-minimum option. To illustrate this, the natural hydrogeological regime is undisturbed in the do-minimum option and scores 'acceptable', whereas for the toe berm protection option this regime will be affected by a change in lithology through the laying of cobbles and the installation of a semi-permeable sheet pile wall but this scores 'most preferred'. We question the validity of the low scores relating to the 'do-minimum option' for geology, landscape, terrestrial habitats, *Vertigo angustior* and human environment. We consider that the scores for the 'preferred' toe berm protection option have been artificially inflated, particularly for scores relating to geology, hydrogeology, archaeology and landscape.

Overall, we do not believe that a full and objective assessment of the design and environmental options has been undertaken, and this undermines the credibility of the preferred toe berm protection option and the study as a whole, as elaborated in the Environmental Statement (2016) and subsequent response to RFI documents (2017).

TIGL's response to the RFI is primarily a reworking of the same sparse data. Little or no effort has been made by TIGL to obtain additional data relating to the beach, dune system, intertidal zone and beyond. Even though Clare County Council's RFI letter highlighted a lack of data, the opportunity to undertake beach surveys either in the winter 2016 or summer 2017 periods was not taken. This means that the potential impact from particular storms (e.g. Storm Ewan, 26 Feb 2017) was not evaluated, nor was the potential for sediment restocking during the summer 2017 period. As such, we do not consider the Council's concerns regarding the lack of data to have been addressed, even though there was ample opportunity to do so.

There has been a lack of effort to address uncertainty over the performance of the proposed scheme in the long-term. Uncertainties in coastal hydro-morphological processes remain insufficiently addressed. The lack of data means that models relating to the coastal processes in Doughmore Bay are overly simplistic, treating the Bay as a homogeneous closed system. This is far from the reality of Doughmore Bay, which is characterized by a complex heterogeneous system of deposition and erosion evident along the entire shoreline. Critical uncertainty issues remain.

We question the ability of TIGL, over the long-term, to monitor and maintain sand levels and ecological quality of the scheme. The current environmental management plan places full responsibility for the long-term management of the beach front with TIGL. This entire scheme is based on the premise of protecting against long-term coastal erosion, yet fails to provide sufficient guarantees regarding the long-term management of the structures by TIGL, and in particular the sand replenishment activities. It has already been recorded in the ES (2016)[3] that TIGL's existing management practices relating the Special Area of Conservation (SAC) are lacking and inappropriate. Considering this, the potential for the poor management of the scheme in the long term is reasonably foreseeable, with long term negative consequences for amenity, landscape and ecological value of the Doughmore Bay.

The scale of the development remains significant, long-term and irreversible. Based on design plans provided, a working zone of 15.5m width along the full length of both the northern and southern structures will require the excavation of an area of over 13,500m^2 of beach and fragile dune system. This remains a major concern. The footprint for the works of this magnitude will have profound and irreversible effects on the lithology, shallow groundwater, sand transport regime, ecology, public amenity, and the naturalness of the shoreline.

I appreciate your attention to these concerns and urge all parties to use the highest degree of diligence in considering this proposal.

Nick Scott Mucha
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[3] ES Volume 1 (2016), Section 7.5.4