Appendix D

Consultation

D1 List of Consultees

The list of consultees is provided overleaf.

List of Consultees

Organisation & Unit/Department
Development Applications Unit, Department of Arts, Heritage & Gaeltacht
National Monuments Service
National Parks and Wildlife Service
Co-ordination Unit, Department of Communications, Energy & Natural Resources
Head Office Department of the Environment, Community & Local Government
Head Office Department of Agriculture, Food and Marine
EPA Regional Inspectorate Inniscara Cork
Heritage Services Office of Public Works
South West Regional Authority
County Manager Cork County Council
Heritage Officer, Environment Directorate, Cork County Council.
Divisional Manager, Cork County Council
Director of Water Services, Cork County Council
An Comhairle Ealaion (The Arts Council)
Angling Council Ireland
Angling in Ireland - The Irish Federation of Pike Angling Clubs
An Oige
An Taisce - The National Trust for Ireland
Bat Conservation Ireland
Birdwatch Ireland
Bord Gais Networks
Bord Failte
Botanical Society of Britain and Ireland (BSBI) Recorder
Coillte Teoranta
Conor Kelleher, Bat Consultant
Cork & District Angling Club
Cork Business Association
Cork Chamber of Commerce
Cork County Council
Cork County Council Heritage Officer
Cork County Council Environment Directorate
Cork County Council - County Manager
Cork County Council - Divisional Manager
Cork County Council - Director of Water Services
Cork County Development Board
Cork Environmental Forum
Cork Federation of Gun Clubs

Organisation & Unit/Department
Cork GAA
Cork Historical & Archaeological Society
Discover Ireland
Cllr. Noel Costello
Cllr. Gerry Kelly
Cllr. Pat Burton
Cllr. Daniel Fleming
Cllr. Noel Costello
Dr. Padraig Whelan
Dr. Patrick Sleeman
Eircom
Electricity Supply Board
ENFO
Environmental Sciences Association of Ireland
Failte Ireland
FISSTA - Federation of Irish Salmon & Sea Trout Anglers
Forest Service (Dept. of Agriculture)
Geographical Society of Ireland
Geological Survey of Ireland
Glanmire Area Community Association
Glanmire Football Club
Health & Safety Authority
HSE Southern Regional Health Forum
Inland Fisheries Ireland Macroom
Institute of Geologists of Ireland
Irish Creamery Milk Suppliers Association (ICMSA)
Irish Farmers Association (Cork Region)
Irish Heritage Trust
Irish Planning Institute
Irish Wildlife Trust
Landscape Alliance Ireland
Meadowbrook Residents Association
National Association of Regional Game Councils
National Building Agency
National Federation of Group Water Schemes
National Museum of Ireland
National Roads Authority
National Trails Office

Organisation & Unit/Department
Railway Procurement Agency
Salmon Research Agency of Ireland
Sarsfield GAA Club
Southwestern River Basin District Office
Teagasc
The Heritage Council
The Meteorological Service
The Mining Heritage Trust of Ireland
Tourism Ireland
Voice of Irish Concern for the Environment

D2 Letter of Consultation

A blank copy of the letter of consultation is provided overleaf.

Your ref
Our ref
File ref

ARUP

15 Oliver Plunkett Street
Cork
t +353 21 4223200
ken.leahy@arup.com
www.arup.com

For the attention of

17 April 2014

Dear Sir/Madam

Glashaboy (Glanmire/Sallybrook) Flood Relief Scheme
Public Information Day

The objectives of the Public Information Day are:

- To explain the process involved in the development of the flood relief scheme
- To gather information from the public regarding their:
  - Experiences of flooding.
  - Thoughts on solutions to the flooding problem and their preferences in this regard.
  - Thoughts on environmental issues.
  - Thoughts on constraints with regard to environmental issues and implementation of solutions, etc.

Alternatively, if you are unable to attend the Public Information Day, you are invited to submit your comments in writing to Arup, 15 Oliver Plunkett Street Cork, or email us at glashaboyfrs@arup.com.

We would welcome your comments in relation to the Study Area and particularly in relation to any relevant issues associated with a potential Flood Relief Scheme.

A second public consultation will take place later on this year prior to preparation of the Environmental Impact Statement for the scheme, at which stage details of the emerging preferred option will be available. You will be given a further opportunity to comment at this stage. Arup in association with JBA Consulting has been appointed by Cork County Council to develop a Flood Relief Scheme for the Glashaboy River, particularly in the vicinity of the Glanmire/Sallybrook Area. An Environmental Impact Statement will be prepared as part of this work. This project follows on from the Lee Catchment Flood Risk Assessment and Management Study (CFRAMS) and the major flood event of June 2012.

J:\234000\234334-00\4. INTERNAL PROJECT DATA\4-04 REPORTS\4-04-02 CONSULTING\APPENDIX D2_CONSULTATION LETTER.DOCX

17 April 2014

The Study Area for the scheme is shown in red on the enclosed map. In advance of the preparation of a full Engineering Study, it is not possible at this point to say exactly what flood alleviation measures will be proposed as part of the Flood Relief Scheme, however the range of flood measures typically considered are included on the enclosed sheet for your information.

The first stage of the project is to prepare a Constraints Study in order to identify the key issues (including environmental issues) in the Study Area which may be impacted upon by possible flood alleviation measures and/or which may impose constraints on the viability and/or design of these measures.

A Public Information Day will be held in Glanmire GAA on the 25th February between 3:00pm and 7:00pm at which you are invited to give us your comments.

Yours faithfully
for
Ove Arup & Partners Ireland Ltd t/a Arup

Ken Leahy
Project Manager

D3 Leaflet Accompanying Consultation Letter

A copy of the leaflet which accompanied the letter of consultation is provided overleaf.

What Happens Next?

All comments received in response to this Public Information Event will be considered by Cork County Council and will be taken into account in the preparation of the first stage of the Glashaboy River Flood Relief Scheme Engineering Study and Environmental Impact Assessment.

The Environmental Impact Assessment and Engineering Study for the Glashaboy River Flood Relief Scheme will be delivered in the following stages:

Environmental Impact Assessment			Engineering Study	
Stage I	Part 1	Constraints Study *(this stage)*	Stage I	Scheme Development
	Part 2	Screening for Appropriate Assessment		Data Gathering and Surveying
Stage II	Part 1	Environmental Assessment of Viable Options		Hydrology Study & Hydraulic Modelling
				Site Investigations
	Part 2	Appropriate Assessment		Flood Risk Assessments
Stage III		Environmental Impact Statement		Flood Risk Management Options
Stage IV		Public Exhibition or Part 8 Planning		Cost Benefit Analysis
				Selection of Preferred Option
				Flood Risk Management Plan
			Stage II	Public Exhibition
			Stage III	Detailed Design
			Stage IV	Construction

Your Feedback is Important

Cork County Council wishes to consider all viewpoints in relation to the Study Area being examined. This is your opportunity to take part at the early stages of the planning of the Glashaboy Flood Relief Scheme. Time spent communicating your views to Cork County Council is appreciated.

The general public and all interested parties are invited to give their opinions on the Study Area. Please examine the Study Area shown overleaf and let your views be known by:

- Completing and returning the attached Questionnaire using the stamped self addressed envelope provided, by 28th March
- Emailing us at glashaboyfrs@arup.com
- Writing to the address below using the stamped and addressed envelope provided, by Friday 28th March 2014
- Website: www.glashaboyfrs.ie

Further Information

All queries, questionnaires and comments in relation to this project can be addressed to:

Ken Leahy

Project Manager

Ove Arup & Partners Ireland Ltd.

15 Oliver Plunkett Street

Cork

Tel: +353 (021) 4277670

Tel: +353 (021) 4272345

Email: glashaboyfrs@arup.com

Outline Delivery Programme

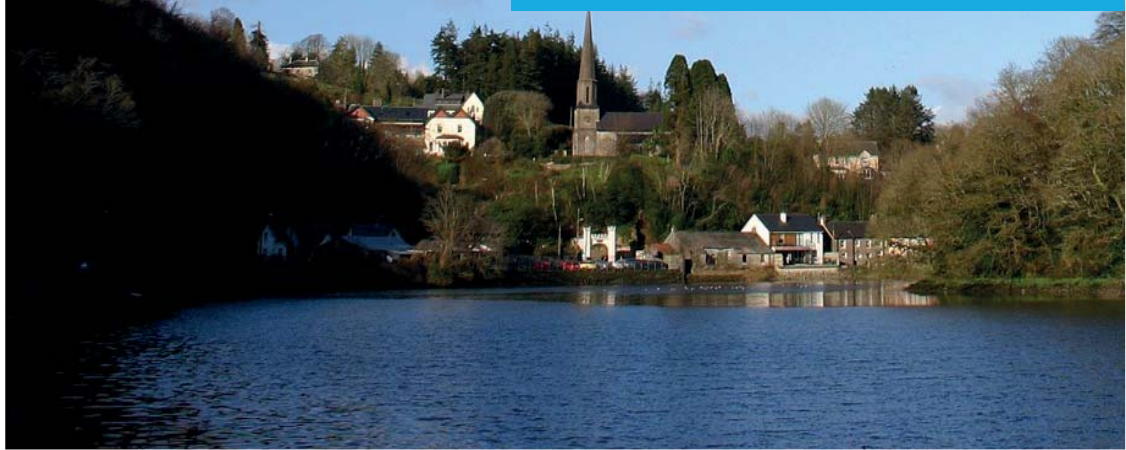
Stage	Description	Key dates
Stage I	Development of a number of flood defence options and the identification of a preferred Scheme	Complete by July 2014
Stage II	Public Exhibition of Scheme	Complete by December 2014
Stage III	Detailed Design, Confirmation and Tender	Complete by September 2015
Stages IV and V	Construction and Handover of the Works	Commence September 2015

Glashaboy River (Glanmire/Sallybrook) Flood Relief Scheme

OPW ARUP JBA consulting

Public Information Day

25th February 2014
Glanmire GAA 3pm -7pm



Arup, in association with JBA Consulting has been appointed by Cork County Council to undertake the design and implementation of the proposed Glashaboy River (Glanmire/Sallybrook) Flood Relief Scheme.

This is the first public consultation day for the project; its objective is to gather information from the public about their experiences of flooding in the Study Area along with their thoughts on possible solutions to the flooding problem and their preferences in this regard. Local experience, knowledge and insight is an essential pre-requisite for any successful Flood Relief Scheme. We also welcome any thoughts on potential environmental issues within the Study Area, in particular thoughts on constraints with regard to environmental issues and implementation of solutions.

Purpose Of The Project

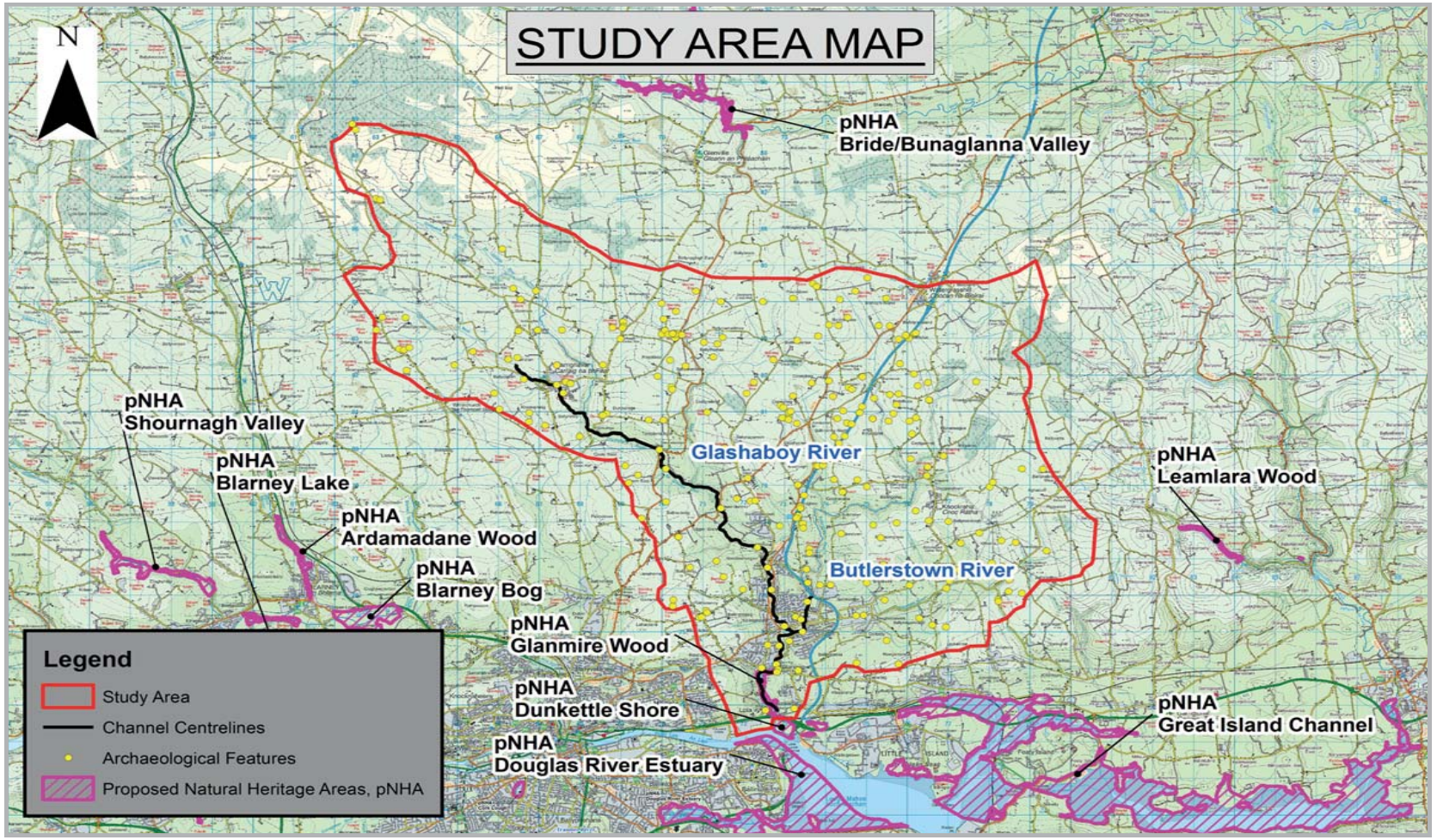
The purpose of the Glashaboy River Flood Relief Scheme is to assess and develop a viable, cost effective and sustainable Flood Relief Scheme to alleviate flooding in Glanmire and Sallybrook.

Current Position

The OPW in partnership with Cork City and Cork County Councils have carried out a Catchment Flood Risk Assessment and Management (CFRAM) Study for the Lee Catchment. The Draft Catchment Flood Risk Management Plan was published in February 2010 and recommended the following for the Glashaboy sub-catchment;

- Review feasibility of Fluvial Flood Forecasting System
- Targeted Public Awareness and Education Campaign
- Individual Property Protection
- Permanent Flood Walls and/or Embankments

As a result Cork County Council, acting as Agents for the OPW has now commissioned this project to develop a Flood Relief Scheme for Glashaboy River (Glanmire/Sallybrook). The Study Area for the project is outlined in red on the map above.



(Flooding in Glanmire June 2012)

What is a Constraints Study?

A Constraints Study identifies the key environmental issues in a study area which may be impacted upon by possible flood alleviation measures and/or which may impose constraints on the design and viability of these measures.

Engineering Study

The Engineering Study will assess a range of engineering measures typically considered for possible flood alleviation schemes including, but not limited to those listed in the box to the right. Typically an Engineering Study of this nature may identify between three and five viable options.

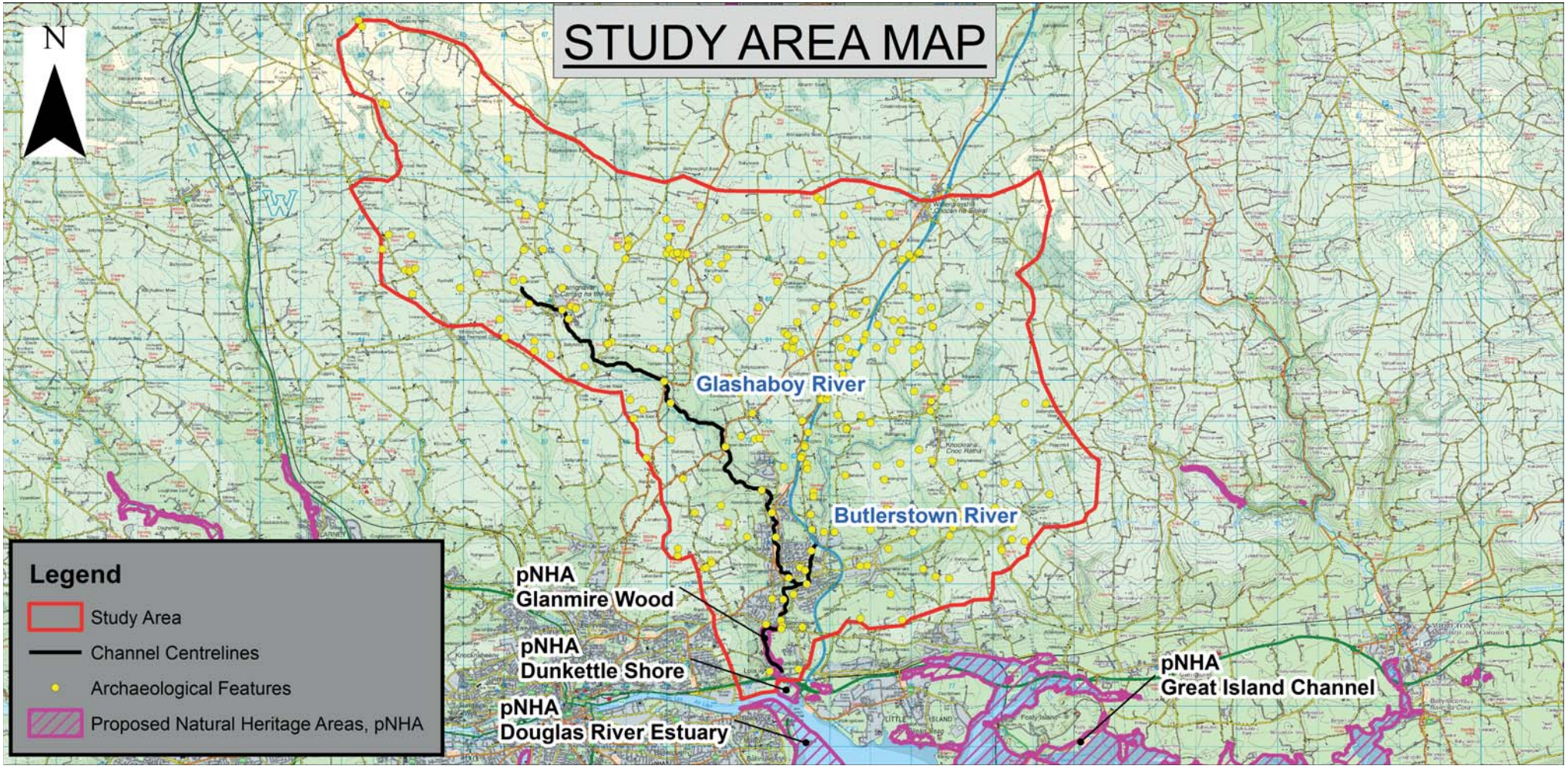
Potential Flood Alleviation Measures

a) Do nothing (i.e., implement no new flood alleviation measures)
b) Non-Structural Measures (e.g. flood warning system or individual property protection)
c) Relocation of properties and/or infrastructure
d) Reconstruction of properties and/or infrastructure at a higher level
e) Flow Diversion (e.g. river diversion or flood flow bypass channel)
f) Flow Reduction (e.g. upstream catchment management or flood storage)
g) Flood Containment through Construction of Flood Defences
h) Increase Conveyance of Channel (upstream and/or through and/or downstream of the town)
i) Sediment Deposition and Possible Sediment Traps
j) Pump storm waters from behind flood defences

D4 Posters

Copies of the posters are provided overleaf.

Glashaboy River (Glanmire/Sallybrook)
Flood Relief Scheme



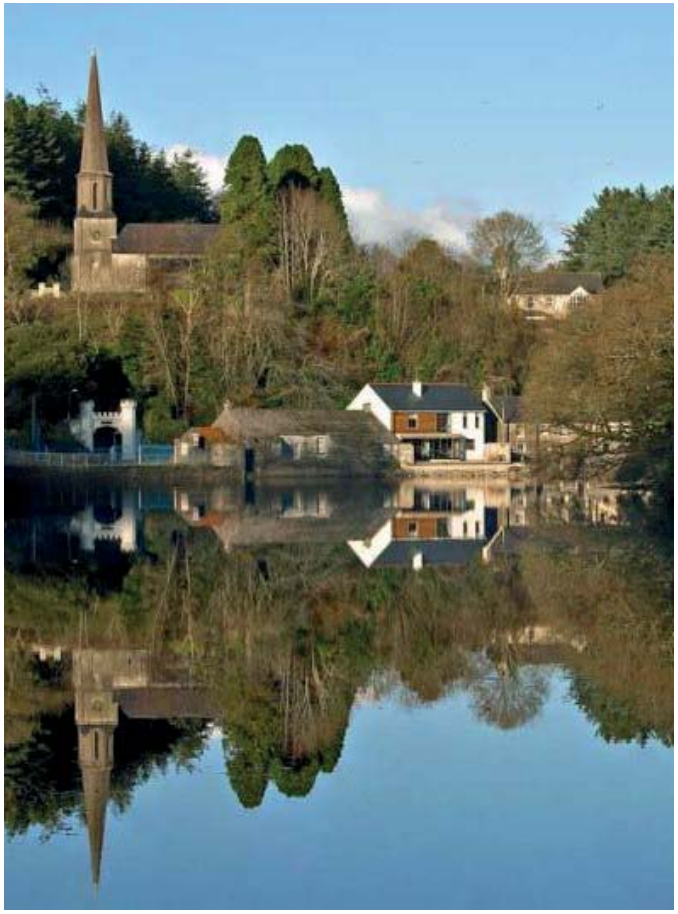
CORK COUNTY COUNCIL 1899

OPW
The Office of Public Works
Oifig na nOibreacha Poibli

ARUP

JBA consulting

Glashaboy River (Glanmire/Sallybrook) Flood Relief Scheme



Constraints Study

A Constraints Study is currently being undertaken by the Project Design Consultants. The purpose of the Constraints Study is to determine and document the constraints that may inform the selection and design of the proposed Flood Alleviation Measures.

Primary Constraints

A range of constraints is being considered including the following topics:

- **Flood Related Socio-Economic and Social Issues**
- **Flora and Fauna**
- **Fisheries**
- **Habitats**
- **Water Quality**
- **Archaeological, Architectural and Cultural Heritage**
- **Landscape and Visual Amenity**
- **Angling, Tourism and Recreational Use**

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ARUP

JBA consulting

Glashaboy River (Glanmire/Sallybrook) Flood Relief Scheme

Public Involvement

Consultation will be undertaken throughout the process to ensure that the views of the public and other stakeholders are taken into account.

The purpose of this initial Public Information Day (PID) is to:

- Provide information about the Objectives of the Scheme
- Outline the Design and Statutory Process
- Provide an Opportunity for Comment at a preliminary stage
- Gather information about Environmental Constraints
- Obtain other information relevant to the Scheme

Following this initial public consultation, there will be further opportunities for involvement through attendance at future information days, when updates on the scheme progress will be presented. A questionnaire is available for you to complete and return with your own comments.

Members of the project team are present today to answer any questions you have, or take note of any relevant information.

CORK COUNTY COUNCIL 1899

OPW
The Office of Public Works
Oifig na nOibreacha Poiblí

ARUP

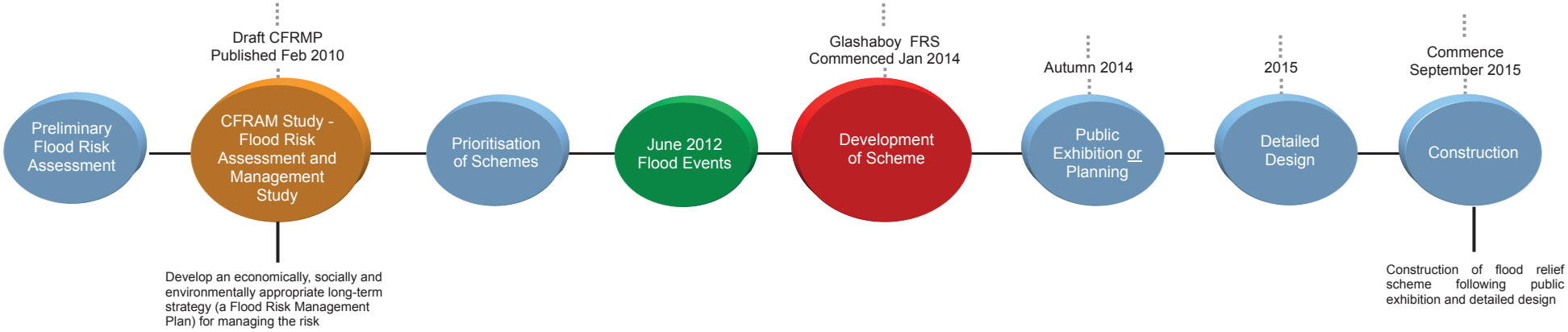
JBA consulting

Glashaboy River (Glanmire/Sallybrook) Flood Relief Scheme

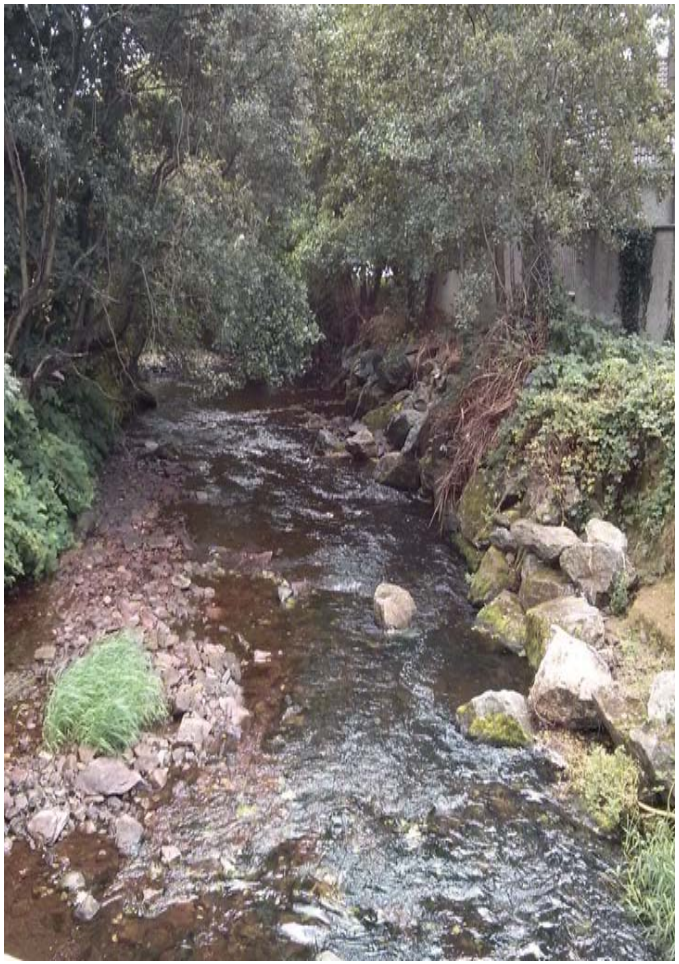
Scheme Objectives and Overview

The Office of Public Works, OPW has carried out a Catchment Flood Risk Assessment and Management (CFRAM) Study for the Lee Catchment. From this study, the draft Catchment Flood Risk Management Plan, published in February 2010, set out a range of potential flood risk management options for particular areas within the catchment including Glanmire and Sallybrook. Cork County Council has now commissioned an Engineering and Environmental Study to assess and develop a viable, cost-effective and sustainable Flood Relief Scheme. A report will be prepared describing the findings of the Engineering and Environmental Study, which will include a description of the measures and scheme options assessed and the justification for its selection.

The Project Team includes a Design Team made up of Arup (Consulting Engineers) JBA Consulting, Cork County Council and the OPW. A study area has been identified and the initial stages of the Glashaboy Flood Relief Scheme have commenced, including the Constraints Study and Preliminary Design Surveys. An Indicative Flow chart showing the process from inception through to construction for the Flood Relief Scheme is shown on the figure below:



Glashaboy River (Glanmire/Sallybrook) Flood Relief Scheme



Planning Process For The Proposed Scheme

The planning process for the preferred scheme will be decided at the end of Stage 1. The planning options are as follows.

Once a preferred Flood Relief Scheme has been determined and an outline design completed, Cork County Council will decide whether to formally publicly exhibit the proposed scheme in accordance with Section 5 of the Arterial Drainage Acts 1945, or choose Part 8 Planning under the Planning and Development Regulations 2001 – 2002.

If Public Exhibition is Chosen:

- This statutory process includes a four week Public Exhibition, during which the plans and particulars of the proposed scheme will be put on Public Display.
- Representatives of the Project Team will attend the Public Exhibition on various dates to explain the scheme to members of the public and to address queries.
- Copies of the EIS (Environmental Impact Statement) for the scheme will be available for sale to the public during this time.
- Members of the public will be invited to submit written observations which will be considered and responded to.
- An Exhibition Report, including all observation received will be sent to the Minister for Public Expenditure and Reform before formal approval of the Scheme. This will form the basis for the next stage.

If Part 8 Planning is Chosen:

- Complete the necessary planning and any and all other statutory process, which may include; Appropriate Assessment (if determined necessary); EIS; CPO of lands required for the implementation of the preferred scheme, Section 50 licenses & etc.
- Amend the final draft Flood Relief Scheme if and as necessary following completion of the planning and statutory procedures.

CORK COUNTY COUNCIL 1899

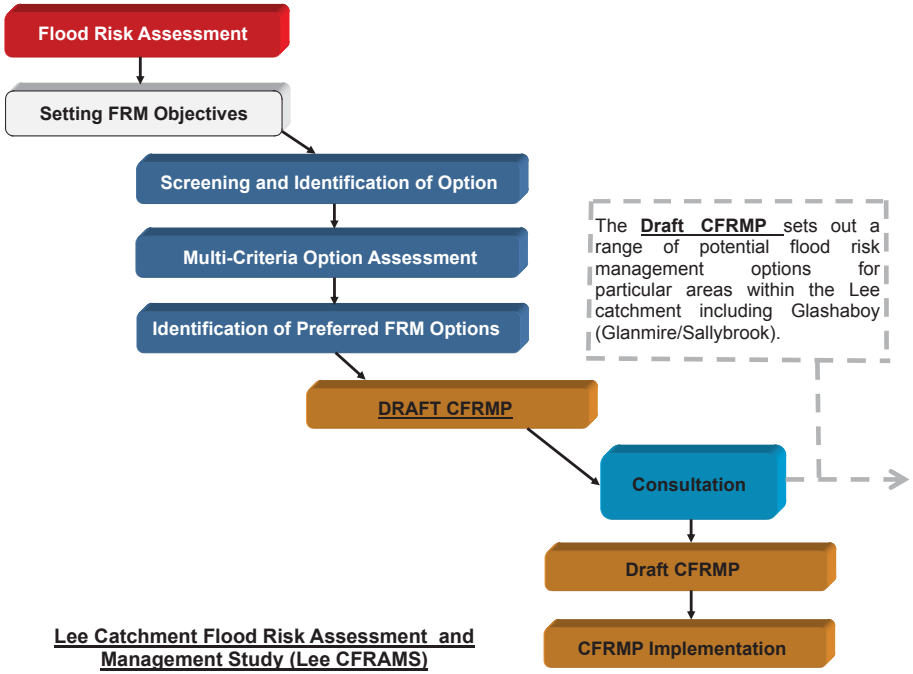
OPW The Office of Public Works Oifig na nOibreacha Poibli

ARUP

JBA consulting

Glashaboy River (Glanmire/Sallybrook) Flood Relief Scheme

CFRMP Process



The **Draft CFRMP** sets out a range of potential flood risk management options for particular areas within the Lee catchment including Glashaboy (Glanmire/Sallybrook).

Lee Catchment Flood Risk Assessment and Management Study (Lee CFRAMS)

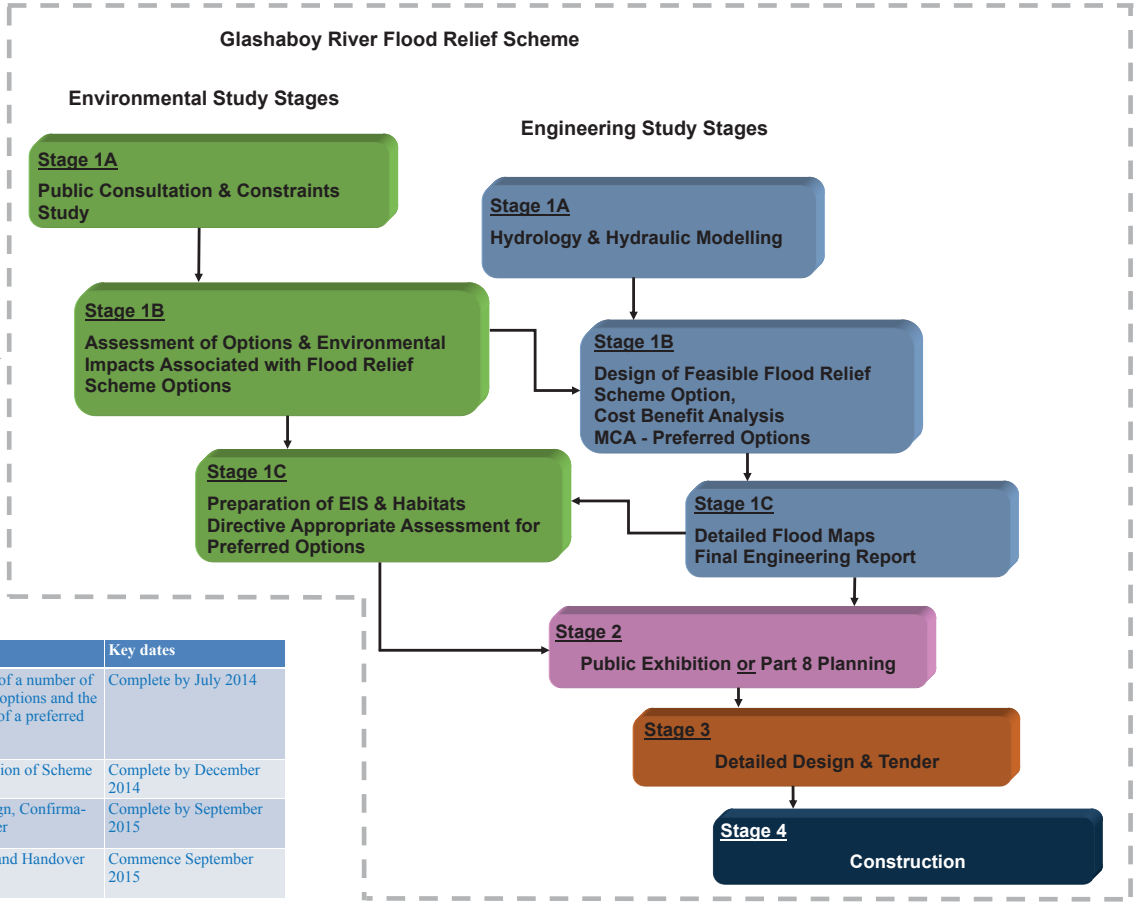
Catchment Flood Risk Assessment and Management Studies (CFRAMS) and their product - Catchment Flood Risk Management Plans (CFRMP) - are at the core of this new national policy for flood risk management and the strategy for its implementation.

The Lee CFRAM Study was the first pilot CFRAM Study for the new Flood Risk Assessment and Management Programme. The **CFRMP Process** chart above shows how the range of potential flood risk management options identified in the draft CFRMP progress to the Glashaboy River Flood Relief Scheme as part of the overall **Lee CFRAMS.**

Glashaboy River (Glanmire/Sallybrook) Flood Relief Scheme

Cork County Council has employed Arup (Consulting Engineers) to undertake an Engineering Study of the flooding problems along the Glashaboy River and estuary including all of its tributaries, particularly the Butlerstown River.

The chart below shows how the Glashaboy River Flood Relief Scheme follows on from the Lee CFRAMS and details the interaction between the Environmental Study Stages and the Engineering Study Stages for the Scheme



Outline Delivery Programme

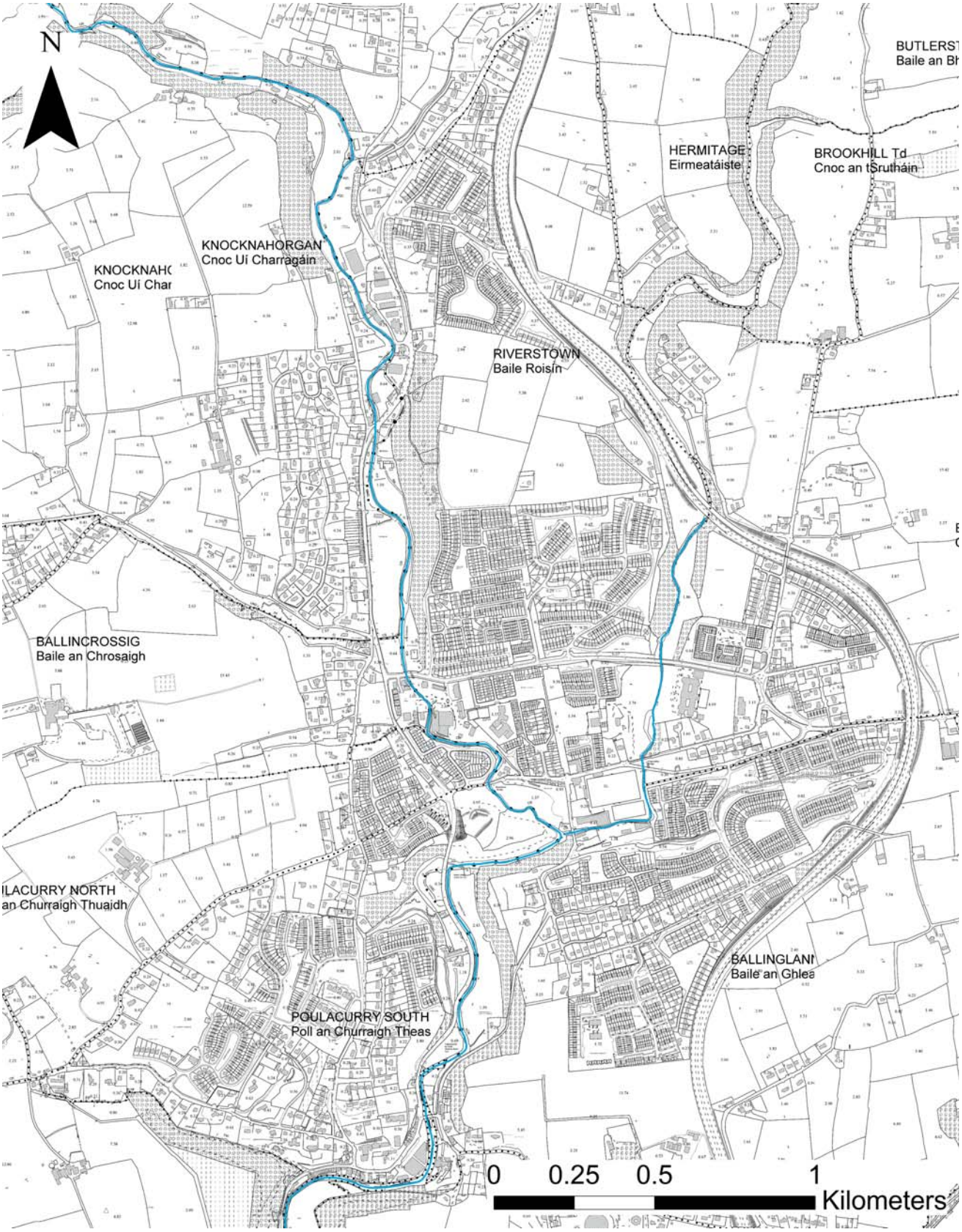
Stage	Description	Key dates
Stage I	Development of a number of flood defence options and the identification of a preferred Scheme	Complete by July 2014
Stage II	Public Exhibition of Scheme	Complete by December 2014
Stage III	Detailed Design, Confirmation and Tender	Complete by September 2015
Stages IV and V	Construction and Handover of the Works	Commence September 2015

OPW
The Office of Public Works
Oifig na nOibreacha Poiblí

ARUP

JBA consulting

Glashaboy River (Glanmire/Sallybrook) Flood Relief Scheme



CORK COUNTY COUNCIL 1899

OPW
The Office of Public Works
Oifig na nOibreacha Poiblí

ARUP

JBA consulting

D5 Questionnaire

A copy of the blank questionnaire is provided overleaf

Landscape & Visual Amenity

Comment:

Angling, Tourism & Recreation

Comment:

Other

Comment:

Cork County Council undertakes to hold any information provided to it by individuals or others on a confidential basis, subject to Cork County Council's **obligations** under law, including the Freedom of Information Act. If, for any reason, it is intended that information **provided** to Cork County Council should not be disclosed due to the sensitive nature of such information, it is incumbent on the person or body supplying the information to make clear this wish and to specify the reasons for the information's sensitivity. Cork County Council will consult with any individual or body so supplying sensitive information before making a decision on any freedom of information request received.

THANK YOU FOR YOUR CO-OPERATION

Glashaboy (Glanmire/Sallybrook) Flood Relief Scheme

PUBLIC CONSULTATION NO.1 - CONSTRAINTS STUDY QUESTIONNAIRE

(Please complete this questionnaire and return to Ken Leahy, Arup Consulting Engineers, 15 Oliver Plunkett Street, Cork, or glashaboyfrs@arup.com by Friday 28th March 2014)

1. **Name** *(optional)*: _____

   Address: _____

   _____

   _____

   Phone *(optional)*: _____ **Email** *(optional)*: _____

2. **Are you aware of the Lee Catchment Flood Risk Assessment and Management Study, CFRAMS and its findings or recommendations?** **Yes** ☐ **No** ☐

3. **Do you own, rent or occupy a property within the study area being considered?** **Yes** ☐ **No** ☐

4. **Address of property (if different from home address)**

   _____

5. **Have you had any personal experience of flooding?** **Yes** ☐ **No** ☐

6. **If yes, please give date(s):** **Most recent** _____ **Previous** _____ **Previous** _____

7. **Type of property flooded:**

Residential	☐	**Retail**	☐
Office	☐	**Workshop**	☐
Open Space	☐	**Other**	☐

   If other, please describe: _____

8. **Approximate maximum depth of flooding:** _____

9. **Source of Flooding:**

Directly from River/ Stream	☐
From Drains	☐
Overground flow (surface water)	☐

10. **Do you have photographs of flooding?** **Yes** ☐ **No** ☐

11. **If you do, may Cork County Council have permission to use them?** **Yes** ☐ **No** ☐

    Note: Photographs will be collected at a later date

12. **Have you put in place measures to prevent or reduce the impact of flooding?** **Yes** ☐ **No** ☐

If so, please describe:

13. Please indicate, in order of preference, your preferred flood defence works:
(please score from 1-11 as appropriate)

No Works (Do Nothing)		Non-Structural Measures (e.g. flood warning system or individual property protection)	
Relocation of Properties and/or infrastructure		Reconstruction of Properties and/or infrastructure to a higher level	
Flow Diversion (e.g. river diversion or flood flow bypass channel)		Flow Reduction (e.g. upstream catchment management or flood storage)	
Flood Containment through Construction of Flood Defences		Increase Conveyance of Channel (upstream and/or through and/or downstream of the town)	
Sediment Deposition and Possible Sediment Traps		Pump storm waters from behind flood defences	

14. How do you think the issue of flooding can be resolved?

15. In your opinion, how important are the following environmental constraints to the proposed Flood Risk Assessment & Management Scheme? *(please tick appropriate boxes)*

Issue	Very Important	Important	Moderately Important	Of Little Importance	Unimportant
Flood Related Socio-Economic & Social Issues	☐	☐	☐	☐	☐
Flora and Fauna	☐	☐	☐	☐	☐
Local Fisheries	☐	☐	☐	☐	☐
Habitats	☐	☐	☐	☐	☐
Water Quality	☐	☐	☐	☐	☐
Architectural and Cultural Heritage	☐	☐	☐	☐	☐
Landscape and Visual Amenity	☐	☐	☐	☐	☐
Angling, Tourism & Recreation	☐	☐	☐	☐	☐

If you have any comments relating to the proposed scheme or the constraints, please record them here:

Flood Related Socio-Economic and Social Issues

Comment:

Flora and Fauna

Comment:

Local Fisheries

Comment:

Habitats

Comment:

Water Quality

Comment:

Architectural & Cultural Heritage

Comment:

D6 Letters of Response from Consultees

Letters received in response to consultation are provided overleaf.

Ken Leahy
Project Manager
Ove Arup & Partners
Ireland Ltd.
15 Oliver Plunkett Street
Cork

7 April 2014

RE: Glashaboy River (Glanmire/Sallybrook) Flood Relief Scheme

Dear Mr Leahy,

Thank you for contacting IFI regarding the above-mentioned.

The study area encompasses the Glashaboy River a salmon, sea trout and brown trout spawning, nursery and angling water and its tributaries including the Butlerstown River. In addition to salmonids, lamprey and eels have been recorded within the constraints study area.

While IFI are fully aware of, and sensitive to, the hardship caused by flooding events any proposed flood alleviation measures must be sustainable and in keeping with the requirements of the Fisheries Acts, Habitats Directive and Water Framework Directive.

In this context IFI feels that the current assessment of flooding events must be a catchment wide process assessing the impact of changes in drainage, development and land use patterns and practices on the response of flows in rivers to rainfall events involved to rainfall events. Likewise potential solutions should consider the catchment in its entirety and not focus solely on the relatively small area set out in the constraints study. Each solution or series of solutions proposed should be considered not alone in financial terms but also in the context of long term sustainability and durability in combination with flood control effectiveness.

More specifically considering the significance of the rivers involved terms of fisheries, the EIS associated with any proposed flood alleviation measures needs to address the following

Assessment of Existing Conditions
The following data is necessary, both within the study area and to the limits of the zone of influence of any proposed works, to assess existing conditions:-

a) Mapping of the range, location and extent of each aquatic habitat type e.g. pools, nursery and spawning areas.

b) Redd counting in the proposed study area and upstream to the limits of the zone of influence of any proposed works be carried out over at least the next 2 years.

c) Mapping of both the extent and nature of bankside vegetation, highlighting in particular all areas subject to river bank erosion at present.

d) A complete stock survey of all fish species.

e) Characterization and quantification of each habitat area, identified in (a), based on its macro invertebrate population.

f) Detailed assessment and characterization of all potentially impacted channels in terms of their surface and sub-surface sedimentology.

Impact Assessment:
The following requirements apply from a fisheries perspective in relation to impact assessment of any proposed works:-

a) Quantification of habitat losses and the impact on both flora and fauna.

b) Impact of any proposed works on fish stock densities for each species.

c) Changes in flow dynamics, the consequent impact on fish migrations and the loss of opportunity for fish movement.

d) Compatibility of any proposed measures with existing legislative requirements.

Additionally there are a number of weirs on the Glashaboy system which to varying degrees limit the passage of fish. IFI would suggest that the impact of removal of these weirs be assessed in terms of the impact on flooding.

I would ask that you keep IFI updated as the study progresses. Should you require any clarification please do not hesitate to contact me.

Yours sincerely,

_____.
Michael McPartland

Environmental Officer

33 MEADOWBROOK,
EST.
GLANMIRE
CO. CORK
087 9863285

DEAR MR LEAHY.

PLEASE SEE ATTACHED LETTERS MEADOWBROOK RESIDENTS HAVE SENT OUT OVER THE LAST COUPLE OF YEARS. ALSO IF YOU COULD CONTACT ME ON THE NUMBER ABOVE SO WE CAN ARRANGE A MEETING WITH YOU IN THE ESTATE TO GO THROUGH A FEW THINGS WITH YOU. ALSO THERE ARE 33 QUESTIONNAIRES FROM MEADOWBROOK RESIDENTS.

LOOKING FORWARD TO HEAR FROM YOU.

YOURS FRANK ITALY

MEADOWBROOK RESIDENTS ASSOCIATION.

Meadowbrook Residents

Chivuna
38 Meadowbrook
Glanmire
Co Cork
087 9474517
18th March 2014

Mr Ken Leahy
ARUP

Re: Glanmire Flooding

Dear Ken,

Dear Ken,

Thank you for your input into the informative meeting held on 25th February.

Please find attached copies of representations relating to Flooding submitted from June 2012 to date that may be of assistance to you as it sets out the views of residents in the estate as events unfolded.

We look forward to hearing from you.

Yours sincerely,

Ann Walsh
Secretary

Meadowbrook Residents

Chivuna
38 Meadowbrook
Glanmire
Co Cork
087 9474517
14th January 2014

Mr Martin Riordan
County Manager
County Hall
Cork

Re: Glanmire Flooding

Dear Martin,

Further to our meeting on 3rd December we would appreciate if you would advise us of the name and address of the consultants appointed to address flooding in the Glanmire area, Terms of Reference and time scale for carrying out works.

We would also appreciate if you would confirm that funding has been allocated in relation to the preparation of a report and carrying out works to seek to ensure that three will not be a reoccurrence of the disaster that occurred in 28th June 2012 to the 49 houses in our estate.

I look forward to hearing from you. .

Yours sincerely,

_____

Ann Walsh
Secretary

Cc
Declan Daly (Deputy County Manager)
David Keane (County Engineer)
Mr Billy Kelleher TD
Ms Kathleen Lynch TD
Mr Darragh Murphy TD
Jonathan O'Brien TD

Meadowbrook Residents

Chivuna
38 Meadowbrook
Glanmire
Co Cork
087 9474517
20th December 2013

Mr Martin Riordan
County Manager
County Hall
Cork

Re: Home Insurance

Dear Martin,

Further to our meeting on 3rd December the results of the survey we conducted in relation to insurance cover for Flood/Storm and water damage arising is as follows:

Total number of houses in Meadowbrook Estate:	49
Number of Houses surveyed:	49
Number of respondents:	40
Houses with insurance for flood/storm cover:	12
Houses that have been unsuccessful in their attempts to obtain flood /storm cover*	28

*Please find attached a sample of correspondence where insurance companies have been unwilling to provide flood cover.

With regard to insurance cover in the estate we have discovered little consistency by the various insurance companies in their approach and would appreciate any assistance on this matter. Should you and/or the insurance companies require any further documentation on this matter we can arrange to forward same.

Thank you for your assistance in this matter.

Yours sincerely,

_____

Ann Walsh
Secretary

Meadowbrook Residents

Chivuna
38 Meadowbrook
Glanmire
Co cork
087 9474517
25th October 2013

David Keane
County Engineer
South Cork
Floor 15
County Hall
Cork

Re: Glanmire Flooding

Dear David,

Further to previous correspondence we would like to receive an update on the proposed timeframe for work to be carried out in the Glanmire area aimed at avoiding future flooding and a repeat of events of 28th June 2013 as many of our residents of Meadowbrook are very concerned about the rainfall this week and its effect on:

- the levels of the river that surrounds our estate
- the river catchment

and we feel that it is time see positive action being taken to protect our homes.

We are also very concerned about a Facebook Campaign that has been brought to our attention. This seeks support for work to be carried out on what was heretofore a flood plain. Previous experience tells us that work of this nature has potential to raise the level of the water of the river and result in pooling on the road and/or flooding of the houses in our estate. Hence we are asking that any such requests put forward be resisted.

NOTE: Notwithstanding that residents have advised of proposed works advised by your office many of the homes in Meadowbrook have been unable to obtain flood, storm or water cover going forward. These refusals are by some (but not all) insurance companies. We have been informed that this is based on a risk analysis done by insurance companies BUT there has been a refusal to provide us with a copy of this report. Needless to say this is the cause of many sleepless nights and we feel that should the work be carried out we will be in a position to again obtain insurance cover.

I look forward to hearing from you.

Yours sincerely,

_____

Meadowbrook Residents

Ann Walsh (Sec)

Chivuna
38 Meadowbrook
Glanmire
Co cork
087 9474517
25th October 2013

Mr Robert O'Hara
Area Engineer
Glanmire Area
Ballinglanna
Cork

Re: Glanmire Flooding

Dear Robert

The residents of Meadowbrook are very concerned about the rainfall this week and its effect on:

- the levels of the river that surrounds our estate
- the river catchment

and we feel that it is time that intermediary works suggested in previous meetings be undertaken immediately in order to avoid a repeat of events of 28th June 2013.

We are also very concerned about a Facebook Campaign that has been brought to our attention. This seeks support for work to be carried out on what was heretofore a flood plain. Previous experience tells us that work of this nature has potential to raise the level of the water of the river and result in pooling on the road and/or flooding of the houses in our estate. Hence we are asking that any such requests put forward be resisted.

We would like to meet with you and representatives of the County Council in regard to the forgoing. I can be contacted at the address or telephone number shown in this regard.

Yours sincerely,

_____

Ann Walsh
Secretary

Meadowbrook Residents

Chivuna
38 Meadowbrook
Glanmire
Co cork
087 9474517
21st Jan 2013

Martin Riordan
County Manager
County Hall
Cork

Re: Glanmire Flooding

Dear Martin,

Further to previous correspondence many of our residents (but not all) are in receipt of renewals in respect of home insurance for the forthcoming year. In this regard, please find attached an extract from correspondence received by residents from their Insurance Company. We would appreciate if you would arrange to provide us with the information requested therein to enable a suitable response be submitted with regard to the proposed work and secure proper insurance cover.

We would also like to receive an update with regard to the proposed Consultants' Report for Flood Relief due for the area and the arrangements that will be in place that will allow our input

Yours sincerely,

_____

Ann Walsh
Secretary

(NOTE: Taking into account the tight deadline involved ant the necessity for residents to have insurance cover a prompt response is crucial)

Meadowbrook Residents

Chivuna
38 Meadowbrook
Glanmire
Co cork
087 9474517
21st Jan 2013

Mr Declan Daly
Divisional Manager
South Cork
Floor 15
County Hall
Cork

Re: Glanmire Flooding

Dear Declan,

Further to previous correspondence many of our residents (but not all) are in receipt of renewals in respect of home insurance for the forthcoming year. In this regard, please find attached an extract from correspondence received by residents from their Insurance Company. We would appreciate if you would arrange to provide us with the information requested therein to enable a suitable response be submitted with regard to your proposed work and secure proper insurance cover.

We would also like to receive an update with regard to the proposed Consultants' Report for Flood Relief due for the area and the arrangements that will be in place that will allow our input

Yours sincerely,

_____

Ann Walsh
Secretary

(NOTE: Taking into account the tight deadline involved ant the necessity for residents to have insurance cover a prompt response is crucial)

Meadowbrook Residents

Chivuna
38 Meadowbrook
Glanmire
Co Cork
087 9474517
28th December 2012

Mr Derry O'Sullivan
Area Engineer
Roads Operations
Glanmire Office
Ballinglanna
Glanmire
Cork

Re: Glanmire Flooding,

Dear Derry,

Following a recent meeting of Meadowbrook Residents I am writing to you to request a meeting with representatives of the Committee to discuss what interim arrangements can be put in place to alleviate the flooding in the area pending the proposed flooding report and implementation plan. We would appreciate if you would be agreeable to meet us at an early date.

I can be contacted at the address or telephone number shown to arrange a suitable time and venue.

As you are aware a number of residents are in the lucky position to return to their homes. During the time the estate was vacant anti-social behaviour has developed. We would like if, going forward, you could consult with us on any future recreational facilities that are to be put in place in the area.

We would like to thank you and your team for all your assistance during what has been a difficult year for us and wish you all Happy and Peaceful New Year.

Yours sincerely,

Ann Walsh

Meadowbrook Residents

Chivuna
38 Meadowbrook
Glanmire
Co Cork
087 9474517
15th Oct 2012

Mr Michael McPartland
Environment Officer
Inland Fisheries Ireland
Sunnyside House
Macroom
Co Cork

Re: Flooding in the Glanmire Area

Dear Mr McPartland,

As you are aware the residents of Meadowbrook experienced severe flooding on 18th June 2012 and have been living under the threat of further flooding since that we feel has been aggravated by the debris in the Glashaboy and Butlerstown rivers and their tributaries. As secretary I have been contacted by a number of local fishermen who have advised that as the spawning season is Nov/Dec/Jan it is crucial that the river is free of debris to facilitate the fish to travel upstream to spawn. As it is benefit for us all for the river to flow freely we are seeking your continuing support to keep the river clear and put in place the regular monitoring of the situation by the relevant authorities.

We are glad to see that that commenced and look forward to working with you in partnership for the benefit of all concerned..

Thank you for your attention.

Yours sincerely,

Ann Walsh
Secretary

Meadowbrook Residents

Chivuna
38 Meadowbrook
Glanmire
Co cork
087 9474517
15th Aug 2012

Mr Derry O'Sullivan
Area Engineer
Glanmire Area
Ballinglanna
Cork

Re: Glanmire Flooding

Dear Derry,

I refer to our letter dated 20th July.

I understand that you may now be a position to follow up on a number of these issues and provide a response.

We look forward to hearing from you. Should you wish to have clarification on developments and/or any of the issues raised in our letter we are willing to meet at a time suitable to you should.

Following the rainfall early this morning and the impact on the river catchment we feel that ongoing communication and consultation would be of benefit to all concerned.

I can be contacted at the address or telephone number shown in this regard.

Yours sincerely,

Ann Walsh
Secretary

Cc Cllr Noel Costelloe
Cllr Gerry Kelly
Cllr Pat Burton
Cllr Dan Fleming

Meadowbrook Residents

Chivuna
38 Meadowbrook
Glanmire
Co cork
087 9474517
15th Aug 2012

Mr Declan Daly
Divisional Manager
South cork
Floor 15
County Hall
Cork

Re: Glanmire Flooding

Dear Declan,

Thank you for your letter of the 13th inst. I wish to confirm that October 23rd is a suitable date for a meeting with you.

We appreciate the efforts being made on behalf of the residents and look forward to working with your office with a view to resolving our difficulties

Please find enclosed a copy of letter of today's date to the area Engineers Office.

Yours sincerely,

_____

Ann Walsh
Secretary

Meadowbrook Residents

Report of matters to be discussed at forthcoming meeting with County Manager 13/8/12 as agreed at committee meeting 31/7/12.

1. **Debris at Bridge:**
   - A comprehensive plan of action with regard to the regular removal of debris from the Bridge and river
   - Establishment of a Scheduled Plan of works going forward to avoid the accumulation of debris.
   - Immediate removal of debris as it accumulates
   - Put in place monitoring arrangements to ensure that the river flows freely.
   - Establishment of a Scheduled Plan of works going forward to avoid the accumulation of debris.
   - Explore benefits of removal of Bridge
   - Opening each the "Eyes of the Bridge"
2. **River Works:** Explore the feasibility of lowering the Floor of the River Meeting has been requested with OPW .
3. **Remedial Works:** immediately put in place remedial works to avoid flooding occurring again.
4. **Long Term Flood Prevention Measures:** develop a scope of works to prevent future flooding long term.
5. **Boundary Wall:**
   - Erect a Boundary wall high enough around the estate to avoid water entering the estate by this means.
   - Raising the level of the protective wall around Meadowbrook Estate to ensure that if the river rises there will be no overflow into the estate from it. We feel this would further strengthen the protection the estate from a repeat of recent flooding.
6. **Maintenance of Drains:**
   - Monitoring of drains to ensure they are free from debris and silt.
   - Put in place a Plan that ensures all drains are free from silt
   - Report/study/analysis into where water flowing into drains, storm points and soak -a-ways are going
7. **Assessment** of reasons for flooding at this time and put in place phased schedule of works to ensure that this does occur again.
   - Impact of Barnavara Hill on flooding
8. **AOB –**
   This will be based on feedback received available at our committee meeting to be held shortly and any items you would like to have discussed.
   - Feedback to the Committee is that devastation to the homes of residents is worse in the Glanmire area. There is a need to prioritise work in the Glanmire area-See dated 9th July.
   - Assurance to the insurance companies by the Co Co OPW that flood prevention works in place should be to the satisfactory so that insurance premiums or excess are no affected, going forward.
   - Footpaths and roads in the area need to be upgraded immediately.
   - Sanitisation of the Estate, roads, footpaths
   - What happened to 15 metre walkaway recommended in ESBI report?
   - 49 Houses have been affected in Meadowbrook (NOT 15-20 outlined in report dated 9/7/12)
   - Shores blocked 29th July and 12th Aug following heavy rainfall.

Meadowbrook Residents

Chivuna
38 Meadowbrook
Glanmire
Co Cork
087 9474517

2nd August 2012

Mr Brian Hayes TD
Minister of State at the Office of Public sector Reform & OPW
Flood Project Management Services
OPW Head Office
Jonathan Swift Road
Trim
Co Meath

Re: Glanmire Area Flooding

Dear Minister,

Our Committee would like to formally request a meeting with representatives from your office with a view to agreeing immediate and long term plans to avoid a repeat of the recent flooding in the Glanmire Area.

Yours sincerely,

Ann Walsh
Secretary

Cc OPW Offices 14 Old Blackrock Road., Cork

Meadowbrook Residents

Chivuna
38 Meadowbrook
Glanmire
Co Cork
087 9474517
17th July 2012

Financial Services Ombudsman
Insurance Services
3rd Floor
Lincoln House
Dublin 2

Re: Flooding in Glanmire

Dear Sir/Madam,

A public meeting of the victims of floods in the Glanmire area was held on 16th July at Community Centre , Riverstown. It was agreed to write to you to alert you to the fact that a number of locals are encountering what they consider unnecessary delays and difficulties in their contacts with various insurance companies. Currently our committee is determining the extent of this problem and when specific cases are drawn to our attention we will be in contact with you.

Please note your records.

Yours Faithfully,

_____

Ann Walsh
Secretary
Meadowbrook Residents

Cc Michael Kemp Chief Executive, Irish Insurance Federation, 39 Molesworth St., Dublin 2

Meadowbrook Residents

Chivuna
38 Meadowbrook
Glanmire
Co Cork
087 9474517
20th July 2012

Mr Derry O'Sullivan
Area Engineer,
Glanmire Area
Ballinglanna
Cork

Re: Immediate Remedial Works required to Avoid Flooding in Glanmire Area

Dear Derry,

Representatives of Meadowbrook residents would like to formally request a meeting with your office to put in place a plan of action aimed at avoiding a repeat of the recent flooding to our homes and neighbourhood. We consider that the following matters require immediate attention and should be included on the agenda:

1. Immediate removal of all debris accumulating at Bridge and up river.
2. Establishment of a Scheduled Plan of works going forward to avoid the accumulation of debris.
3. Put in place monitoring arrangements to ensure that the river flows freely.
4. Raising the level of the protective wall around Meadowbrook Estate to ensure that if the river rises there will be no overflow into the estate from it. We feel this would further strengthen the protection the estate from a repeat of recent flooding.
5. Opening each the "Eyes of the Bridge"
6. Explore benefits of removal of Bridge
7. Put in place a Plan that ensures all drains are free from silt.

We would appreciate if you could arrange to let us have a copy of ESBI Report on Flooding in the Gglashaboy area and any other relevant Reports available to the County Council in relation to Flooding in the Glahsaboy/Bonmahon rivers.

Yours Faithfully,

Ann Walsh
Secretary

Cc
Cllr Noel Costelloe
Cllr Gerry Kelly
Cllr Pat Burton
Cllr Dan Fleming

Meadowbrook Residents

Chivuna
38 Meadowbrook
Glanmire
Co Cork
087 9474517
17th July 2012

Mr Martin O'Riordan
County Manager
County Hall
Cork

Re: Glanmire Flooding,

Dear Mr O'Riordan,

As you are aware a public meeting of the flooding victims in the Glanmire area was held on 16th July at Community Centre Riverstown at which it was agreed to write to you seeking a meeting with our representatives. Please contact me at the address or telephone number shown in order that we can agree a mutually suitable time.

A comprehensive discussion on the issues of concern to the locals took place at the meeting. As requested I am outlining a summary of the recommendations that were suggested which we feel should form part of the agenda for our forthcoming meeting.

1. **Debris at Bridge:** A comprehensive plan of action with regard to the regular removal of debris from the Bridge and river.
2. **River works:** Explore the possibility of lowering the Floor of the River.
3. **Remedial Works:** immediately put in place remedial works to avoid flooding occurring again.
4. **Long Term Flood Prevention Measures:** develop a scope of works to prevent future flooding long term.
5. **Boundary Wall:** Erect a Boundary wall high enough around the estate to avoid water entering the estate by this means.
6. **Maintenance of Drains:** Monitoring of drains to ensure they are free from debris and silt.
7. **Assessment** of reasons for flooding at this time and put in place phased schedule of works to ensure that this does occur again.
8. **AOB** –This will be based on feedback received available at our committee meeting to be held shortly and any items you would like to have discussed.

Yours Faithfully,

_____

Ann Walsh
Secretary
Meadowbrook Residents

Meadowbrook Residents

Note of Meeting held 13th August 2012 with Cork County council

Attendance:

Martin O'Rirodan (Co Manager), Declan Daly (Divisional Manager South Cork) Noel O'Keeffe (County Engineer)

B Daly, N Reid, M Barry, F Daly A Walsh,

Meeting agreed that Bill Daly would address meeting Bill identified the huge stress and trauma the residents of 49 houses had experienced following the flooding in the Glanmire area and expressed the hope that the County Council would be able to assist residents with difficulties going forward.

The Report on issues discussed at meeting held 31/7/2012 was dealt with in detail. County Council Officials noted that **all** the houses in Meadowbrook (not 15-20 identified in report dated 9th July) have since become aware that floods have impacted on their homes and the threat of flooding following rain on 29th July and 12th Aug has aggravated an already difficult experience.

Going Forward:

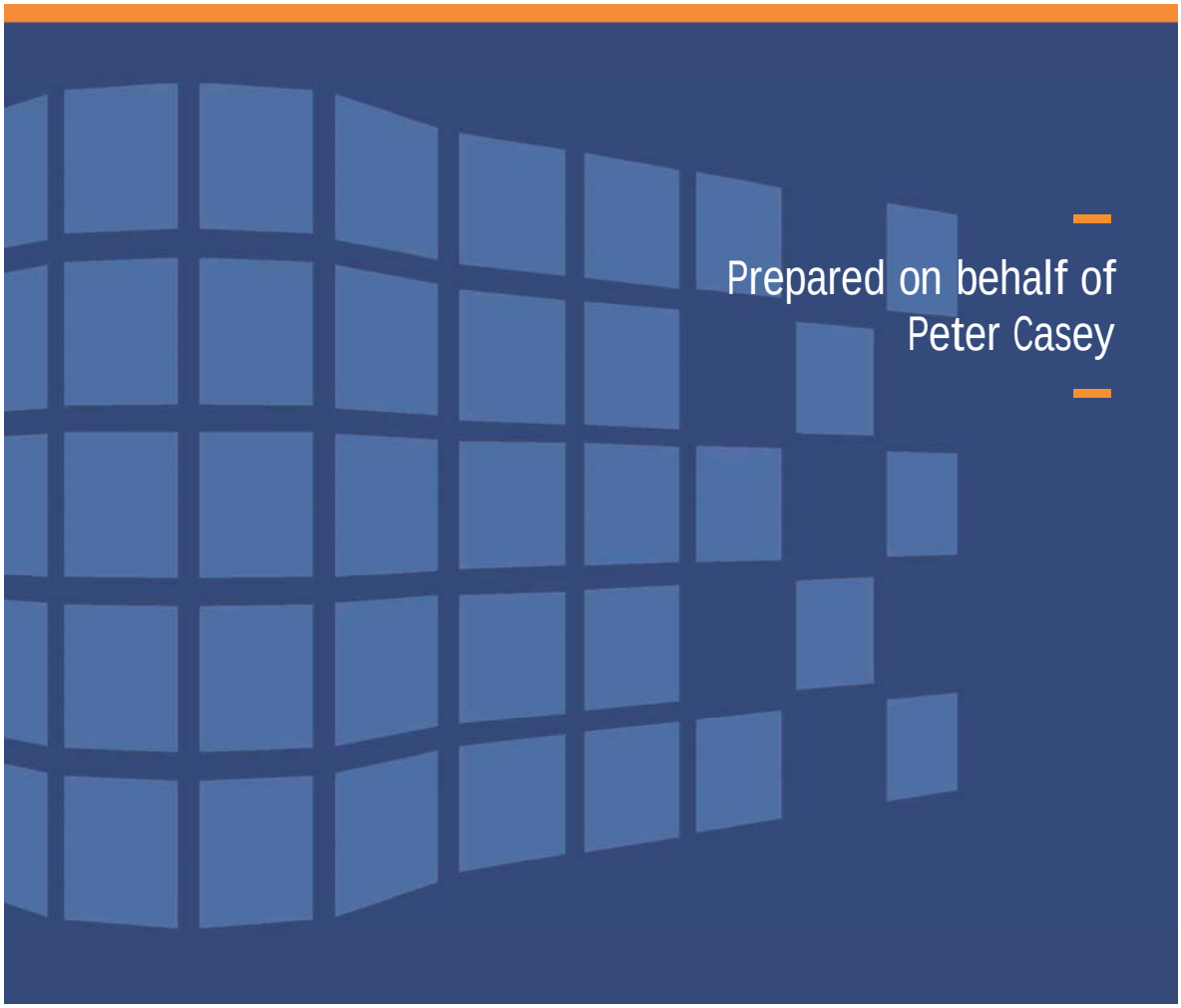
- OPW agreed to conduct a detailed study in July 2012 into cause of flooding options going forward etc. A procurement policy has to be adhered to with means that ads will be placed in the paper in Sept/Oct. For the appointment of Consultants in Oct (most likely)
- Input from residents and ongoing consultation with the Committee will be welcomed byt both the consultants that are appointed and the Co Co.
- It is envisaged that a 100 year flood plan is being thought out and designed.
- The need for immediate action with regard to debris, clearing drains identified.
- Co Manager is hoping to meet the insurance industry on behalf of residents and businesses with a view to ensuring cover going forward and addressing possible excess.
- County Council is to advise of out hours emergency numbers in order that residents would be aware of how to get response and the date of next meeting
- Works will be limited pending the consultative process and the issue of Consultation Report.

McCutcheon Halley Walsh
CHARTERED PLANNING CONSULTANTS

Glashaboy River Flood Risk Assessment & Management Scheme

Submission to the Glashaboy River (Glanmire/Sallybrook) Flood Risk Assessment & Management Scheme relating to lands in Sallybrook, Glanmire, Co. Cork.

March 2014



www.mhwplanning.ie

Also in DUBLIN
Harcourt Centre, Block 4
Harcourt Road, Dublin 2
T. +353 (0)1 477 3933

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Ballincollig, Co. Cork
T. +353 (0)21 420 8710

1.0 Introduction & Background to Review

This submission to the Glashaboy River (Glanmire/Sallybrook) Flood Risk Assessment & Management Scheme is made by McCutcheon Halley Walsh on behalf of Peter Casey of Oliver Plunkett Street, Co. Cork who is the owner of lands in Sallybrook, Glanmire, Co. Cork (outlined in red in the attached maps).

It is noted that the OPW in partnership with Cork City and Cork County Councils have carried out a Catchment Flood Risk Assessment and Management (CFRAM) Study for the Lee Catchment. The Draft Catchment Flood Risk Management Plan February 2010. Glashaboy River Sub-Catchment, the Lee CFRAMs Study recommended the following:

- A Fluvial Flood Forecasting System
- A Targeted Public Awareness and Education Campaign
- **Individual Property Protection**
- **Permanent Flood Walls and/or Embankments** (emphasis added).

We are aware that Arup and JBA Consulting have been appointed by Cork County Council to undertake and design the Glashaboy River (Glanmire/Sallybrook) Flood Risk Assessment & Management Scheme. It is noted that the objective of the project is to assess and develop a viable, cost effective and sustainable Flood Relief Scheme to alleviate flooding in the Glanmire and Sallybrook areas and to protect against flooding from pluvial, fluvial and tidal surge.

Our client is the owner of a large commercial site measuring 3.8 hectares (9.4 acres) with the study area – see Figure 2 below and site location map in Appendix 1. The purpose of this submission is to ensure that our client's site is protected from flooding so that the existing uses already established on-site are protected and so that the significant future development potential of this strategic development site is not affected in any way by the measures proposed in the Flood Risk Assessment & Management Scheme.

Figure 1: Site with existing commercial uses at Sallybrook, Glanmire, Co. Cork.

The submission is set out as follows:

i. **Site and Context**

ii. **Development Potential of Site**

iii. **Site Specific Flood Risk Assessment prepared by UCC (Dr. Eamon McKeogh)**

iv. **Requested provisions to the Glashaboy River (Glanmire/Sallybrook) Flood Risk Assessment & Management Scheme**

Each of the above areas are outlined in greater detail below.

2.0 Site and Context

Our clients' lands which measures 3.8Ha (9.4 acres) approximately, are situated close to the centre of Glanmire (Hazelwood) and are also located within very close proximity to Junction 18 on to the M8 Motorway. The site is therefore a strategically important site and with significant potential for development.

As can be seen from Figure 1 above, the site comprises a mix of commercial uses. In recent years, substantial new residential developments have been completed to the east and south of the site (please refer to Figure 2 below).

Figure 2: Aerial view of site (outlined in red) at Sallybrook, Glanmire

As outlined in section 4 of this submission the site has already been subject to a site specific Flood Risk Assessment (FRA) prepared by Eamon McKeogh, of the Flood Study Group, Department of Civil & Environmental Engineering, UCC (November 2007).

As pointed out in the FRA, the existing site is protected by an existing levee/embankment. The results of the FRA show that this existing levee/embankment provides effective flood protection from the extreme flood events.

The FRA also confirms that because of the levee/embankment, our clients' site does not function as or provide any role in relation to flood storage for the town and therefore does not provide flood relief at any locations either upstream or downstream of the site.

3.0 Development Potential of Site

As outlined above, our client already has a number of long established commercial uses on-site. There is also a substantial portion of the site which is zoned for development but as of yet has not been developed.

In considering our clients lands as part of the Flood Risk Assessment & Management Scheme for Sallybrook/Glanmire we would ask that the strategic importance and development potential of our clients site is acknowledged and taken into consideration as part of the overall assessment.

Glanmire has long been identified for significant residential, employment and commercial development in the Cork Area Strategic Plan (CASP) Update, the 2009 County Development Plan, the 2011 Local Area Plan for the Blarney Electoral Area and the Outline Strategy for the Blarney Electoral Area 2010 - 2020

The CASP notes the potential for on-going population growth in Glanmire / Riverstown in tandem with the provision of high quality social and community facilities and improved transport linkages.

The provision and promotion of employment uses forms an integral part of the 2009 County Development Plan. Specifically in relation to Glanmire, it is a stated objective of the Cork County Development Plan to seek co-ordinated residential development on lands that are within the development boundary.The 2009 County Development Plan also identified the importance of increasing the level of convenience and comparison shopping in the town to consolidate Glanmire's function as a local service centre.

In the 2011 Local Area Plan, Glanmire was designated as a town with the following strategic aims:

> "*The overall strategy aims to improve Glanmire's important commercial, administrative and institutional functions serving a wide area and to promote its potential as a rural industrial/enterprise location."*

In the current 2011 Local Area Plan (LAP) for the Blarney Electoral Area the site is zoned as "existing built up area". The purpose of the "existing built up area" zoning identified in the 2011 LAP, is to provide a less complex 'zoning' regime and to encourage the re-use or re-development of underused land:

> *"The principle of zoning areas of existing development as 'established uses', used throughout the County Development Plan and in the main towns, in the 2005 local area plans has been discontinued in this plan and these area are now shown simply as 'existing built up area'. This approach has been taken in order to allow* ***a more positive and flexible response to proposals for the re-use or re-development of underused or derelict land****"* (emphasis added).

The Outline Strategy prepared by the Council for the Blarney Electoral Area 2010 – 2020 also identifies three primary areas for growth in Glanmire. These relate to a growth in employment, population and retail provision. In relation to population growth the Outline Strategy states that's the LAP will "need to plan for a target population in Glanmire of 10,788, an increase of 2,403 people on 2006 population levels giving rise to a demand for an additional 2241 dwelling units".[1] This substantial increase in polpulation is mirrored by a high employment target which identifies a need "to provide sufficient land to accommodate an additional 2,258 jobs in the Ballyvolane and Glanmire areas." [2] The Outline strategy in particular identifes the shortage of commercial / employment options as one of the primary planning issues for the town which needs to be addressed during the life of the forthcoming LAP.[3]

Given the shortage of available sites for commercial and employment uses within the Glanmire area, it is critical that strategic infill / brownfield sites such as our clients are protected from a flood risk perspective so that their development potential can be realised in accordance with the Council's objectives for the area.

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[1] Outline Strategy for the Blarney Electoral Area 2010 – 2020, p.40.
[2] Outline Strategy for the Blarney Electoral Area 2010 – 2020, p.4.
[3] Outline Strategy for the Blarney Electoral Area 2010 – 2020, p.5.

4.0 Site Specififc Flood Risk Assessment prepared by UCC

As already mentioned, a Flood Risk Assessment (FRA) has already been prepared for our clients site in Sallybrook by Dr. Eamon McKeogh of the Flood Study Group, Department of Civil & Environmental Engineering, UCC (November 2007) – copy included in Appendix 2.

The FRA concluded that only a very small fraction of the site at the southern end is susceptible to flooding but **only if there are no changes are made to the property**. The extent of flood risk identified in the FRA by UCC tallies with the Lee Cframs maps prepared for the area which also conclude that there is some flood risk on the lower portion of the site and also tallies with the recent flood event in the Glanmire / Sallybrook area where only the southern portion of the site (i.e. the existing commercial premises) was affected.

As pointed out in the FRA, the existing site is protected by a levee/embankment and the results of the FRA show that this is adequate to provide flood protection from extreme flood events. The FRA also confirms that because of the levee/embankment, our clients' site does not function as or provide any role in relation to flood storage in this area, and **that the site does not provide flood relief at any locations either upstream or downstream of the site.**

The FRA by UCC does recommend that the existing levee/embankment be reinforced and raised along the western and southern boundary of the site. This will ensure no flooding of the site. It is also very important to point out that the UCC FRA concluded that the reinforcement and raising of the levee/embankment along the western and southern boundary of the site **will not change upstream or downstream water levels** and therefore would not have a negative impact on the wider area.

The conclusions of the FRA by UCC may be summarised as follows:

- **The design return period for the FRA was taken to be 100 and modified to take into account climate change;**
- **A computer model was developed for a 640m reach of the Glashaboy River adjacent to the proposed development site and water levels determined for the above test flows;**
- **The existing site is protected by a levee/embankment and the results show that this is adequate to provide flood protection from extreme flood events;**
- **Because of the existing levee/embankment, the site does not function as or provide any role in relation to flood storage;**
- **The structural stability of the existing embankment may need to be improved;**
- **Changes to the structure and composition of the embankment will not effect the flood levels calculated in the study provided that the embankment profile is not changed on the river side;**
- **Reinforcing or raising of the levee/embankment will not change upstream or downstream water levels;**
- **The recommended floor levels for the development is 20.6mOD to give adequate freeboard above the extreme flood levels.**

As part of this submission we have attached a copy of the Flood Risk Assessment (see Appendix 2), prepared by Eamon McKeogh, Flood Study Group, Department of Civil & Environmental Engineering, UCC (November 2007) and we would ask that this FRA is considered as part of the Glashaboy River (Glanmire/Sallybrook) Flood Risk Assessment & Management Scheme.

5.0 Requested Provisions Flood Risk Management Scheme

It is essential that a robust set of flood protection measures are provided for the Glanmire/Sallybrook area. In this regard, it is noted that a number of flood protection measures were identified in the public consultation leaflet (dated 25th February 2014), including the provision of non-structural measures (e.g. flood warning system or individual property protection), relocation of properties, the reconstruction of properties and/or infrastructure at a higher level, flow diversion/reduction, pumping, flood containment through the construction of flood defences and increase conveyance of the Glashaboy channel (upstream and/or downstream of the town).

Given the significant residential and employment population in the Glanmire/Sallybrook area, the damage caused by recent flood events and the potential for further flood related damage in the area, for obvious reasons the "do nothing" scenario or implementation of no new flood alleviation measures should not be considered as an option.

From our clients perspective the main objective is that the current situation is improved and that robust measures are put in place to protect our client's site and the surrounding area from flooding.

While our client has an open mind as to the extent and type of flood protection measures to be implemented for the area, there are a few critical issues which we would like the Flood Risk Assessment & Management Scheme for the Glanmire/Sallybrook area to address:

- **Confirm that the "Do nothing" option of implementation of no new flood alleviation measures is not an option;**
- **Confirm that non-structural measures such as flood warning systems will not be relied upon solely or primarily to protect against flood risk;**
- **Acknowledge the relocation of properties, such as our clients substantial commercial property in Sallybrook is not an option without appropriate compensation;**
- **Acknowledge that our client's site does not provide flood storage/relief at any locations either upstream or downstream of the site;**
- **Other flood alleviation measures such as pumping and sediment deposition/traps will be supplemented by more robust provisions to ensure that overall, comprehensive flood protection measures will be implemented.**

Based on our preliminary assessment and on the information and experience of the Flood Risk Assessment prepared for our clients site by UCC it would appear that the most appropriate and effective flood protection measures which should be explored for the Sallybrook area should include, inter alia, the following:

- **Catchment management:** such as upstream flow reduction or flood storage in areas outside of those areas designated for development. Areas which are designated for development (such as our clients site), should only be considered for flood storage if the owners are properly compensated for any diminution/loss in development potential;
- **Flood containment:** through construction of robust flood defences. In relation to our clients site, it was demonstrated in the FRA by UCC that the existing levee/embankment is effective from a flood protection perspective, but that the size and structural stability of the embankment should be improved;
- **Conveyance:** Failures in conveyancing and blockages in rivers/streams can have devastating effects in relation to flooding, especially in built up areas such as Glanmire/Sallybrook. Conveyance of the Glashaboy River channel and avoiding blockages in the system should be a fundamental part of any flood relief solution for the Glanmire/Sallybrook area.

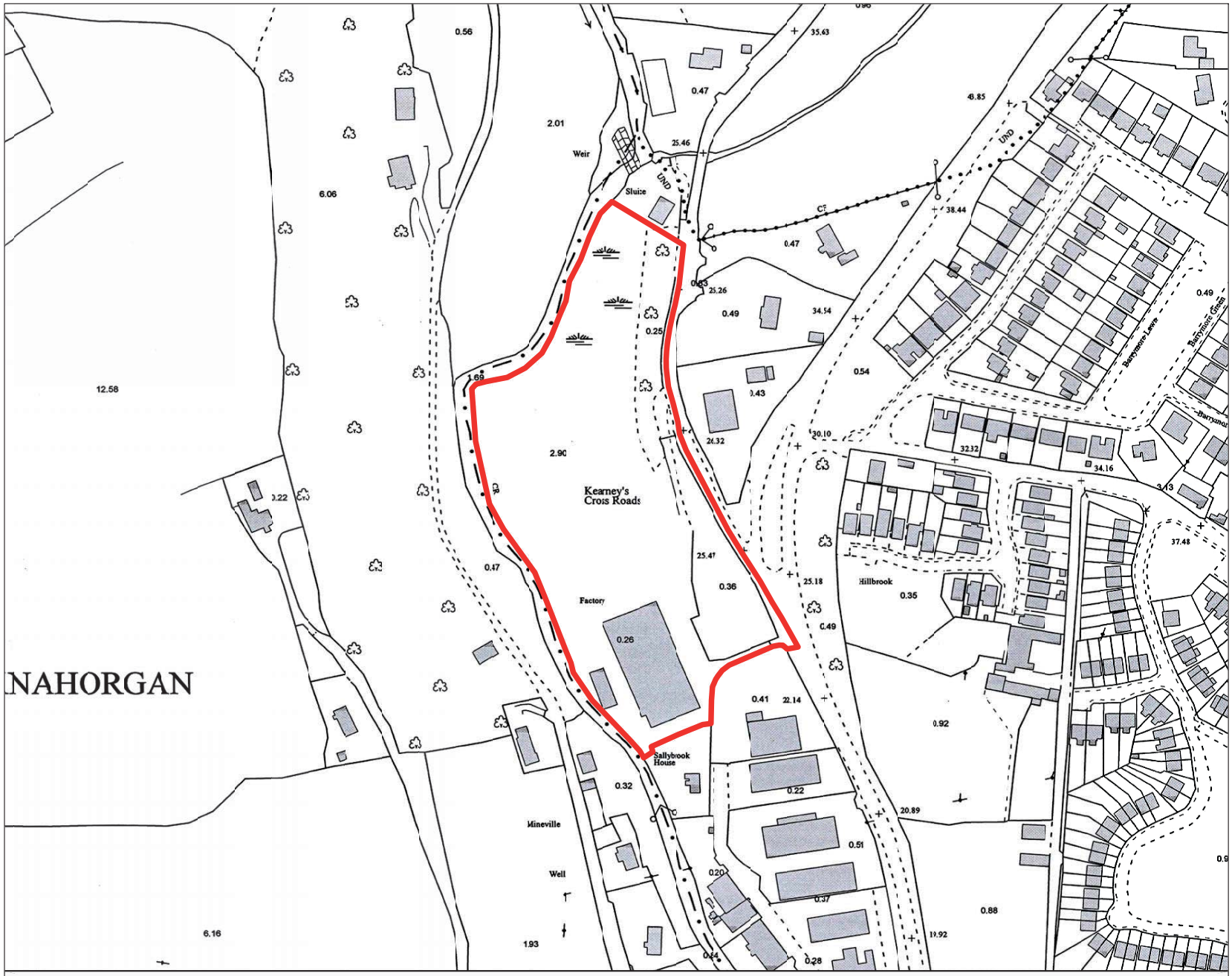
As our client is the owner of an extensive and strategic site within the Glanmire/Sallybrook area, it is requested that we would be consulted as part of the flood risk assessment and management process and we would be grateful for the opportunity to discuss this submission and the Glashaboy River (Glanmire/Sallybrook) Flood Risk Assessment & Management Scheme with you in more detail at the earliest possible convenience.

Yours sincerely,

Tom Halley,
McCutcheon Halley Walsh

Attachments: ***1. Site location map for our clients lands in Sallybrook, Glanmire;***

2. Flood Risk Assessment - Sallybrook prepared by Eamon McKeogh, Flood Study Group, Department of Civil & Environmental Engineering, UCC (November 2007).



Legend

Site Boundary

Title Glanmire

Site Location Map

Client Peter Casey

Project Site at Riverstown, Sallybrook, Glanmire, Co. Cork.

Scale	1 : 2500	Date	28/03/2014
O.S. map	1 : 2500 6292-C	Draw No.	1892-01
		Version	1.1
Ordnance Survey Licence No.:	EN0005414	Drawn	T.L.
		Checked	T.H.

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REPORT

Glashaboy River Flood Study - Sallybrook

November 2007.

FLOOD STUDY GROUP
UNIVERSITY COLLEGE CORK
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Email: e.mckeogh@ucc.ie

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1. INTRODUCTION

This flood study of a 640m reach of the Glashaboy River, at Sallybrook Glanmire, has been carried out by the Flood Studies Group, UCC for Mr. Peter Casey c/o John O'Donovan & Associates (JODA), to assess the flooding risks associated with a commercial development proposal located adjacent to the river.

The proposed development is on the left floodplain (looking downstream) of the Glashaboy River as shown in figures 1 & 2 which show the site location and preliminary design proposal plan.

For the analysed river reach, the existing river system was represented by 39 cross-sections of the main river channel and floodplain. Flood water levels were determined using a steady state computer model, viz. the 1D numerical model HEC-RAS v3.1.3.

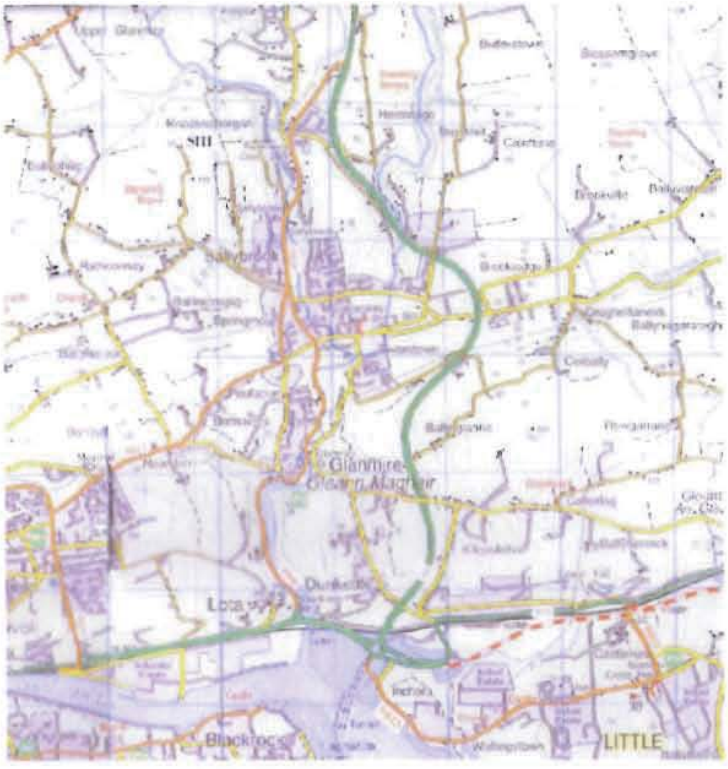


Figure 1 Site location map

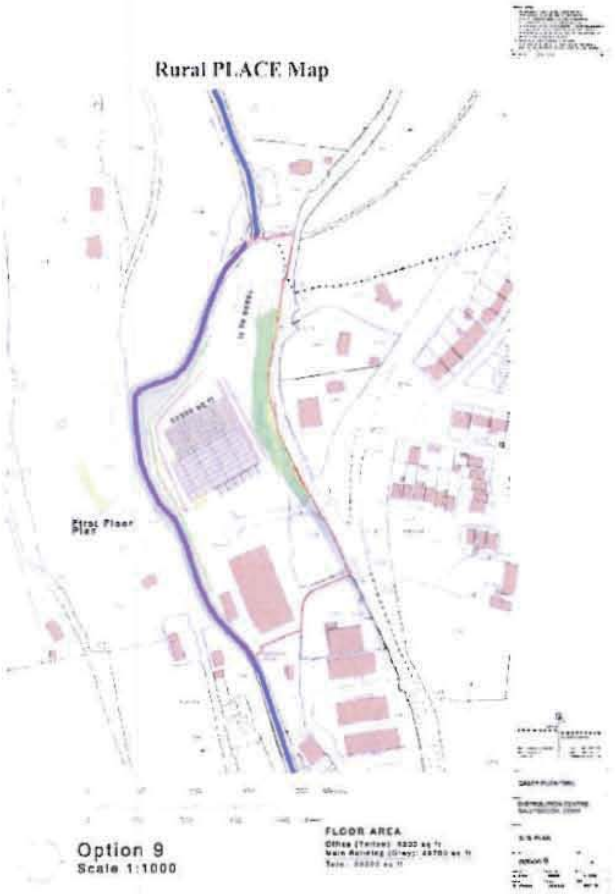


Figure 2. Preliminary design proposal

2. HYDROLOGY

Design flows

The design flood return period was taken to be 100 years. The 100-year flood flow was estimated using the NERC-FSR[1] Catchment Characteristics 5-parameter equation. The standard methodology was modified to take into account Climate Change (CC) as recommended by Greater Dublin Regional Code of Practice for Drainage Works [2] which recommends that rainfall be factored by 1.1 and all river flows up to 100 year return periods, factored by 1.2. Table 1 below summarizes the Catchment Characteristics and coefficients used to calculate the 100-year flood taking into account potential Climate Change, (Q_{100y}^{CC}).

[1] Natural Environmental Research Council. *Flood Studies Report*, Vols 1-V, NERC, 1975.

[2] GDSDS Technical Document Volume 5 , Climate Change

Table 1. Catchment Characteristics Parameters (RSMD and C adjusted for Climate Change).

CALCULATION		
AREA =	93	km^2
STMFRQ =	0.38	junctions/km^2
SOIL =	0.30	
RSMD =	64.39	mm
LAKE =	0	%
S1085 =	8.89	m/km
C =	0.0206	

Q_ =	26.39	m^3/sec

Return Period Estimation			
From figure 9.8 the Q/Q_ factors for Ireland			
Tr (years)	Q/Q_	Q_T	
2	0.9	23.8	m^3/sec
5	1.17	30.9	m^3/sec
10	1.4	36.9	m^3/sec
25	1.6	42.2	m^3/sec
100	1.99	52.5	m^3/sec
500	2.4	63.3	m^3/sec
1000	2.6	68.6	m^3/sec

- Discharge: Q_{100y}^{CC} = **53.0 m^3/s**

An additional 100-year flood flow increase of 25% was tested.

-
- Discharge: Q_{100y}^{CC}x1.25 = **66.0 m^3/s**

3. HYDRAULICS

Downstream boundary conditions (energy slope)

The energy slope at the downstream end of the reach was estimated after initial computation of water levels. The energy slope, S, was taken constant for both high flows as:

$$S = 0.008 \text{ (m/m)}$$

Roughness coefficient (Manning's friction factor, n)

For natural streams, clean, winding but with stones and weeds, the roughness coefficient of the main channel and floodplains can be estimated in accordance with literature e.g. Haestad Methods, as detailed in *Floodplain Modelling Using HEC-RAS* [1].
Following an inspection of this reach of the Glashaboy River the roughness coefficients were taken constant along the reach as:

- Main channel: Manning's n = $0.045 m^{-1/3}s$
- Floodplain: Manning's n = $0.06 m^{-1/3}s$

4. TEST PROGRAM

An assessment of the flood risk for the proposed development was made by calculating river levels for the two flows given in the *Hydrology* section of this report.

Table 2. Flow models used in analysis.

Flow model	Discharge: Q (m^3/s)	Downstream boundary: energy slope S (m/m)
Q_{100y}^{CC}	53.0	0.008
Q_{100y}^{CC}x1.25	66.0	0.008

5. TEST RESULTS

Figure 3 below shows a 3-D graphic of the HEC-RAS computer model based on survey data. This represents the existing river system which incorporates the main river channel, floodplain and a flood embankment. The blue shaded area indicates main channel flow and, between chainages 529 and 645, flow occurs on the right floodplain (looking downstream). The black shaded areas indicate blocked flow on the left floodplain due to existing buildings. The line of the existing embankment or levee is indicated by a magenta line.

5.1. RESULTS FOR FLOW MODEL Q_{100Y}^{CC}

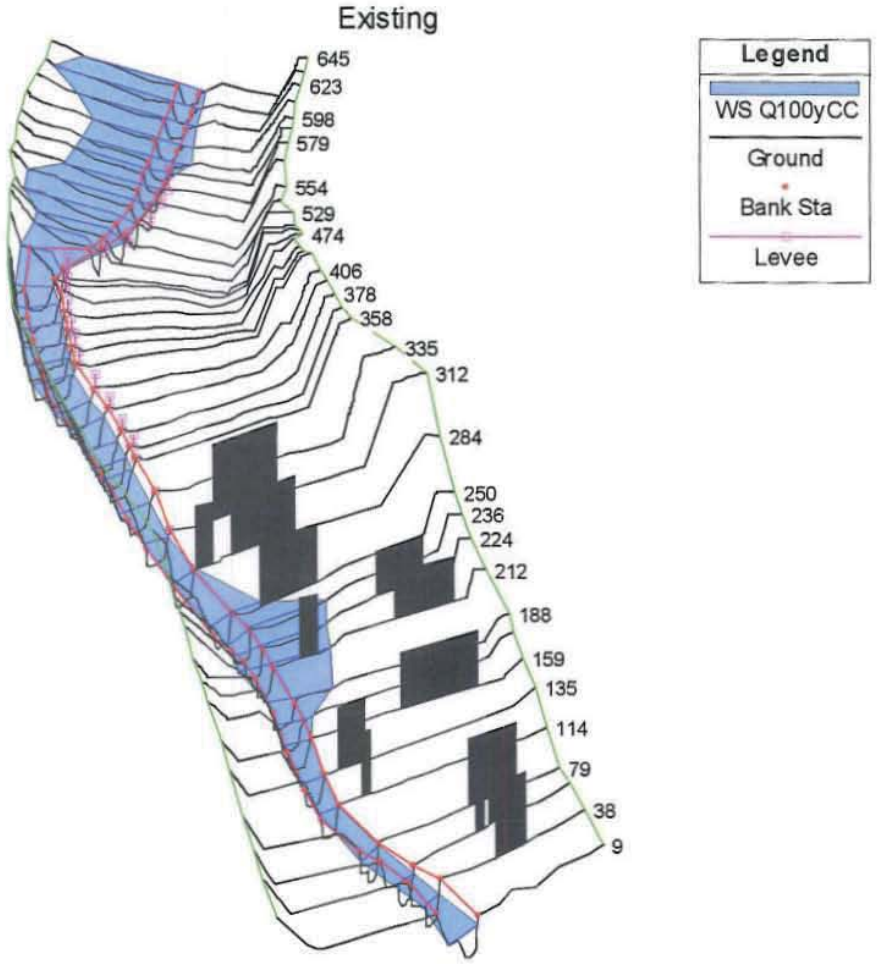


Figure 3. Existing river system – 3D view with water surface elevation for flow model Q_{100y}^{CC}.

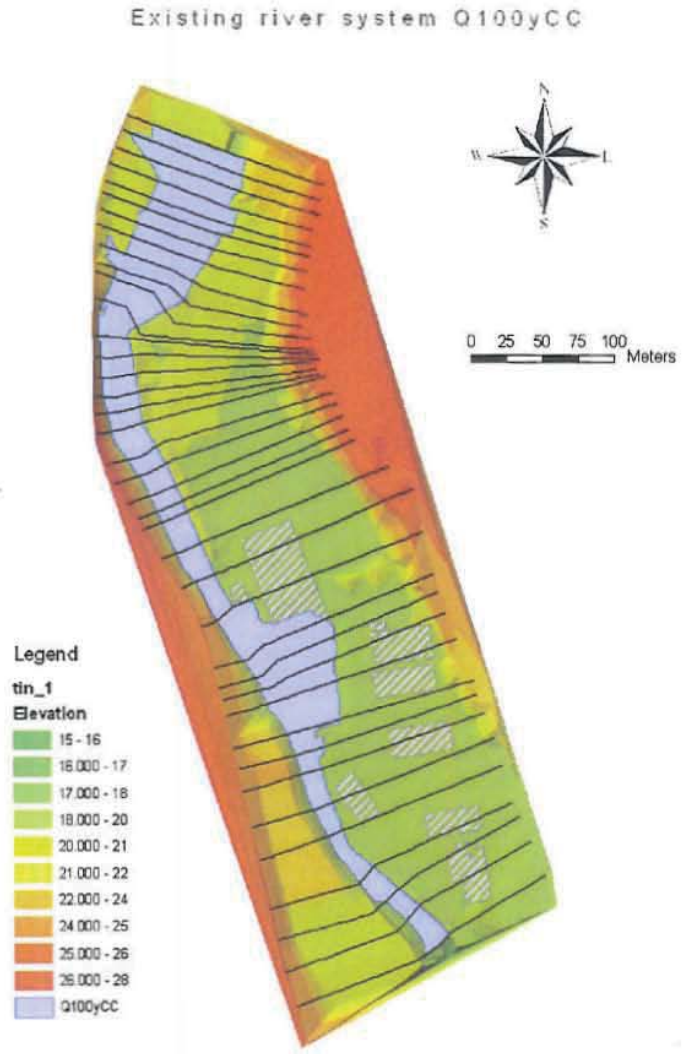


Figure 4. Existing river system – 3D view with water surface elevation for flow model Q_{100y}^{CC}.

Figure 4 above gives a GIS topographical representation of the site and adjacent river. The inportant point to note is that the existing levee provides adequate flood protection for the development.

The longitudinal profile for the river reach is given in figure 5 for the 100-year flood. This figure gives a clear indication of the degree of flood protection afforded by the existing levee. The magenta line in the figure gives the profile of the levee which is well above the flood line.

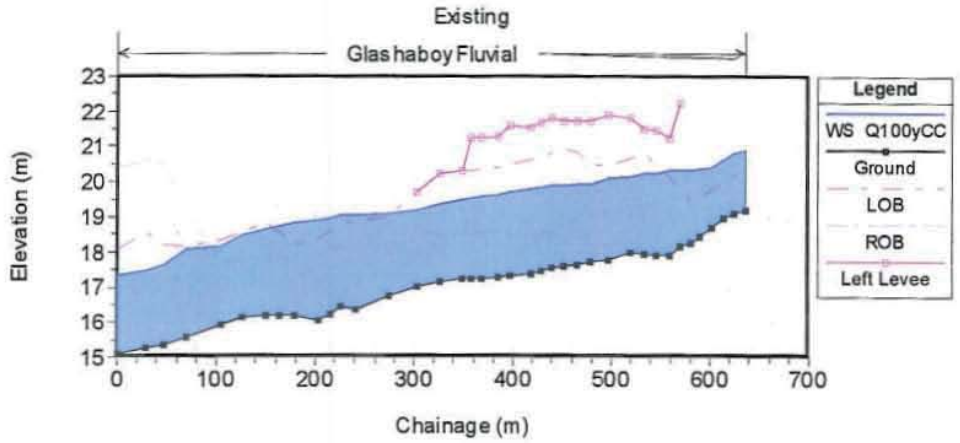


Figure 5. Existing river system - Longitudinal profile with water surface elevation for flow model Q_{100y}^{CC}.

Table 3 below, gives the actual river levels for the 100-year flood at each of the cross-sections and additional hydraulic data.

Details of the 39 river cross-sections are given in figures 9 to 22 in Appendix (section 8). The levee is identified in sections 312 through to 579. These cross-sections show the flood levels for the 100-year flood and the flood increased by 25%, with a clear indication that the top of the levee is well above the flood level with adequate freeboard.

Table 3. Existing river system - HEC-RAS output for flow model Q_{100y}^{CC}.

HEC-RAS Plan: exist River: Glashaboy Reach: Fluvial Profile: Q100yCC								
River Sta	Q Total	W.S. Elev	Min Ch El	E.G. Slope	Vel Chnl	Vel Total	Flow Area	Top Width
	(m3/s)	(m)	(m)	(m/m)	(m/s)	(m/s)	(m2)	(m)
645	53	20.88	19.17	0.00828	2.42	1.51	35	70
633	53	20.80	19.09	0.00763	2.34	1.37	39	84
623	53	20.62	18.94	0.01004	2.64	1.69	31	68
610	53	20.41	18.71	0.00957	2.65	1.82	29	58
598	53	20.35	18.43	0.00486	2.10	1.39	38	61
590	53	20.34	18.25	0.00378	1.95	1.31	40	57
579	53	20.31	18.16	0.00345	1.85	1.23	43	55
568	53	20.30	17.89	0.00271	1.63	1.09	49	56
554	53	20.24	17.92	0.00338	1.72	1.14	47	65
542	53	20.23	17.93	0.00256	1.49	1.06	50	52
529	53	20.14	17.97	0.00450	1.92	1.32	40	44
506	53	20.08	17.78	0.00287	1.45	1.44	37	31
488	53	19.92	17.73	0.00442	1.99	1.85	29	21
474	53	19.91	17.65	0.00321	1.74	1.59	33	22
461	53	19.89	17.58	0.00264	1.62	1.44	37	23
448	53	19.86	17.55	0.00242	1.56	1.37	39	24
438	53	19.82	17.48	0.00276	1.66	1.45	37	23
427	53	19.78	17.36	0.00284	1.69	1.47	36	22
406	53	19.70	17.34	0.00301	1.76	1.55	34	22
393	53	19.63	17.30	0.00338	1.88	1.69	31	20
378	53	19.56	17.26	0.00371	1.95	1.79	30	19
366	53	19.51	17.23	0.00384	1.98	1.81	29	19
358	53	19.48	17.23	0.00397	2.00	1.83	29	19
335	53	19.36	17.15	0.00438	2.08	1.91	28	19
312	53	19.16	17.01	0.00611	2.35	2.33	23	14
284	53	19.09	16.74	0.00387	1.97	1.96	27	16
250	53	19.03	16.35	0.00256	1.70	1.38	38	33
236	53	19.03	16.44	0.00177	1.46	1.01	52	63
224	53	18.98	16.22	0.00226	1.66	1.12	47	56
212	53	18.89	16.07	0.00284	1.90	1.41	38	43
188	53	18.80	16.17	0.00297	1.92	1.66	32	37
173	53	18.73	16.18	0.00360	2.02	1.92	28	21
159	53	18.65	16.20	0.00436	2.13	2.08	26	15
135	53	18.47	16.13	0.00564	2.36	2.31	23	14
114	53	18.18	15.91	0.00879	2.84	2.80	19	11
79	53	18.07	15.56	0.00536	2.12	2.12	25	15
56	53	17.64	15.37	0.01459	2.97	2.97	18	13
38	53	17.48	15.28	0.00987	2.68	2.68	20	13
9	53	17.32	15.08	0.00801	2.12	2.12	25	21

5.2. RESULTS FOR FLOW MODEL Q_{100Y}^{CC} X 1.25

The results for the extreme flood of 1.25 times the 100-year climate change flood are shown in figures 6, 7 and 8 below. It is clear that the development site is protected for this event. Figure 6 shows the HEC-RAS schematic of the computer model with main channel and floodplain identified in blue. Figure 7 gives a topographical plan view of the river reach and development site. These plots confirm that the site is not flooded.

Table 4 gives the surface profile water levels for the river reach.

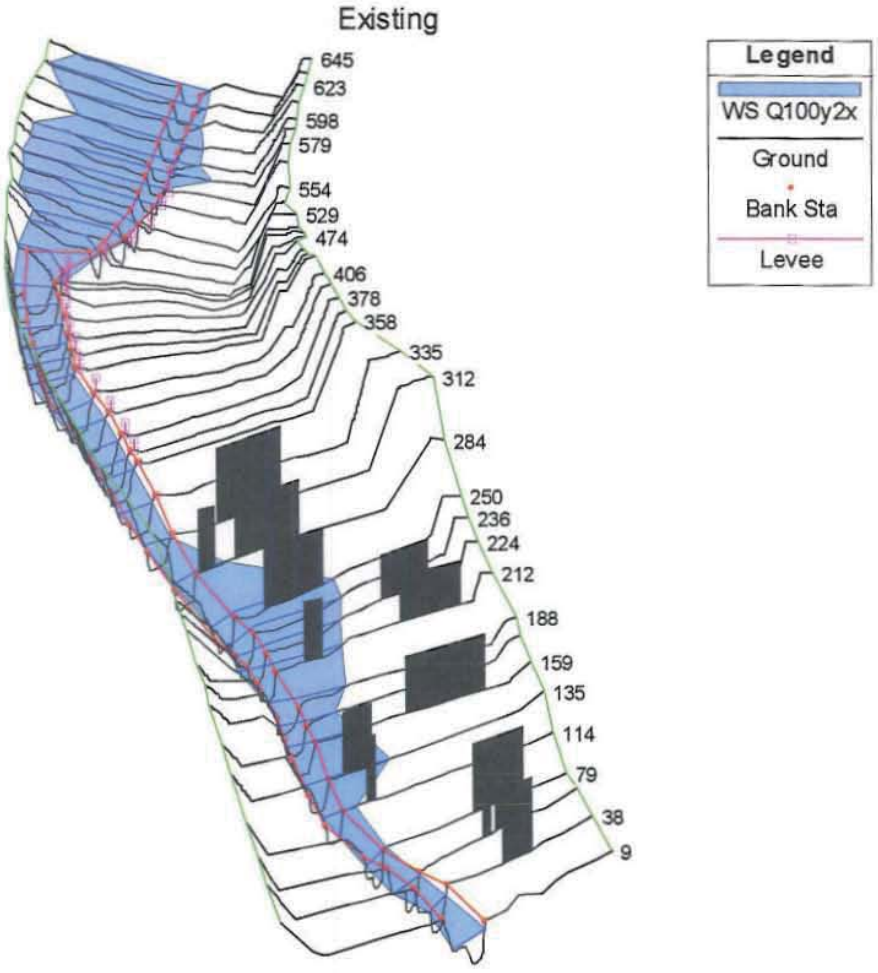


Figure 6. Existing river system – 3D view with water surface elevation for flow model Q_{100y}^{CC}x1.25.

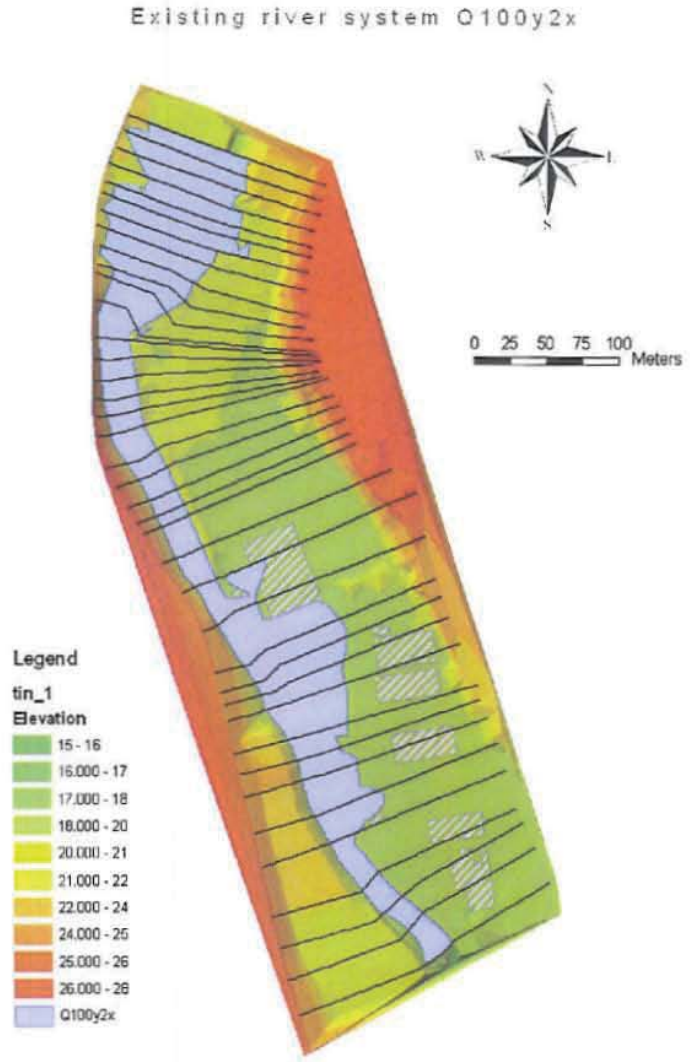


Figure 7. Existing river system – 3D view with water surface elevation for flow model $Q_{100y}{}^{CC}$x1.25.

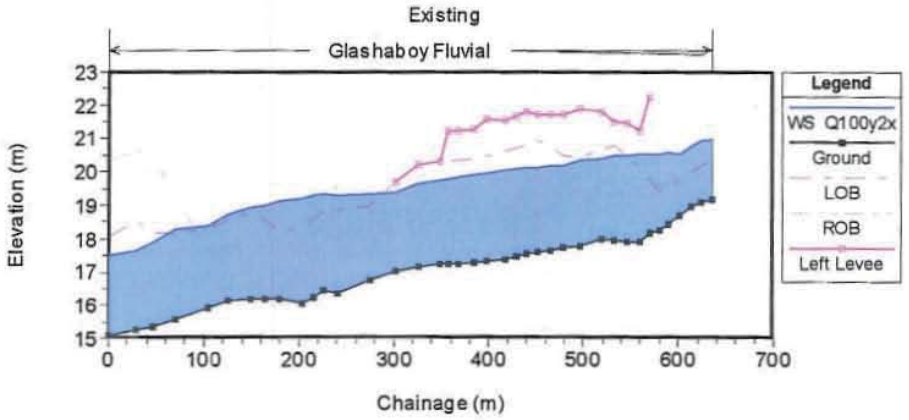


Figure 8. Existing river system - Longitudinal profile with water surface elevation for flow model Q_{100y}^{CC}x1.25.

Table 4. Existing river system - HEC-RAS output for flow model Q_{100y}^{CC}x1.25.

HEC-RAS Plan: exist River: Glashaboy Reach: Fluvial Profile: Q100yCCx1.25								
River Sta	Q Total	W.S. Elev	Min Ch El	E.G. Slope	Vel Chnl	Vel Total	Flow Area	Top Width
	(m3/s)	(m)	(m)	(m/m)	(m/s)	(m/s)	(m2)	(m)
645	66	20.98	19.17	0.00859	2.58	1.57	42	73
633	66	20.93	19.09	0.00669	2.33	1.33	50	88
623	66	20.75	18.94	0.00920	2.68	1.61	41	78
610	66	20.55	18.71	0.00895	2.73	1.73	38	70
598	66	20.58	18.43	0.00415	2.11	1.22	54	91
590	66	20.55	18.25	0.00350	2.02	1.19	56	94
579	66	20.54	18.16	0.00306	1.88	1.11	60	82
568	66	20.53	17.89	0.00242	1.66	1.02	65	74
554	66	20.50	17.92	0.00242	1.58	1.03	64	68
542	66	20.49	17.93	0.00209	1.46	1.04	63	54
529	66	20.42	17.97	0.00332	1.79	1.26	53	46
506	66	20.36	17.78	0.00244	1.49	1.45	46	35
488	66	20.19	17.73	0.00414	2.09	1.92	34	21
474	66	20.18	17.65	0.00303	1.84	1.68	39	23
461	66	20.16	17.58	0.00253	1.72	1.53	43	24
448	66	20.14	17.55	0.00233	1.65	1.45	46	25
438	66	20.10	17.48	0.00264	1.75	1.53	43	24
427	66	20.06	17.36	0.00276	1.78	1.56	42	23
406	66	19.98	17.34	0.00293	1.86	1.63	41	23
393	66	19.91	17.30	0.00333	1.99	1.77	37	22
378	66	19.83	17.26	0.00368	2.08	1.88	35	20
366	66	19.79	17.23	0.00379	2.10	1.90	35	20
358	66	19.75	17.23	0.00390	2.12	1.92	34	20
335	66	19.64	17.15	0.00425	2.20	2.00	33	20
312	66	19.41	17.01	0.00629	2.55	2.50	26	15
284	66	19.34	16.74	0.00388	2.14	2.06	32	21
250	66	19.32	16.35	0.00226	1.74	1.35	49	40
236	66	19.33	16.44	0.00136	1.40	0.91	72	70
224	66	19.29	16.22	0.00170	1.57	1.00	66	62
212	66	19.22	16.07	0.00228	1.85	1.26	52	49
188	66	19.12	16.17	0.00252	1.93	1.48	45	43
173	66	19.02	16.18	0.00343	2.15	1.90	35	31
159	66	18.94	16.20	0.00420	2.27	2.05	32	40
135	66	18.75	16.13	0.00538	2.52	2.31	29	33
114	66	18.40	15.91	0.00972	3.17	3.06	22	19
79	66	18.31	15.56	0.00550	2.31	2.30	29	17
56	66	17.90	15.37	0.01605	3.01	3.01	22	18
38	66	17.65	15.28	0.01228	2.98	2.98	22	15
9	66	17.50	15.08	0.00802	2.29	2.29	29	22

6. SITE DRAINAGE

Site Runoff

A conservative approach to increased surface runoff due to the development was taken due to the fact that there are a number of riverside locations downstream which currently experience flooding.

Item	Area (m^2)
Building Footprint	5330
Truck Parking – south side	3300
Truck Parking – east side	2700
Car Parking & Access roads, south and west side	2350
Access Road	1300
Possible Future Expansion - northwards	4300
Total	**19280**

The increased runoff from the site was calculated using the Modified Rationale Formula. Based on an increase in surface runoff coefficient from 0.3 to 1.0 on a total development area of $19280m^2$ as indicated above, the increase in runoff was determined for the 30-year rainstorm event. The rainfall intensity taken for this calculation was 105mm/hr obtained from Bilham's formula for a duration of 5mins. This gives an increase in flow to the river which peaks at a value of $0.56m^3/s$. This flow will have very little effect on water levels in the river but to be conservative, a retention tank of active storage volume of $170m^3$ is recommended.

7. CONCLUSIONS

1. The design return period was taken to be 100 years. The 100-year flood flow was estimated using the FSR Catchment Characteristics 5 parameter equation. The standard methodology was modified to take into account climate change as recommended by Greater Dublin Regional Code of Practice for Drainage Works which recommends that rainfall be factored by 1.1 and all river flows up to 100 year return periods factored by 1.2.

- Discharge: $Q_{100y}^{CC} = \mathbf{53.0\ m^3/s}$

An additional 100-year flood flow increase of 25% was tested.

-
- Discharge: $Q_{100y}^{CC} \times 1.25 = \mathbf{66.0\ m^3/s}$

2. A HEC-RAS computer model was developed for a 640m reach of the Glashaboy River adjacent to the proposed development site and water levels determined for the above test flows.

3. The existing site is protected by a levee and the results show that this is adequate to provide flood protection from the extreme floods tested.

4. The recommended floor levels for the developemt is 20.6mOD to give adequate freeboard above the extreme flood levels.

5. An attenuation tank of 170m^3 is recommended to eliminate any increase in surdace runoff from the site. Outfall from from the attenuation tank to the river, which will be approximately at chainage 358, should be set at an invert level of 19.2mOD to ensure that the outfall is above the 30-year flood level.

6. The structural stability of the existing embankment may need to be improved. Changes to the structure and composition of the embankment will not effect the flood levels calculated in this study provided that the embankment profile is not changed on the river side.

8. APPENDIX

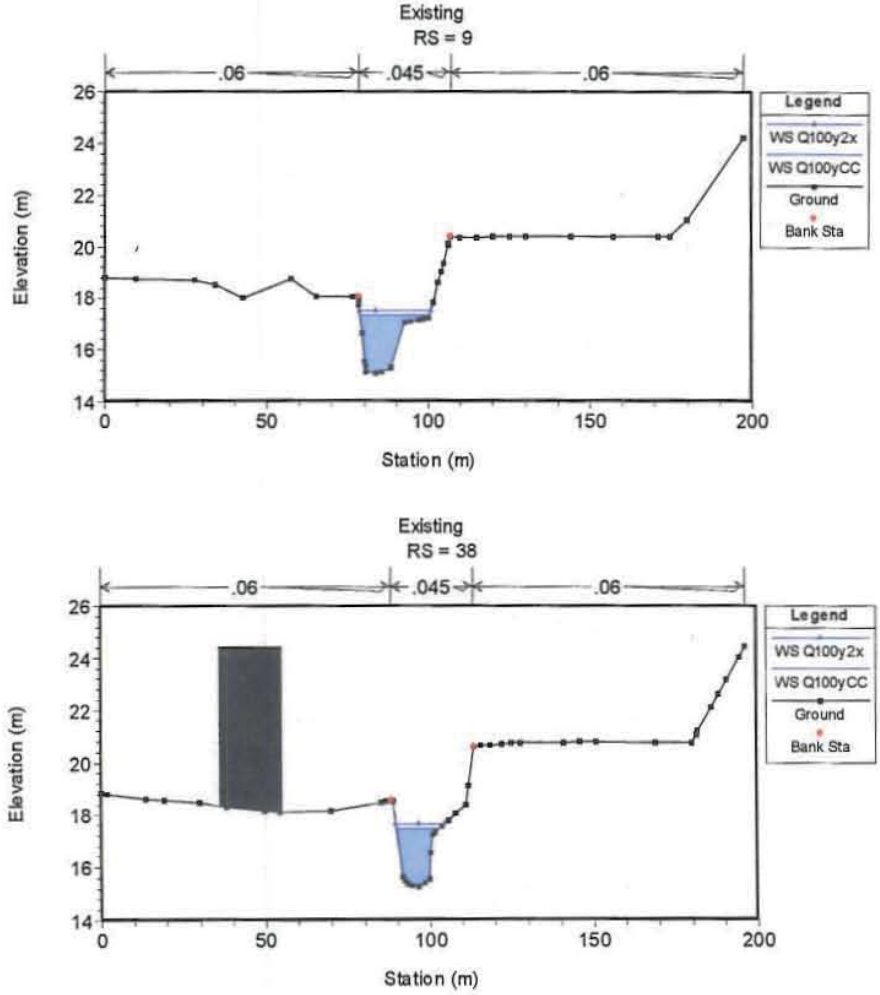


Figure 9. Existing river system – Cross-sections at chainages 9 and 38 with water surface elevations for flow models Q_{100y}^{CC} and Q_{100y}^{CC}x1.25

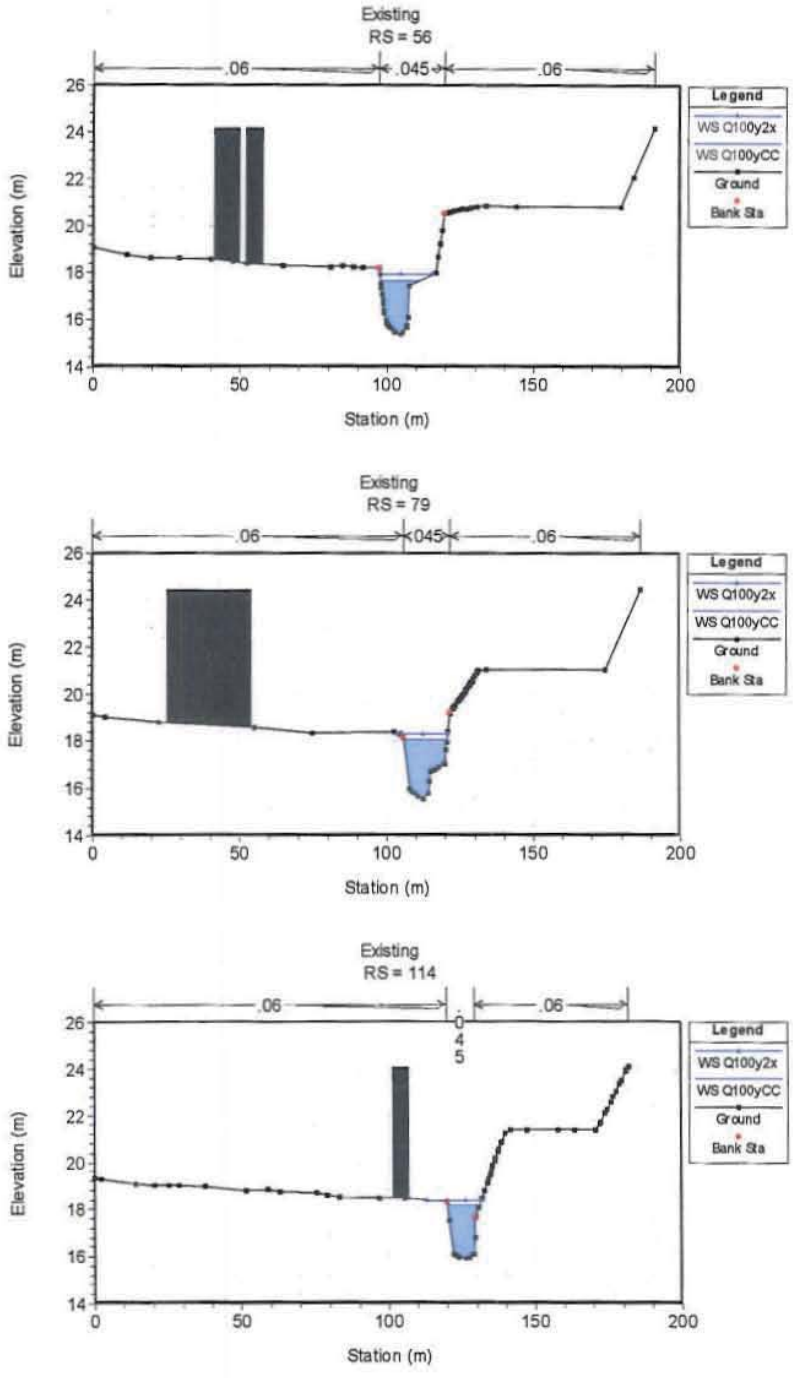


Figure 10. Existing river system – Cross-sections at chainages 56, 79, 114 with water surface elevations for flow models Q_{100y}^{CC} and Q_{100y}^{CC}x1.25

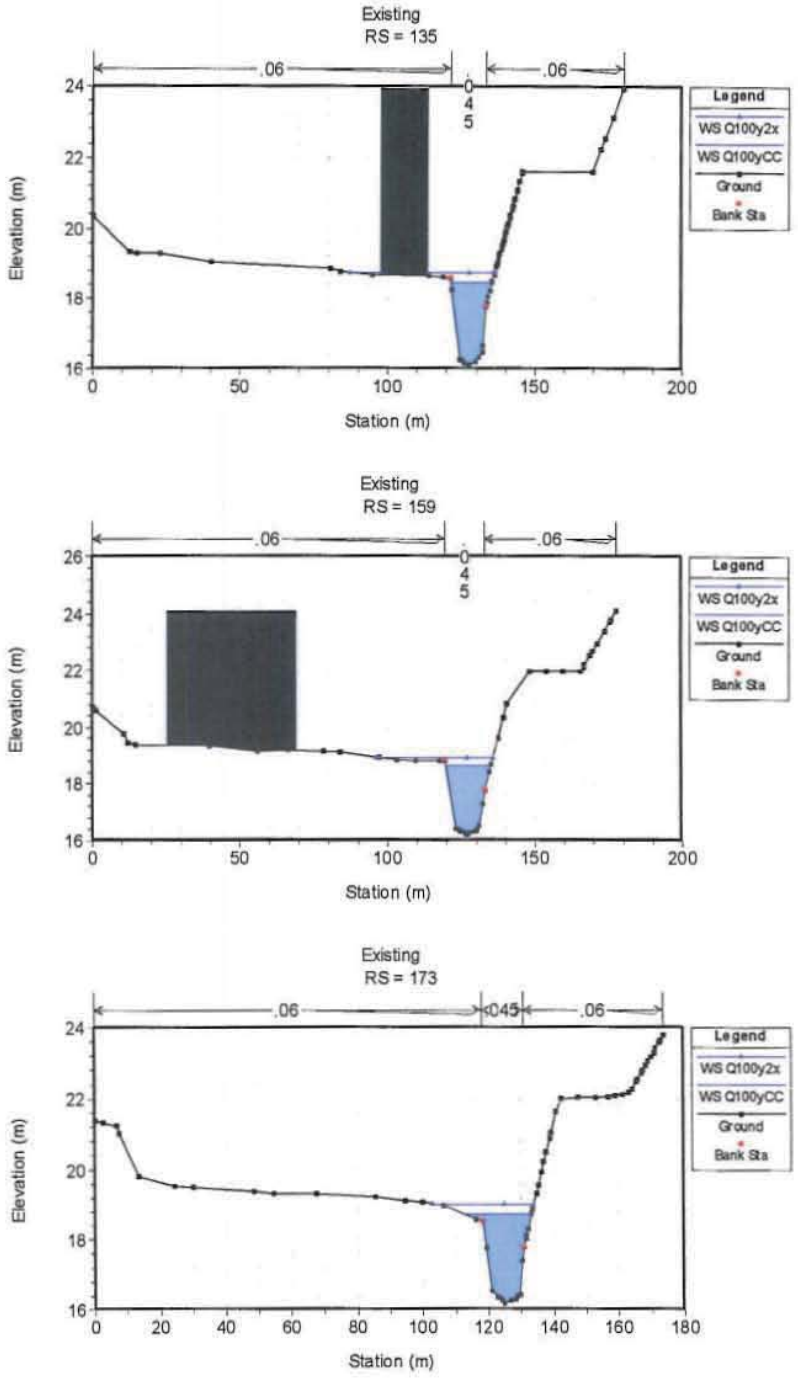


Figure 11. Existing river system – Cross-sections at chainages 135, 159, 173 with water surface elevations for flow models Q_{100y}^{CC} and Q_{100y}^{CC}x1.25

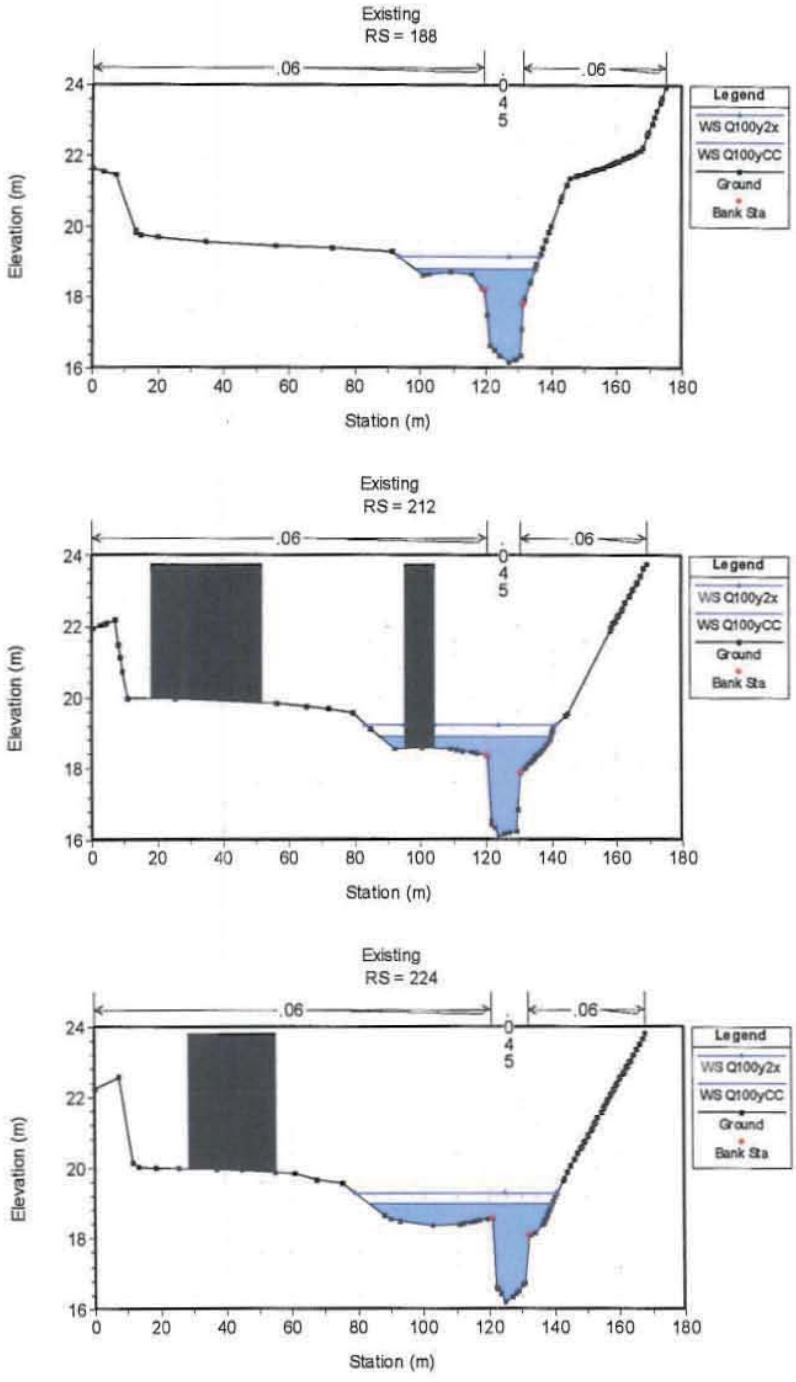


Figure 12. Existing river system – Cross-sections at chainages 188, 212, 224 with water surface elevations for flow models Q_{100y}^{CC} and Q_{100y}^{CC}x1.25

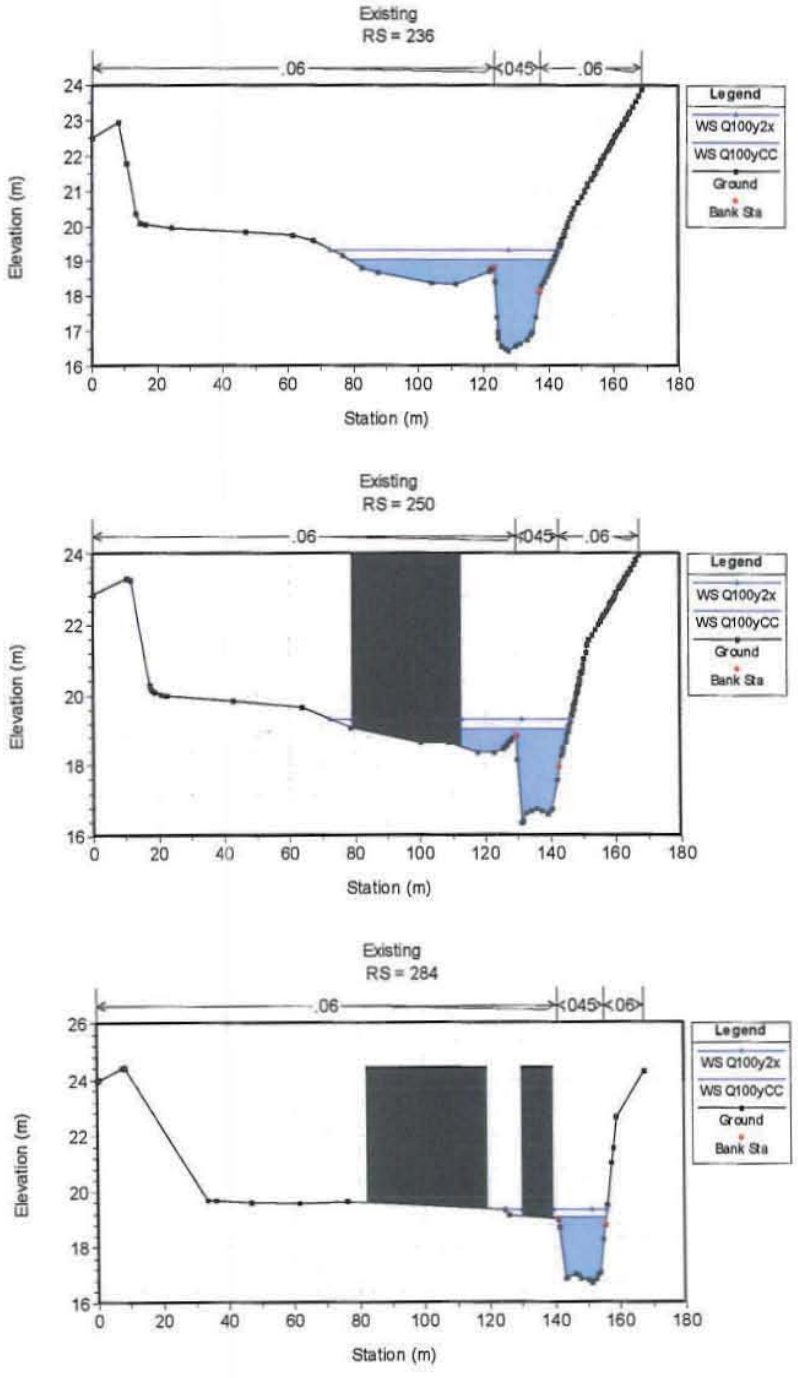


Figure 13. Existing river system – Cross-sections at chainages 236, 250, 284 with water surface elevations for flow models Q_{100y}^{CC} and Q_{100y}^{CC}x1.25

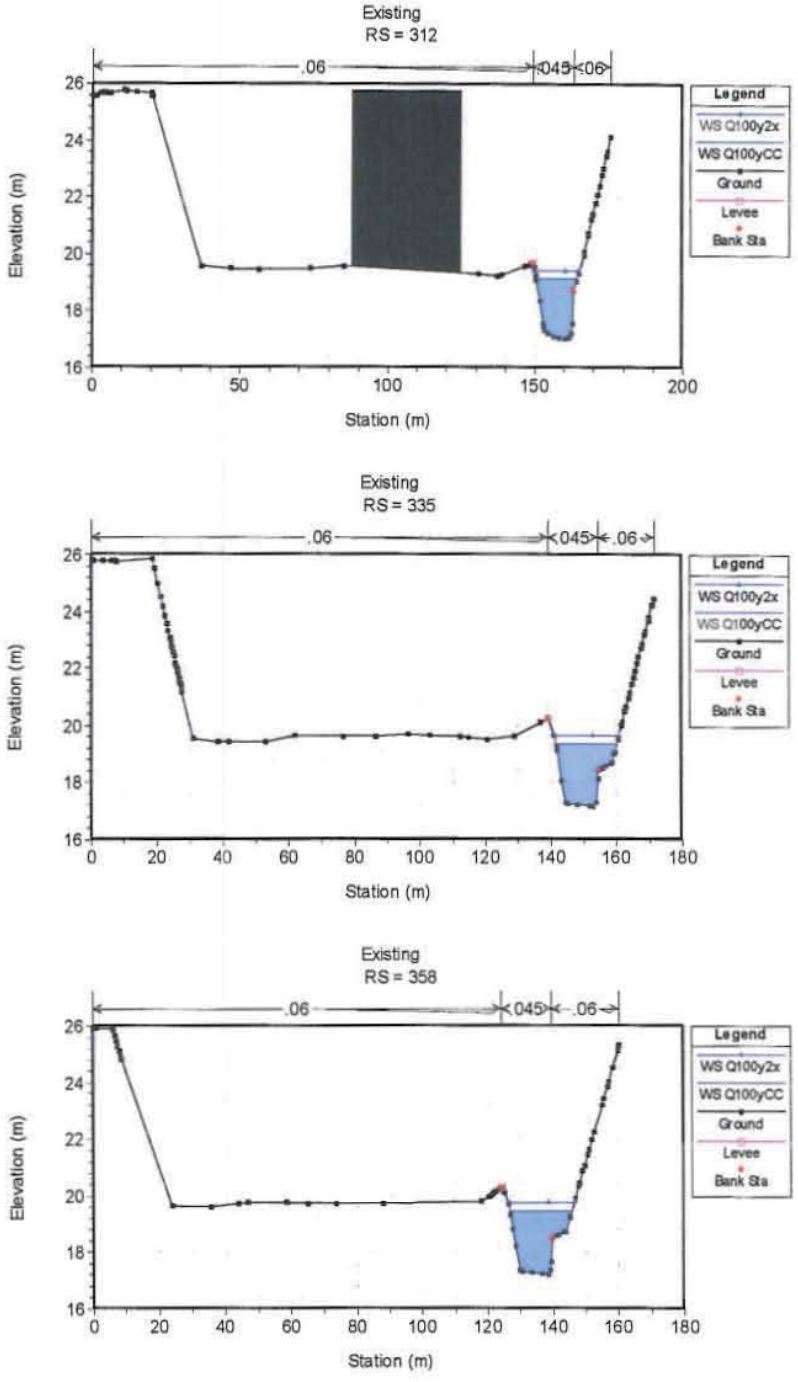


Figure 14. Existing river system – Cross-sections at chainages 312, 335, 358 with water surface elevations for flow models Q_{100y}^{CC} and Q_{100y}^{CC}x1.25

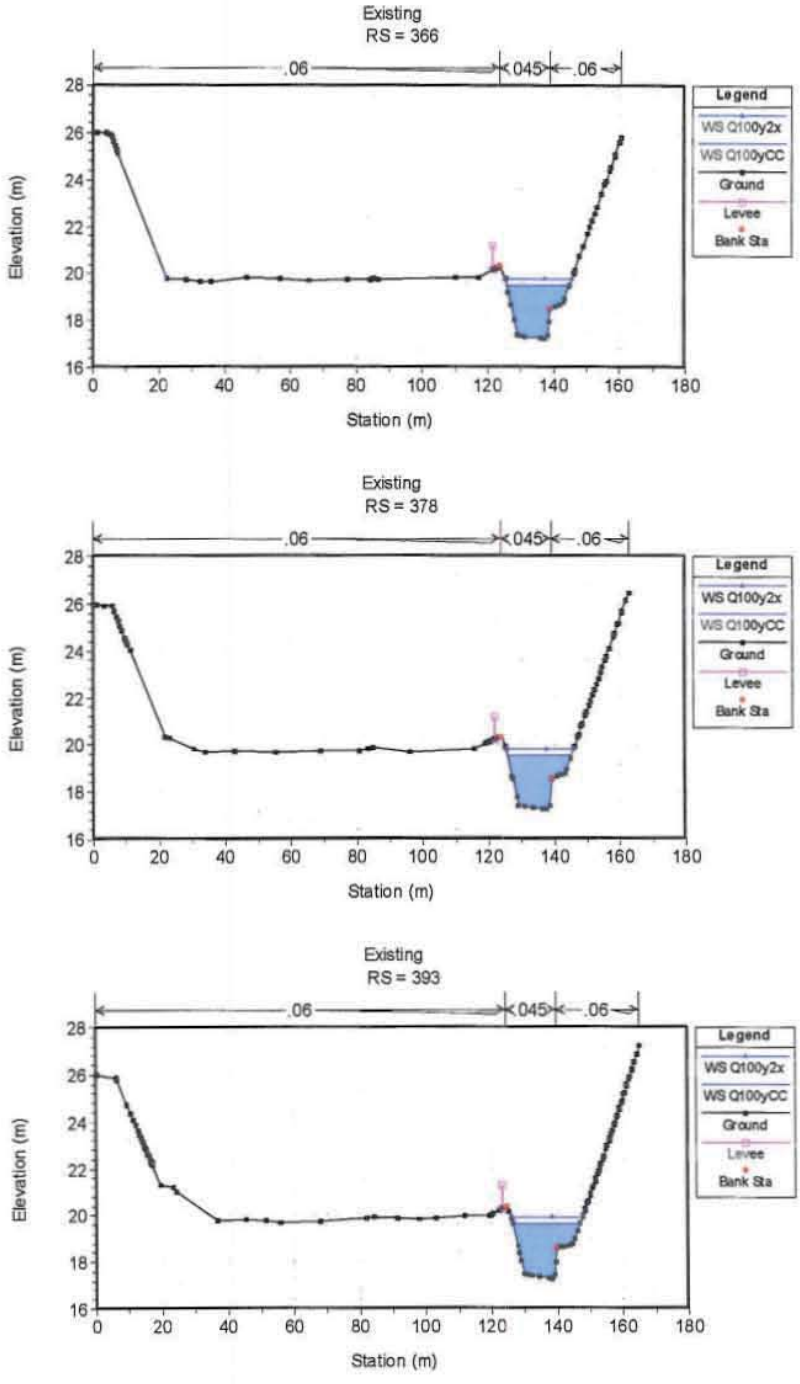


Figure 15. Existing river system – Cross-sections at chainages 366, 378, 393 with water surface elevations for flow models Q_{100y}^{CC} and Q_{100y}^{CC}x1.25

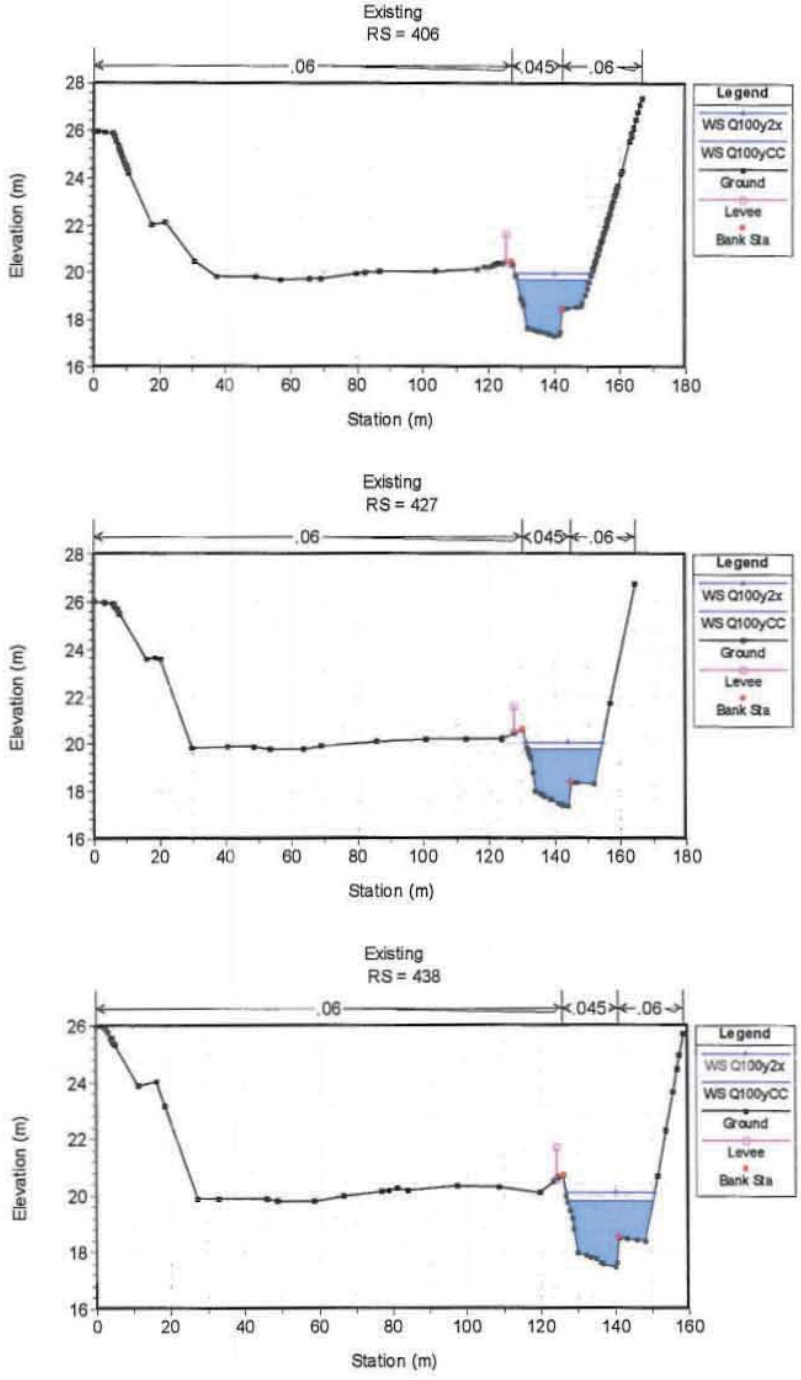


Figure 16. Existing river system – Cross-sections at chainages 406, 427, 438 with water surface elevations for flow models Q_{100y}^{CC} and Q_{100y}^{CC}x1.25

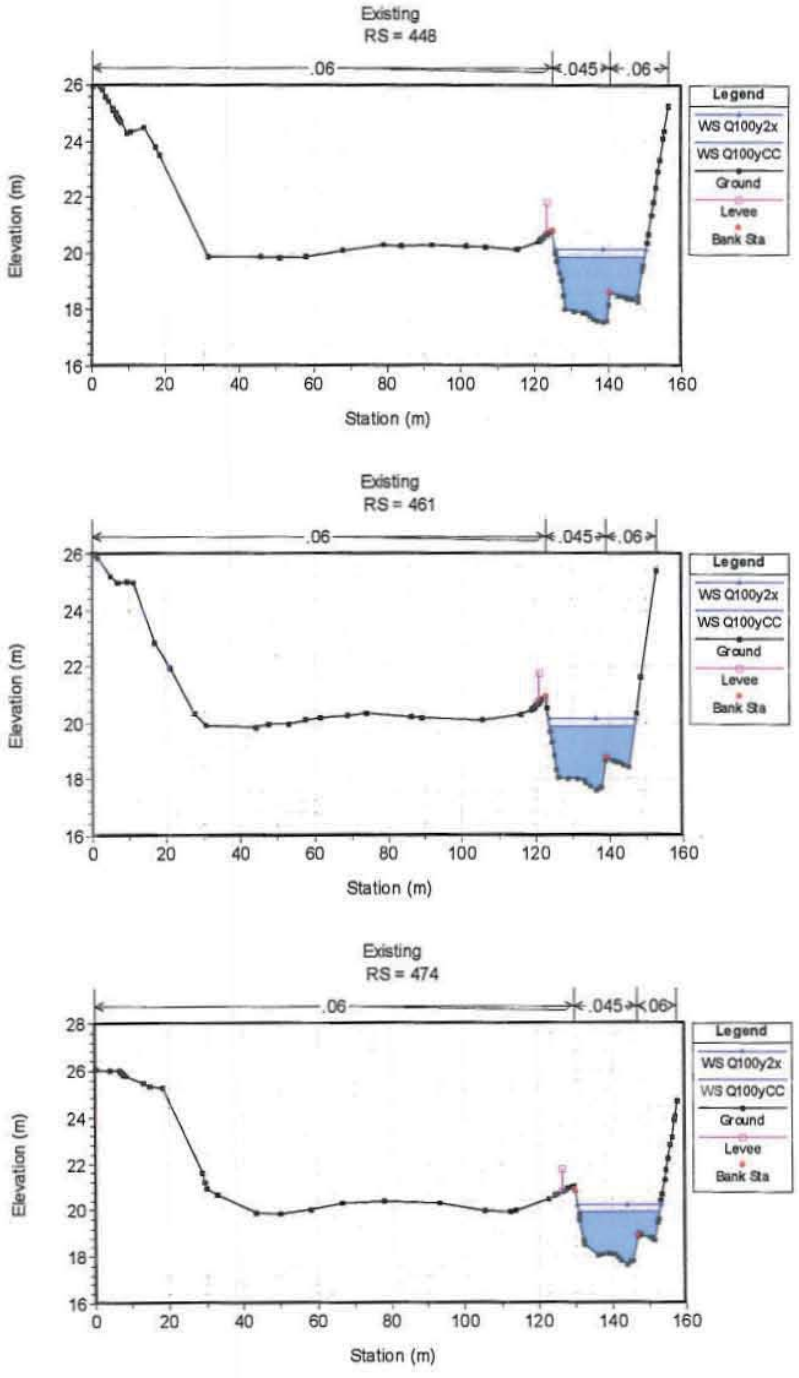


Figure 17. Existing river system – Cross-sections at chainages 448, 461, 474 with water surface elevations for flow models Q_{100y}^{CC} and Q_{100y}^{CC}x1.25

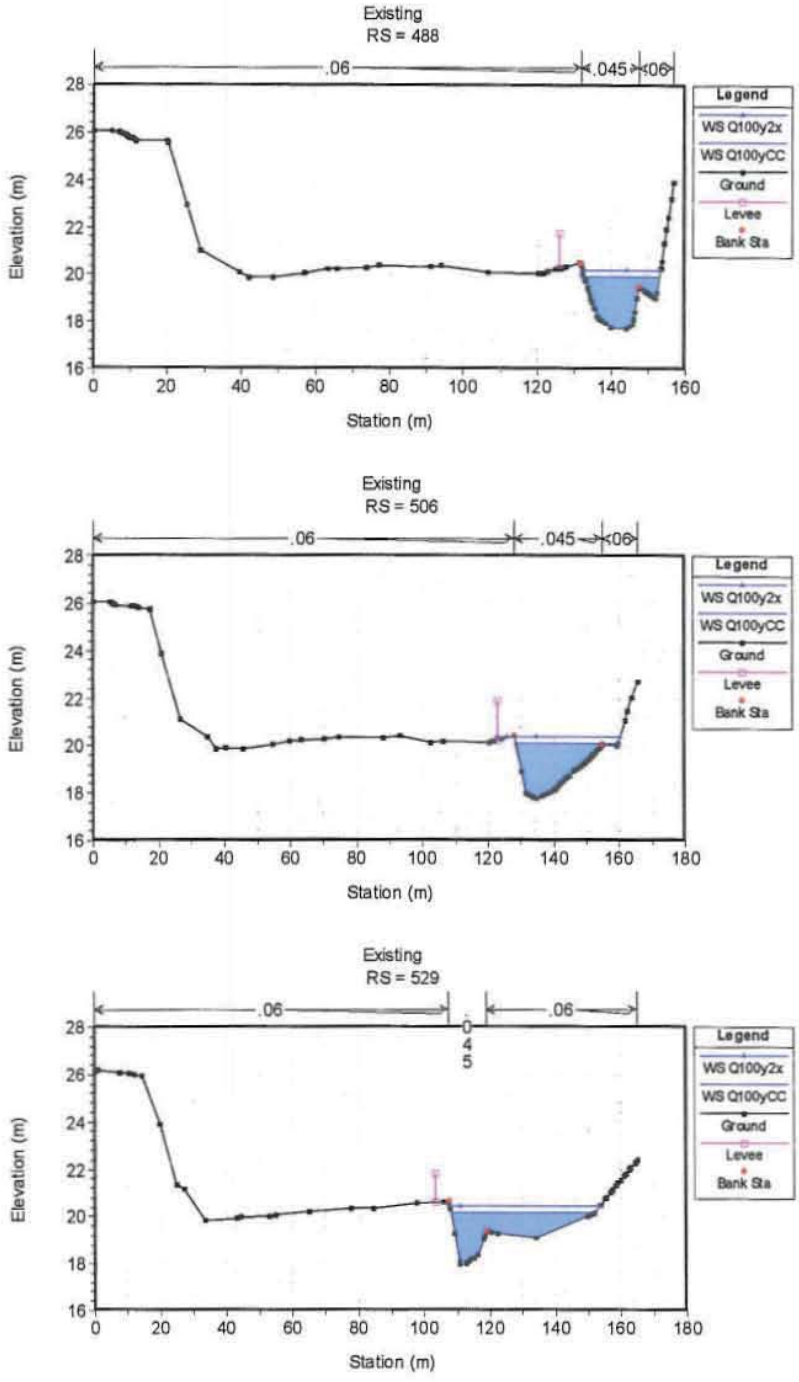


Figure 18. Existing river system – Cross-sections at chainages 488, 506, 529 with water surface elevations for flow models Q_{100y}^{CC} and Q_{100y}^{CC}x1.25

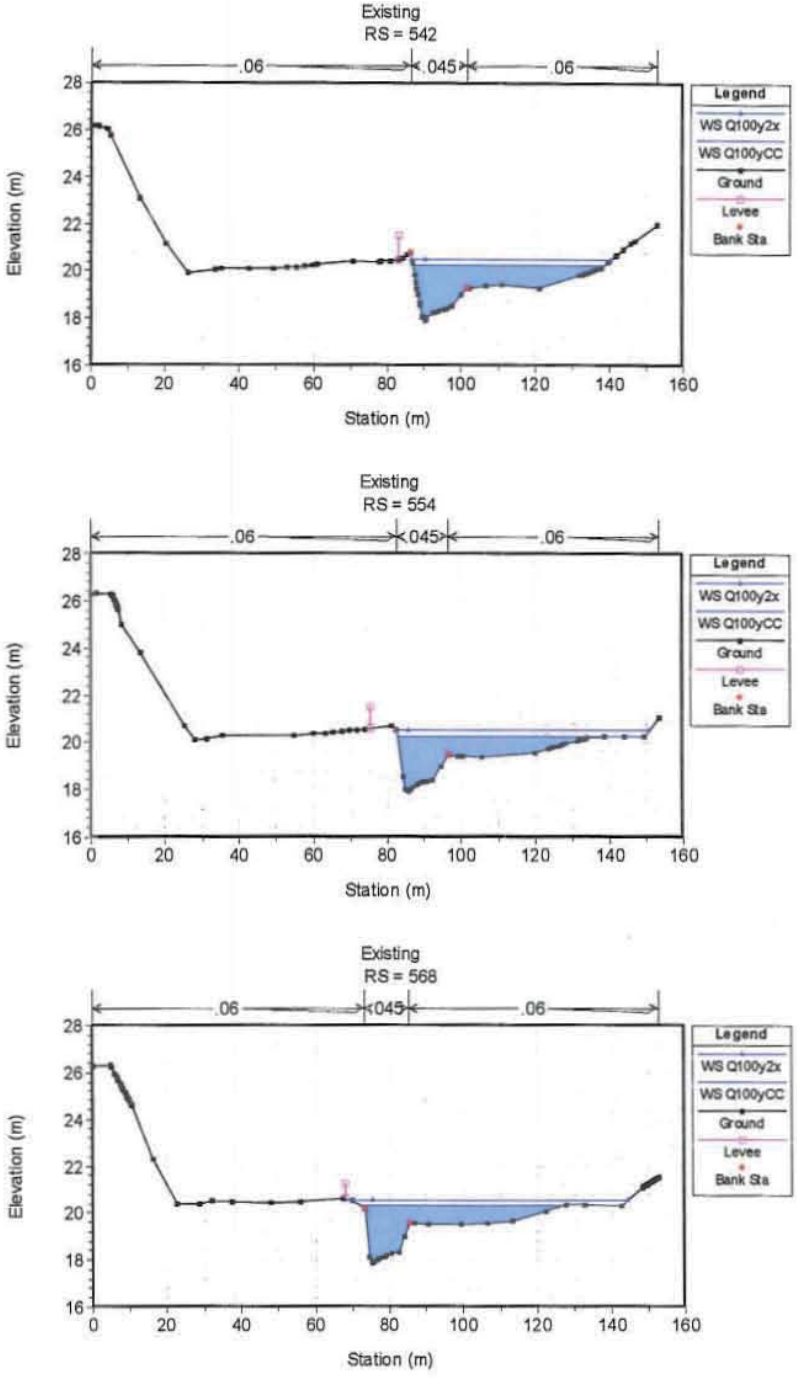


Figure 19. Existing river system – Cross-sections at chainages 542, 554, 568 with water surface elevations for flow models Q_{100y}^{CC} and Q_{100y}^{CC}x1.25

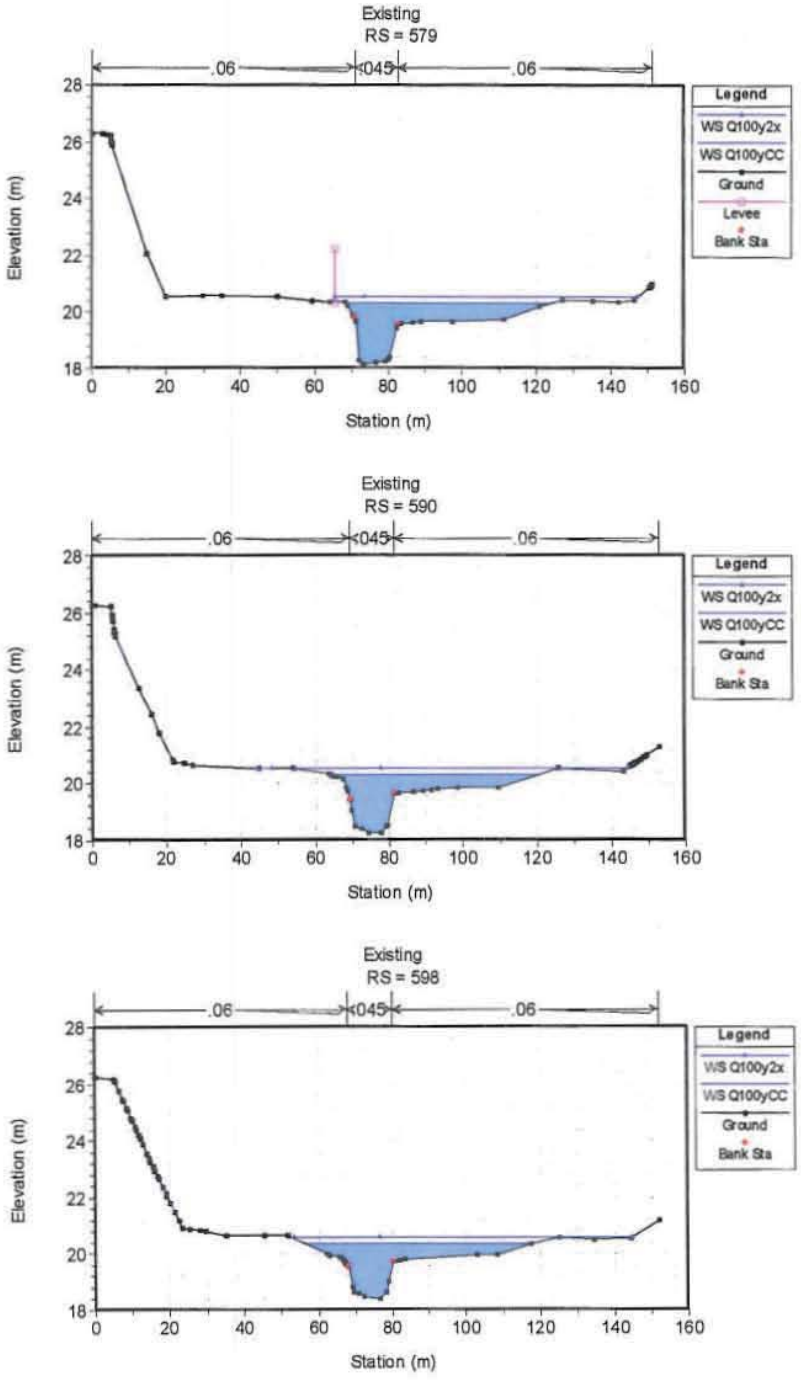


Figure 20. Existing river system – Cross-sections at chainages 579, 590, 598 with water surface elevations for flow models Q_{100y}^{CC} and Q_{100y}^{CC}x1.25

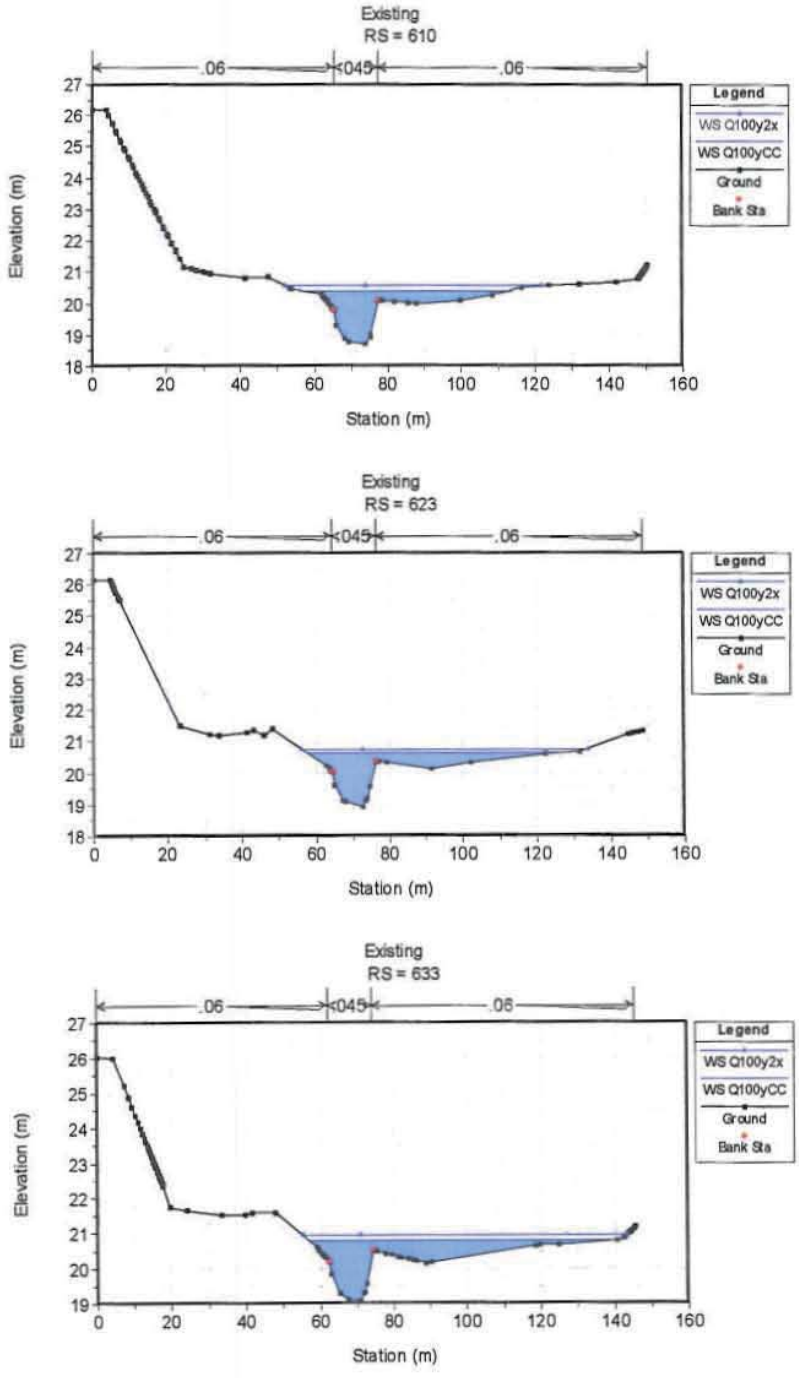


Figure 21. Existing river system – Cross-sections at chainages 610, 623, 633 with water surface elevations for flow models Q_{100y}^{CC} and Q_{100y}^{CC}x1.25

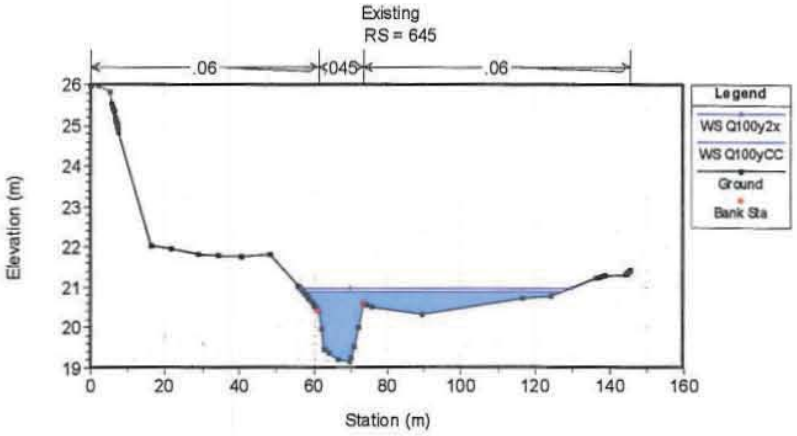


Figure 22. Existing river system – Cross-section at chainage 645 with water surface elevation for flow models Q_{100y}^{CC} and Q_{100y}^{CC}x1.25

An Roinn
Ealaíon, Oidhreachta agus Gaeltachta
Department of
Arts, Heritage and the Gaeltacht

Our Ref: **G Pre00073/2014**
Your ref: **Glashaboy Flood Relief Scheme**

02 May 2014

FAO Ken Leahy
Arup Consulting Engineers
15, Oliver Plunkett St.
Cork
douglasfrs@arup.com

Re: **ARUP in association with JBA, contracted by Cork County Council, EIS for proposed Flood Relief Scheme for Glashaboy River in vicinity of the Glanmire/Sallybrook Area as part of the Lee Catchment Flood Risk Assessment and Management Study (CFRAMS).**

A Chara,

On behalf of the Department of Arts, Heritage and the Gaeltacht, I refer to your notification in relation to the above proposal. Outlined below are the observations of the Department of Arts, Heritage and the Gaeltacht in relation to underwater archaeology.

The Environmental Impact Statement should contain a detailed section on the Cultural Heritage, including the underwater cultural heritage, which may be impacted by any proposed flood relief scheme. The section shall take the following format:

- A suitably qualified underwater archaeologist to be engaged to carry out the detailed archaeological assessment of all aspects, including all potential impacts to all watercourses (marine/riverine/lacustrine/streams/rivulets) of the proposed programme of works. The nature and extent of this assessment shall be in keeping with all other assessment being done for the EIS in that it shall be comprehensive, shall consult all available sources for the desk top study and will include extensive field work and underwater/wade/river bank archaeological survey for all areas.

- Ideally an archaeologist(s) should be taken on to act as project archaeologist for the full proposed national programme of works to advise on and direct the focus of the required archaeological assessments.

- The archaeological assessments shall be carried out under licence to this Department and shall include a dive survey licence and metal detection licence application.

- The Cultural Heritage Section shall also include a detailed impact statement and shall put forward recommendations on how known or potential impacts to the cultural heritage, including the underwater cultural heritage, shall be mitigated and resolved.

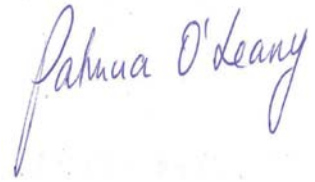
The acknowledgement to this letter or any further information should ideally be sent to manager.dau@ahg.gov.ie; if this is not possible, correspondence may alternatively be sent to:

The Manager
Development Applications Unit

Department of Arts, Heritage and the Gaeltacht
Newtown Road
Wexford

Finally, the above observations and recommendations are based on the papers submitted to this Department on a pre-planning basis and are made without prejudice to any observations the Minister may make in the context of any consultation arising on foot of any development application referred to the Minister, by the planning authority, in his role as statutory consultee under the Planning and Development Act 2000, as amended.

Is mise, le meas



Patricia O'Leary
Development Applications Unit
Tel: (053) 911 7482

D7 Comments from Questionnaires

A list of comments provided in questionnaires are presented in the tables overleaf.

Comments Provided in Questionnaires

Table D.7.1 Flood Related Socio-Economic & Social Issues

Comments (from questionnaires)
49 houses in Meadowbrook estate were flooded (not 23 according to the Council report) 49 houses/homes being flooded must be a record. No flood/storm insurance leaves me with sleepless nights.
Stress and upset caused by the flooding and the handling of the claim by the insurance company and then the inability to acquire flood cover. The devaluation of property.
While we always welcomed development of our area it should not have been allowed at the expense of our homes.
Repair the weirs and deepening of the river bed and as I previously mentioned the Pond as Sallybrook which has been a feature since the 1850's would be a marked improvement to the dumping which is ongoing at the site for the last number of years.
I now have, like so many others, lost my flood insurance. I cannot afford to get flooded again.
Although almost everything mentioned is important, people should be considered top priority. I want anything that will prevent a repeat of of 28/06/2012.
Not many business people are likely to move into an area where flooding is a danger to halting production.
No further developments or construction of houses to be erected in flood plain.
For me the most important thing is to keep the water out of my house.

Table D.7.2 Comments on Flora & Fauna (from questionnaires)

Comment
All flora and fauna in the area were destroyed with flood water.
A clean up of the river bed and grading back the banks should not impact too much on biodiversity. Flora and fauna should recover from minor changes.
Restore.
Not an issue. Prioritise the flooding problem.
People's health and homes are more important. Contaminated water and raw sewage destroys flora & fauna (as evidenced in my garden).
While this is a very important part o the area, a proper balance should be adhered to this and the local populous.
The above mentioned pond would reinstate habitat which has been and is currently being destroyed by dumping and the destruction of the weir at Grandon Garage.
For me the most important thing is to keep the water out of my house.

Table D.7.3 Comments on Local Fisheries (from questionnaires)

Comment
I'm more important than the fish.
Cleaning of the river might benefit fish stock.
Not very important in some areas, but for people living in coastal areas very important.
No objection.
Very few people fish in the area.
Not an issue.
Fisheries should have no say on the protection of our properties.
It is in the interest of local fisheries and clubs that debris is removed from river to allow fish to go upstream to spawn in the period Nov - Feb. See footage on news.
Local fisheries will benefit greatly from increased water quality.
When 40 houses were flooded in Meadowbrook on 28/06/2012 the ocst was 4-5 million on structures. The cost to peoples health is not spoken.
By cleaning river bed and dredging river it would surely benefit fisheries.
A well maintained river system would enhance the trout, salmon and white trout stocks and will also attract foreign/tourist interest.
For me the most important thing is to keep the water out of my house.
Glanmire Estuary if properly dredged and cleaned up could be a beautiful recreational area and enhance the habitat that already live here.

Table D.7.4 Comments on Habitats (from questionnaires)

Comment
Not many - they can escape to the Quarry. We don't want vermin.
The impact for animals in the wild has to be catastrophic.
Habitats for wildlife should be preserved especially Bats, Dippers and others.
Habitats should return to normal after completion of works.
Not an issue.
My home is my castle" Peoples habitat is the most important issue to be dealt with. Everytime it rains it's a nightmare - sleepless nights.
Same applies as flora & fauna (i.e. The above mentioned pond would reinstate habitat which has been and is currently being destroyed by dumping and the destruction of the weir at Grandons' Garage).
Existing human habitat is more important than fish nests.
For me the most important thing is to keep the water out of my house

Table D.7.4 Comments on Water Quality (from questionnaires)

Comment
We need clean water for drinking. We have enough illnesses without aggravating them with dirty water.
Should be of highest quality.
Water quality very important.
Not an issue.
Sewage and dirty water came through drain's, toilets, baths and river into the house requiring everything to be decontaminated.
Very important for all.
Water quality.
Essential obviously that water is kept pure and safe.
For me the most important thing is to keep the water out of my house.

Table D.7.5 Comments on Architectural & Cultural Heritage (from questionnaires)

Comment
Open all six eyes of bridge and keep river debris free.
Not all architectural or cultural items can or should be kept. Valuable pieces could be relocated.
Cultural heritage should be preserved.
Could be retained without any degree of difficulty.
Not an issue.
Bridge contributed to the build up of debris opposite my house. Water came over the break in the wall. My house was completely destroyed. Should houses have even been built here?
This is important but it should not interfere with imporovments that need to be carried out on the Glashaboy river basin Small bridge not adequate for traffic flow in 2014. Several eyes completely closed with stone/rubble causes build up of water. If bridge is to stay it needs to be maintained constantly.
The Glasha Buí has been a very important commercial river for the last 2 1/2 / 3 centuries. From the 1700s it and its tributaries have been the driving force for some 32 factories in various industries from paper mills, flour mills, linen, agricultural machinery, shovel mills, tuck mills, blanket mills and starch mills and the 2nd largest water wheel in these islands at the Brewery. Electricity generatde by the use of a turbine driven generator "DC Current" 1932. Pearl Barley Hill. Punch & Co. boot polish etc. *1st plastic coat / waterproof cloating mill.*
For me the most important thing is to keep the water out of my house.

Table D.7.6 Comments on Landscape & Visual Amenity (from questionnaires)

Comment
Should not be affected to any degree.
Not an issue.
A nice landscape and visual amenities are no good if I am homeless. Coming out of my house in a boat is an experience I do not want to repeat.
Homes are more important than landscape and visual amenity.
While this is a very important part o the area, a proper balance should be adhered to this and the local populous.

Efforts to maintain the area as is should be used where possible.
Should be preserved.
Very desirable.
I have a photo of the pond as it used to be if required. The pond would provide a picturesque entrance to Sallybrook and a pleasant start to the wooded valley of Glanmire.
For me the most important thing is to keep the water out of my house.

Table D.7.7 Comments on Angling Tourism & Recreation (from questionnaires)

Comment
49 houses were flooded.
The safety and security of the local community should take priority over transient activity.
Should be preserved.
Would be affected during works but should return to normal some time after completion of works.
Not an issue.
With little or no Angling/Tourism in our area, there should be no interference from them.
*My house and garden had to be ******. All my shrubs died because of contaminated waters. Think of how many Angling tourists and recreation would be destroyed with this.*
Desirable.
For me the most important thing is to keep the water out of my house.

Table D.7.7 Other Comments (from questionnaires)

Comment
In relation to my own business, I have got planning for a second story extension. However the cost of this investment in the property I cannot recoup through the business. It would cost approx 300k for and extension. The trees at the Hazelwood Centre by the river are in a very poor state, this probably applies to the length of the river. Regular maintanence of the river is required as part of the solution.
There should be no further development on the floodplains such as O'Callaghans Park and the former John Barleycorn. As overdevelopment I think contributed to the flooding.
I teach Geography in Glanmire Community College and any information, maps that we could use in the classroom would be appreciated. We already do a 2nd year & TY River fieldtrip on the River so it would be benificial to our students. Thank you.
Maybe cleaning the River will be expensive but it has to be worth a try. Wouldn't solve the country's problems, but would be a good way to solving Glanmire's problems.
Please ensure that any of the flood defence options do not impact unfavourably on the swans and other wildlife on the pond in Sallybrook, adjacent to the Glansillagh Mill, and also upriver.
River should be kept clear of debrs and fallen trees. Flood risk to Meadowbrook must be considered in connection with any developments at John Barleycorn site.
The camber of the road at the entrance to Meadowbrook is such as to guide surface water flowing down Barnavarra Hill into the estate. Some method of diverting this surface water into the amenity area should be a consideration.
Everyone should have piece of mind and free from fear of flooding Our family home is more important than any Angling, Visual Amenity, Flora & Fauna or Socio-Economic Issues. Protection of out family home from any future flooding (either next year or in 40years) should be the main concern!
For me the most important thing is to keep the water out of my house.
We would expect that Cork County council would make our estate safe and free from flooding.
The bridge crossing the road immediately outside Meadowbrook needs to have the eyes cleared to help the flow of water.
Apart from river flooding, houses in Meadowbrook were flooded due to drainage problems due to no drains in the estate. Approximately eight houses with falls into

them were flooded to some degree. Surface water from these houses can only be drained into sewers which could not cope with the voume of water on the 28/06/12. This is a recurring problem in these houses after heavy bursts of rain, particularly during thundary falls. This problem could be solved with new drains, run off from houses on a slightly higher level also adds a problem for these houses.
The main issue for Meadowbrook residents is to prevent future flooding in the area. To protectour homes and not suffer the trauma, stress and hardship experiencedon 28/06/2012 and for months afterwards. Wall to be risen by a number of feet. Somedredging work to be carried out in river at meadowbrook. No further development in Meadowbrook/John Baileycorn area to be carried out as some will impact severely on future flooding in the area. John O'Callaghan park area to be examined fully in an effort to alleviate flooding problems here also.
I feel much development that took place during the boom years aggravated the flooding to take place.Water always finds its own level. Flood plains that existed previously interfered with soakage leaving the water to flow down the hilll and flood the whole of Meadowbrook estate. New Drains essential to aleviate problems.
Regarding Meadowbrook on the 28/06/2012 "where" did the water come in? 90% in my opinion came in behind house 20 & 17. Lowest point of river bank & stream at 20. Why - swolen river "massive" needs widening at least Meadowbrook and Park.
Only issue is not to have a repeat of 28/06/2012 when we had to evacuate our home and not return for 8 months and a re now under stress every time bad weather comes our way. We are now in the Autumn of our lives living under stress of flooding, in an unsalable property! The fish may be happy under water, we are not!
We have lived in Meadowbrook for over 30 years. We have lived with a fear of flooding to our homes for years. As previously stated we always knew Riverstown needed to develop to service the growing population and we had no objection to this happening so long as our homes were protected from flooding. We constantly advised the County Council about our concerns throughout the planning procedded and it is well documented in County Hall planning office. In our opinion on 28/06/2012, several elements came together at the same time to cause the flood. 1. Very heavy rain. 2. High tide. 3. Debris in river upstream. 4. Bridge blocked with trees. 5. Run off water from Barnavara Hill flowing into Meadowbrook like a river. 6. The high river water across from Meadowbrook behing Supervalue unable to take the bend as this development has encroached on rivers natural flow. The flooding was fast and furious - destroying our home - very upsetting and traumatising, something I never want to go through again.
It is our belief that is correct maintenance of the river and drainage system had been in place the flood would not have been so terrible in Meadowbrook. If a

proper retaining wall had been constructed with a modern drainage system within the estate our homes would not have been damaged by flood waters. This was a very stressful and upsetting time for us. We want proper measures to be put in place to ensure this never happens again.