



Dunkellin River and Aggard Stream Flood Relief Scheme

Response to Brendan Slevin & Associates Chartered Engineers

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TABLE OF CONTENTS

INTRODUCTION 1
1 ITEM 1 - RE-GRADING OF CREGACLARE STREAM 2

LIST OF FIGURES

Figure 1.1 - Location of Mr & Mrs Forde’s House..... 4

LIST OF IMAGES

Image 1.1 - Abandoned Property in Front of Mr Forde’s House February 2014..... 4
Image 1.2 - Google Maps dated July 2009..... 4
Image 1.3 - Mr & Mrs Forde’s House February 2009 5
Image 1.4 - Mr & Mrs Forde’s House Google Maps dated July 2009 5

INTRODUCTION

RPS was commissioned by Galway County Council in 2011 to prepare an Environmental Impact Statement (EIS) for the Dunkellin River and Aggard Stream Flood Relief Scheme, hereafter called the “scheme”, in south County Galway. The Dunkellin River and the Aggard Stream form part of the Dunkellin Drainage District which was constructed in or around 1857 and Galway County Council has a statutory maintenance responsibility for these works.

The scheme was submitted to An Bord Pleanála (ABP) in October 2014 for planning approval in line with Section 175 of the Planning and Development Act 2000, as amended. In February 2015, the Board, in accordance with Section 175(5)(a) of the Planning and Development Act, 2000, as amended, requested further information in relation to the proposed development.

Item 7 of the Board’s letter stated that, *“The applicant is invited to respond in detail to the written submissions made by parties including local residents, prescribed bodies and others.”*

The purpose of this document is to provide a response to the main issue raised by Brendan Slevin & Associates Chartered Engineers in their submission.

1 ITEM 1 - RE-GRADING OF CREGACLARE STREAM

1.1 We are requesting that the re-grading of the Cregaclare stream be included as part of the works. These works are overdue and were to be completed as phase 2 of Aggard Stream (Cregaclare) Certified Drainage Scheme over 10 years ago.

Response:

Mr. Slevin, on behalf of Tom and Mary Forde notes in his submission that the OPW commissioned a Flood Study of the South Galway area in 1995 and one of the outcomes of that study was to consider the integration of an arterial drainage scheme for the Aggard Stream into an overall Arterial Drainage Scheme for the catchment of the Dunkellin River. These drainage areas have been the subject of a number of studies and proposals.

Following on from Arterial Drainage Works completed along the Dunkellin River in the mid 1850's and later in the early 1920's, the Office of Public Works prepared an Arterial Drainage Design for the Dunkellin/Lavally Catchments in the mid 1900's (circa 1950).

This Arterial Drainage Scheme, as detailed on its original design drawings, included for proposed alterations to the channel widths, channel regrading (bed level) and deepening of a number of the bridges/structures along the Dunkellin River. All of these proposals were significant in nature and were more than just a flood relief scheme but a larger scale Arterial Drainage Scheme with significant benefits that can be accrued for agricultural lands and local properties. However this Arterial Drainage Scheme was never taken beyond design stage by OPW.

A Flood Relief Scheme was carried out, as part of the South Galway Flood Study, for OPW in **Lacken Ardrahan** in 1996/97, where Embankment works were undertaken to protect two properties. A Certificate of Completion which transferred maintenance of the Lackan (Ardrahan) Certified Drainage Scheme to the OPW was issued on 24th January 2000.

In March 2000, the OPW also commissioned a Design of the Aggard Stream (Cregaclare) Drainage Scheme and following on from the development of this report, a draft EIS and Cost Benefit Analysis was also prepared. This Drainage Scheme recommended three (3) main bodies of work along the Monksfield River, Aggard Stream and Cregaclare Channel. The proposed works included:

- a. channel clearance (maintenance) for the lower 3,750m of the Aggard Stream,
- b. regrading of 3,550m of the central reaches of the channel (Monksfield River) which included a change in the direction of river flow from the Cregaclare area to the Aggard Stream, and
- c. channel clearance/maintenance of the Cregaclare Channel.

These proposed works, particularly the channel regrading works in the upper reaches of the Aggard, were expected to increase the hydraulic capacity of the stream resulting in additional discharges into the Dunkellin River.

While the cost benefit of the proposed Aggard scheme was considered to be poor (i.e. a benefit to cost ratio of less than 1.0) the Aggard Stream (Cregaclare) Drainage Scheme was exhibited by the OPW in February 2002. During these planning procedures a number of issues arose during the public exhibition stage of the scheme in relation to the overall condition of the Dunkellin Drainage District, particularly the main channel stretch of the Dunkellin River, downstream from the outfall of the

Aggard Stream, to the sea at Kilcolgan. These issues related mainly to the proposals to increase hydraulic capacity of the Aggard Stream and the perceived inability of the Dunkellin River, at that time, to cater for any increase in discharges upstream of the Rahasane Turlough.

In response to this public consultation in 2002, maintenance works were identified along the Dunkellin River and such works included in-stream bush-cutting and channel maintenance. It was envisaged that these maintenance works would be carried out by OPW in conjunction with the Aggard Stream (Cregaclare) Scheme.

However, due to the poor benefit to cost ratio of the scheme, the perceived risk of increased flooding to the Rahasane Turlough and the high level of objections to the Aggard proposals, the scheme was not confirmed and these works did not proceed as planned.

As part of the proposed Dunkellin River and Aggard Stream Flood Relief Scheme, the extent of arterial drainage works originally considered on the Aggard Stream (Cregaclare) Scheme were revisited. It was confirmed during this current project that the extent of regrading works as proposed in 2002 would result in a potential increase in river flow entering the Dunkellin River upstream of the Rahasane Turlough. This potential increase in river flow, from the Aggard Stream, has the potential to increase the risk of flooding to housing along the northern shore of the Rahasane Turlough without the implementation of significant channel works downstream of the turlough. The channel regrading works, as noted in "Item c" above, have the potential to impact or increase on water levels in the turlough.

It is therefore not proposed, due in particular to this increased risk of additional flooding along the northern shore of the Rahasane Turlough, to undertake any significant arterial drainage works along the Aggard Stream as part of the Dunkellin River and Aggard Stream Flood Relief Scheme.

Mr. Slevin also notes in his submission that the property of Mr and Mrs Forde has been "cut off for several weeks at a time" both in 2009 and 2014. Galway County Council, in response to the flood event of February 2014, inspected a number of the areas where flooding of properties and roads was reported.

Mr and Mrs Forde's house is located in the townland of Ballyboy and this location is presented as "Point A" in **Figure 1.1**.

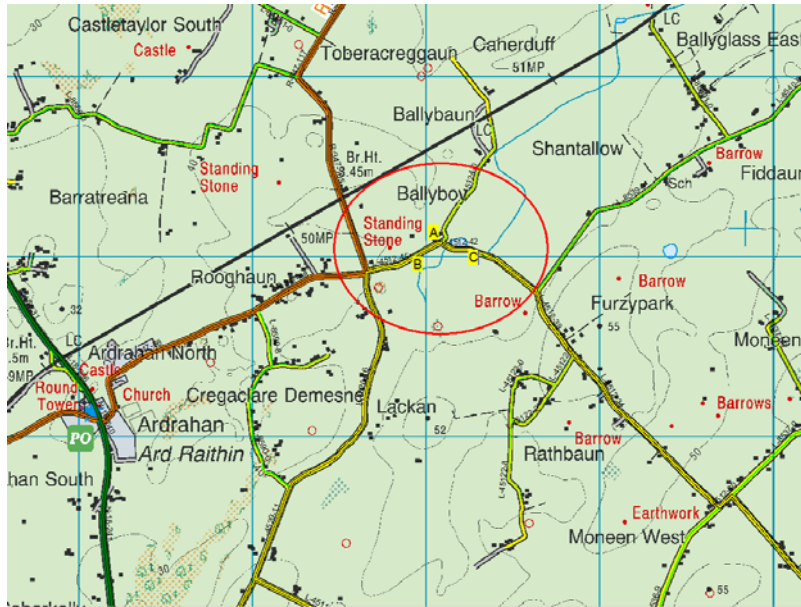


Figure 1.1 - Location of Mr & Mrs Forde’s House

Image 1.1 was, taken in February 2014, and illustrates the extent of flooding at the junction of the three local roads intersecting at Point A and the general location is shown as red circle in Figure 1.1 above. For clarity an extract from “Street View” on Google Maps has also been provided to show the lands in question (see **Image 1.2**). Both Images looking in a south-easterly direction from Point A to Point C (see **Figure 1.1**)



Image 1.1 - Abandoned Property in Front of Mr Forde’s House February 2014



Image 1.2 - Google Maps dated July 2009



Image 1.3 - Mr & Mrs Forde's House February 2009

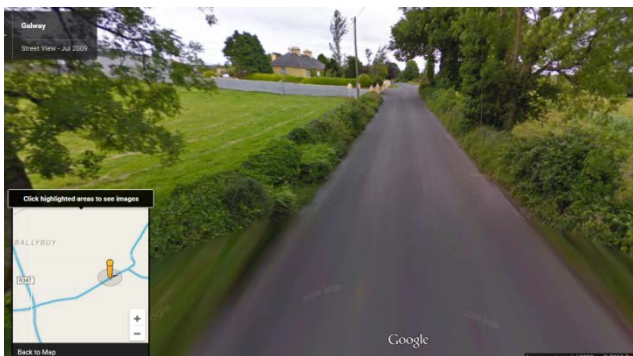


Image 1.4 - Mr & Mrs Forde's House Google Maps dated July 2009

The local roads illustrated in **Image 1.2** were not passable in November 2009. Following the November 2009 event Galway County Council undertook emergency road works to limit the extent of road closures in future flood events. This consisted of increasing the finished level of the road by approximately 900mm to prevent road closures. However local objections to the increased height meant that the final road level was decreased by approximately 400mm resulting in further flooding in February 2014. Following the implementation of the emergency road works the local road illustrated in Figure 1.3, which is one of the main accesses to Mr & Mrs Forde's House, was passable using suitable vehicles such as a 4-Wheel Drive Jeep or a Tractor and Galway County Council are continuing to monitor the impact of the flooding in the area with a view to implementing additional road works if necessary.

It is also clear from Figures 1.2 and 1.3 3 that the lands surrounding Mr& Mrs Forde's were inundated with flood waters. However, their dwelling house was not inundated with flood water, i.e., flood water did not enter the house.

As noted earlier, the key factor in determining the viability of a flood protection scheme is the Benefit to Cost Ratio. This ratio must consider the costs in providing the capital investment and compare this with the damage caused, i.e., how much would a flood relief scheme cost compared with the losses would it prevent.

In the case of the Aggard Stream (Cregaclare) Drainage Scheme the number of dwellings inundated with flood waters in recent years has been small and the benefits associated with ensuring that the local roads remained open were not of sufficient value to justify proceeding with a large scale arterial drainage scheme.

The proposed works, along the Aggard Stream, will consist of minor culvert replacement works whereby existing blocked and undersized piped crossings will be replaced with larger pipes, together with the replacement of field wall crossings where they are blocked or collapsed. These works together with general maintenance will reduce the potential risk of increased flooding to lands, roads and properties in the Monksfield, Ballynamannin, Aggard, Ballyglass and Cregaclare Townlands. Without these proposed maintenance works there is a significant risk of further channel deterioration resulting in an increased risk of flooding in the area.

General maintenance will include minor localised excavations within the existing stream, removal of fallen trees/debris, non-invasive trimming of bank-side vegetation, and the removal of accumulated silt along the full length of the channel. The works proposed for the Aggard Stream are minor in nature and do not include significant dredging or change to the hydraulic capacity of the Aggard Stream.