

Martina Gallagher

From: Eoin Lucey <Eoin.Lucey@mwp.ie>
Sent: 05 October 2016 11:22
To: Martina Gallagher
Cc: Jimmy.king@fisheriesireland.ie; Edwin Mooney; Matthew McLoughlin; Pat Parle
Subject: RE: Courtown Basin Dredging Foreshore Application - FS006403
Attachments: 15193-Foreshore Application-Response to Trench Queries.pdf

Hi Martina,

Please find attached our responses to the below queries.

Best regards,
Eoin Lucey
For Malachy Walsh and Partners

From: Martina Gallagher - (DECLG) [<mailto:Martina.Gallagher@environ.ie>]
Sent: 22 June 2016 16:58
To: Pat Parle
Cc: Jimmy.king@fisheriesireland.ie; Edwin Mooney - (DECLG); Matthew McLoughlin - (DECLG)
Subject: RE: Courtown Basin Dredging Foreshore Application - FS006403

Pat

Further to your email in respect of the above referenced foreshore application.

In order to assess your proposal further can you please submit the following information:

1. Location map of the proposed trench;
2. Methodology for the digging of the trench and
3. Detailed description of how this differs from the previous application.

Regards

Martina
Martina Gallagher
Marine Planning & Foreshore Section
Department of Environment, Community & Local Government
Newtown Road
Wexford
Y35 AP90

☎ 0539117367



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From: Pat Parle [<mailto:patrick.parle@mwp.ie>]
Sent: 16 June 2016 11:18

To: Jimmy.king@fisheriesireland.ie

Cc: Donnachadh Byrne; alan.mccullagh@fisheries.ie; Eoin Lucey; Edwin Mooney - (DECLG); Martina Gallagher - (DECLG); John Lambe

Subject: Courtown Basin Dredging Foreshore Application

Jimmy,

To confirm the conclusions of our telephone conversation of yesterday:

It was agreed that a trench through the beach at the mouth of the Owenavorrhagh River would be maintained for the duration of the dredging works to allow fish to access the river from the sea.

MWP will undertake further discussions with Donnachadh Byrne and Alan McCullagh of your Clonmel offices with regard to finalising the methodology and personnel for fish salvage during the project.

Regards

Pat

Pat Parle,
Chartered Engineer

Malachy Walsh and Partners

Consulting Engineers
Park House, Mahon Technology Park,
Bessboro Road, Blackrock, Cork
Tel: 021 4536400
Fax: 021-4536450
E: patrick.parle@mwp.ie
W: www.mwp.ie

Check out our website at <http://www.mwp.ie>

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Registered Office: Park House, Mahon Technology Park Bessboro Road, Blackrock, Cork, Ireland.
Registered in Ireland. No. 133445
.....

From: Martina Gallagher - (DECLG) [<mailto:Martina.Gallagher@environ.ie>]

Sent: 22 June 2016 16:58

To: Pat Parle

Cc: Jimmy.King@fisheriesireland.ie; Edwin Mooney - (DECLG); Matthew McLoughlin - (DECLG)

Subject: RE: Courtown Basin Dredging Foreshore Application - FS006403

Pat

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In order to assess your proposal further can you please submit the following information:

1. Location map of the proposed trench;
2. Methodology for the digging of the trench and
3. Detailed description of how this differs from the previous application.

Regards

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Department of Environment, Community & Local Government
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RESPONSES TO ABOVE QUERIES

1. Location Map of the Proposed Trench

Refer to attached Dwg 15193-5011-A.

2. Methodology for the digging of the trench

The proposed trench will be excavated by means of an tracked excavator. The existing bed level of the river at the beach is at approximately -0.25mODM. The existing river mouth is blocked by the beach sand which reaches a maximum level of +0.75mODM. The trench channel bed will be cut to -0.50mODM through the beach sand until the equivalent depth is reached on the seaward side. Mean Low Water Springs at Courtown is at -0.48mODM. The proposed channel depth will allow passage of fish at all times through the tidal range. The excavator will begin the cut at the closed river mouth and continue seawards. The channel will be 2m wide with side slopes at a slope ratio of 1 vertical to 3 horizontal. The channel will be 40m in length. The contractor will maintain the open cut for the duration of the period for which the basin is closed.

3. Detailed description of how this differs from the previous application:

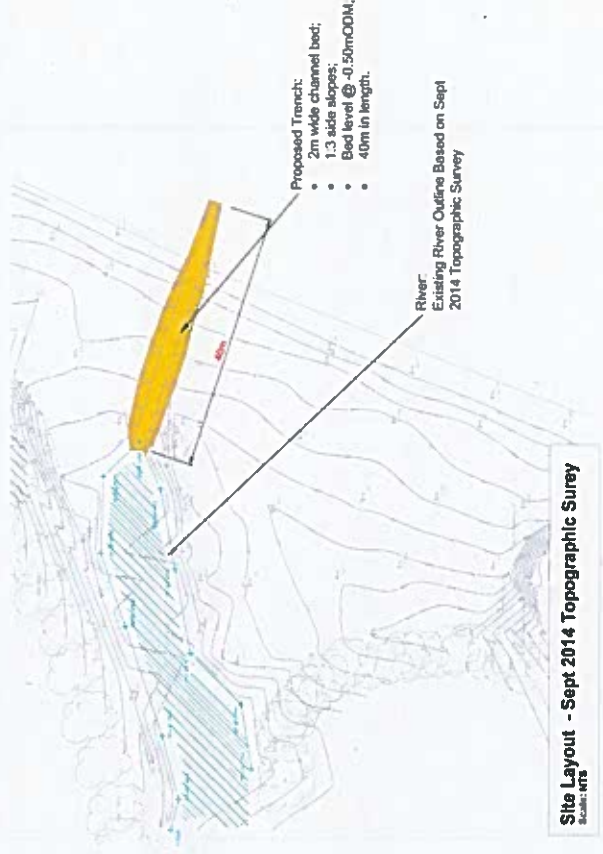
The initial application did not initially address the issue of fish accessing the river in this way. When the issue was raised by the IFI it was mooted that pipes be used to provide access to the river for the fish ("Project Methodology Outline – Response to IFI Queries 21.03.16"). The proposed pipes had a cross sectional area 1.5m^2 . A trench would have been cut to place these pipes which would then be covered over again for the duration of the works. The revised proposed works provide better access for fish passage.

NOTES:

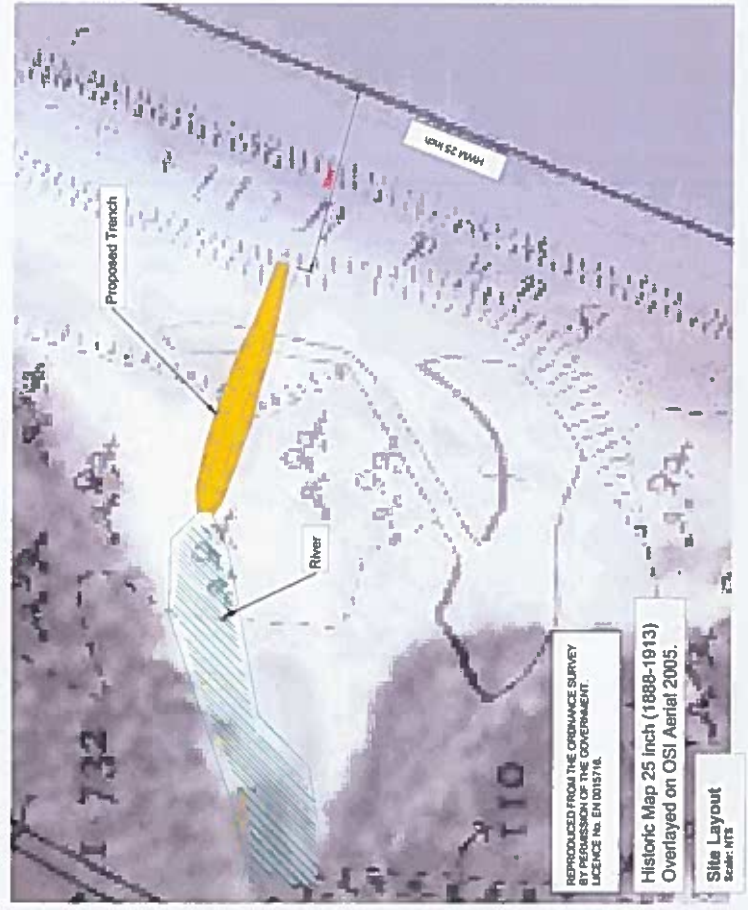
All drawings to be read in conjunction with the Plans, Measurements and relevant Specifications, Bill of Materials and Engineering Drawings.

Levels:

- All levels in meters unless otherwise stated.
- Dimensions are in millimeters unless stated otherwise.
- Drawings are not to be scaled.



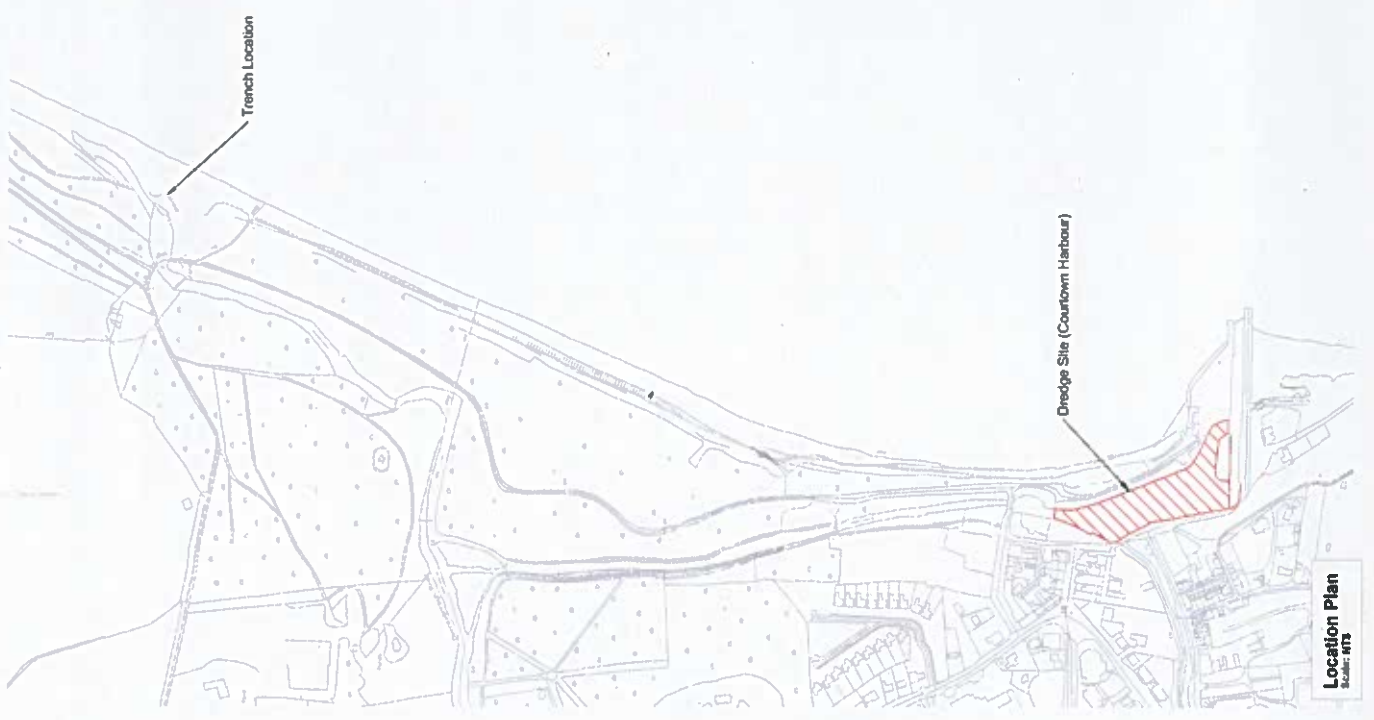
Site Layout - Sept 2014 Topographic Survey
Scale: MTS



REPRODUCED FROM THE ORDINANCE SURVEY BY PERMISSION OF THE GOVERNMENT. LICENCE NO. EN0015714.

Historic Map 25 inch (1888-1913) Overlaid on OSI Aerial 2005.

Site Layout
Scale: MTS



Location Plan
Scale: MTS

No.	Rev.	Description	Date
1	1	Issue for information	15/03/2011
2	1	Issue for approval	15/03/2011
3	1	Issue for construction	15/03/2011

Project: Courtown Dredging Harbour Repairs and Riverbank Reinforcement

Site: Proposed River Overlap/Depth Health Works

Client: Wicklow County Council
Contract No.: Wicklow 10m

Malachy Walsh and Partners
 Consulting Engineers
 Civil | Water | Marine | Transport

Malachy Walsh and Partners
 Consulting Engineers
 Civil | Water | Marine | Transport

Drawn By:	Checked By:	Scale:	1:500
15/03/2011	15/03/2011	15/03/2011	15/03/2011
15/03/2011	15/03/2011	15/03/2011	15/03/2011
15/03/2011	15/03/2011	15/03/2011	15/03/2011
15/03/2011	15/03/2011	15/03/2011	15/03/2011
15/03/2011	15/03/2011	15/03/2011	15/03/2011

Martina Gallagher

From: Eoin Lucey <Eoin.Lucey@mwp.ie>
Sent: 28 April 2016 14:34
To: Martina Gallagher - (DECLG)
Cc: Pat Parle
Subject: FW: FS006403 Courtown Harbour Basin Maintenance Dredging

Martina,

Thank you for forwarding on comments from the IFI.

In response to Item 1:

The culvert pipes will be located landward of the HWM as shown on the OSI Map. The pipe invert levels will however be below the sea water level to allow for fish passage within the pipes. A trench will be excavated through the beach to allow for this depth. Culverts will be transported to the location by truck and lifted from the truck and placed in the channel by sling using an excavator. The culvert pipes will be placed directly onto the excavated beach. The pipes will be placed side by side. The beach is comprised of sand and gravel. This material will be replaced over the pipes to a sufficient depth to allow for safe travel of vehicles over the pipes. The pipe culvert are a temporary structure and will be monitored for settlement and blockages throughout the contract. They will be adjusted if required. These works will be carried out in preparation for the harbour blocking. Once the harbour is blocked all river water will enter the sea from the original river mouth location through the temporary culverts.

In response to Item 2:

We included a methodology for fish fauna handling in the attached document supplied previously. However, if the IFI has preferences on how to carry out handling/salvage of fish we would appreciate their guidance. We have not awarded a contract yet and would like to include the handling/salvage requirements in the tender documents. The full requirements are needed prior to award otherwise the contract will be subject to claims or disputes. By including the methodology in the tender documents the contractor will be fully aware of the project requirements.

Best regards,
Eoin Lucey

From: Eoin Lucey
Sent: 28 April 2016 14:19
To: Pat Parle
Subject: FW: FS006403 Courtown Harbour Basin Maintenance Dredging

Pat,

Revised draft response to the IFI.

Eoin

"Martina,

Thank you for forwarding on comments from the IFI.

In response to Item 1:

The culvert pipes will be located landward of the HWM as shown on the OSI Map. The pipe invert levels will however be below the sea water level to allow for fish passage within the pipes. A trench will be excavated through the beach to allow for this depth. We estimate that there will be less than 0.5m difference between the river water level and the sea water level at any time. Culverts will be transported to the location by truck and lifted from the

truck and placed in the channel by sling using an excavator. The culvert pipes will be placed directly onto the excavated beach. The pipes will be placed side by side. The beach is comprised of sand and gravel. This material will be replaced over the pipes to a sufficient depth to allow for safe travel of vehicles over the pipes. The pipe culvert are a temporary structure and will be monitored for settlement and blockages throughout the contract. They will be adjusted if required. These works will be carried out in preparation for the harbour blocking. Once the harbour is blocked all river water will enter the sea from the original river mouth location through the temporary culverts.

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Best regards,
Eoin Lucey"

From: Martina Gallagher - (DECLG) [<mailto:Martina.Gallagher@environ.ie>]
Sent: 18 April 2016 10:23
To: Eoin Lucey
Subject: RE: FS006403 Courtown Harbour Basin Maintenance Dredging [Filed 18 Apr 2016 12:04]

Eoin

I refer to the above application made on behalf of Wexford County Council and to my previous correspondence on the matter.

Please see the attached response from the Inland Fisheries Ireland on the additional comments provided by you (dated 22.3.2016) which must be addressed before your application for a Foreshore licence can be progressed.

It is noted by the Department that works for this application are proposed to commence in late autumn 2016.

In order to progress this application in a timely manner and to have the appropriate Foreshore consent in place, could you please advise me as to the progress with the attached request within two weeks of the date of this email.

Regards

Martina

Martina Gallagher
Marine Planning & Foreshore Section
Department of Environment, Community & Local Government
Newtown Road
Wexford
Y35 AP90

☎ 0539117367

Martina Gallagher

From: Martina Gallagher - (DECLG)
Sent: 18 April 2016 10:23
To: 'Eoin Lucey'
Subject: RE: FS006403 Courtown Harbour Basin Maintenance Dredging
Attachments: IFI - comment on additional corres of applicant of 22.3.16.docx

Eoin

I refer to the above application made on behalf of Wexford County Council and to my previous correspondence on the matter.

Please see the attached response from the Inland Fisheries Ireland on the additional comments provided by you (dated 22.3.2016) which must be addressed before your application for a Foreshore licence can be progressed.

It is noted by the Department that works for this application are proposed to commence in late autumn 2016.

In order to progress this application in a timely manner and to have the appropriate Foreshore consent in place, could you please advise me as to the progress with the attached request within two weeks of the date of this email.

Regards

Martina

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Marine Planning & Foreshore Section
Department of Environment, Community & Local Government
Newtown Road
Wexford
Y35 AP90

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Providing a world-class service to the State and to the people of Ireland.

MARINE LICENCE VETTING COMMITTEE:

Re: DECLG file ref FS0006403 Application on behalf of Wexford Co. Council for maintenance dredging of the basin area within Courtown Harbour, Co. Wexford.

Response to additional documentation submitted by applicant (22.3.2016), addressing IFI observations of 18.3.2016, via Ms. Martina Gallagher (DECLG).

IFI reviewed documentation re FS0006403 and made observations in corres. of 18.3.2016. Two particular issues were of concern to IFI:

1. Flow of Owenavarragh over the beach north of Courtown, if flow through the town is blocked off for dredging
2. Salvage of fish

The applicant has responded to the IFI observations on 22.3.2016 and the reply purports to address both issues.

For Item 1 the applicant states:

"2.2 Flow path of the River Owenavarragh and migratory routes for fish

The River Owenavarragh has two mouths. The original and natural mouth discharges into the sea over the beach North of Courtown. An offshoot canal was constructed that fed the river into the harbour and out the harbour mouth. Today the River predominantly discharges through the harbour however at certain times when discharge levels are high or when the beach levels are low or a combination of both the river also discharges over the beach. In order to facilitate free passage of fish fauna into and out of the river during the works it is being proposed to Place pipes with a total cross sectional area of 1.5m² to allow the free flow of water to and from the river. It is anticipated that the cross sectional area will be sufficient for fish to enter and leave the river."

It is not explained where this pipe is to be located or how it is to be placed. Would this work be on the foreshore and be additional to the current foreshore licence – requiring a revised application? IFI requires a clear understanding on this issue of re-routing of the river and of free access for fish.

As stated previously, IFI requires free passage for all life stages of all relevant fish species at all times during the proposed works.

For Item 2 on fish salvage, it appears that the contractors propose to be responsible for handling/salvage of the fish and returning them to safe waters, under overall direction of IFI. If so then a method statement must be developed and agreed in writing with IFI Southeastern RBD (Clonmel office) covering detailed plan for rescue, salvage and transfer of fish. Copy of such agreement to be a condition of licencing.

IFI welcomes the overall thrust of this application in regard to working in the 'dry' and in regard to proposed recycling/ beneficial re-use of dredged material.
However, IFI must be satisfied in regard to the access issue for fish into/ out of the freshwater channel of the R. Owenavaragh at all stages of the proposed works.

James J. King, IFI and MLVC
Inland Fisheries Ireland
18.3.2016

CC Terry Mc Mahon MLVC;

Martina Gallagher

From: Eoin Lucey <Eoin.Lucey@mwp.ie>
Sent: 21 March 2016 15:44
To: Martina Gallagher - (DECLG)
Cc: Pat Parle
Subject: RE: FS006403 Courtown Harbour Basin Maintenance Dredging
Attachments: 15193-Courtown Dredging-Project Methodology Outline-Response to IFI Queries-Rev C.pdf; RE: FS006403 Courtown Harbour maintenance dredging; 2016.03.18 IFI-comment on documents of 2.2016_3.16.docx

Hello Martina,

Thank you for sending on those further comments.

We accept the comments of the Department of Arts, Heritage and The Gaeltacht with regards to the Archaeological requirements. These will be met during the works. A method statement with the archaeological licence application will propose a scaled model for the archaeological monitoring to be agreed as part of the licensing process in consultation with the Underwater Archaeology Unit.

Please see attached our response to further comments from the IFI. We hope that they will be to the satisfaction of the IFI.

Best regards,
Eoin Lucey
For Malachy Walsh and Partners

From: Martina Gallagher - (DECLG) [<mailto:Martina.Gallagher@environ.ie>]
Sent: 18 March 2016 09:47
To: Eoin Lucey
Cc: Matthew McLoughlin - (DECLG)
Subject: RE: FS006403 Courtown Harbour Basin Maintenance Dredging [Filed 21 Mar 2016 12:28]

Eoin

I refer to the above application made on behalf of Wexford County Council and to my previous correspondence of the 11 February 2016.

Please see the attached email dated 10 March 2016 from the Department of Arts, Heritage and the Gaeltacht which have further recommendations of the Underwater Archaeology Unit (UAU). Inland Fisheries Ireland are seeking further clarifications on the above application, response dated 18 March 2016 attached, both of which must be addressed before your application for a Foreshore licence can be progressed.

It is noted by the Department that works for this application are proposed to commence in late autumn 2016.

In order to progress this application in a timely manner and to have the appropriate Foreshore consent in place, could you please advise me as to the progress with the attached requests within two weeks of the date of this email.

Regards

Martina

Martina Gallagher
Marine Planning & Foreshore Section
Department of Environment, Community & Local Government
Newtown Road
Wexford
Y35 AP90

☎ 0539117367



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From: Eoin Lucey [<mailto:Eoin.Lucey@mwp.ie>]
Sent: 17 February 2016 08:57
To: Matthew McLoughlin - (DECLG)
Cc: Martina Gallagher - (DECLG); John Lambe; Pat Parle
Subject: FW: FS006403 Courtown Harbour Basin Maintenance Dredging

Hello again Mathew,

Related to a separate foreshore application in Courtown, Co. Wexford (FS006403), is there anything further required from us at this stage?

Am I correct in saying the Foreshore Licence will be granted based on the conditions set out in the attachments to last Thursdays email?

Best regards,
Eoin Lucey
For Malachy Walsh and Partners

From: Martina Gallagher - (DECLG) [<mailto:Martina.Gallagher@environ.ie>]
Sent: 11 February 2016 17:47
To: Eoin Lucey
Cc: Matthew McLoughlin - (DECLG)
Subject: FS006403 Courtown Harbour Basin Maintenance Dredging [Filed 11 Feb 2016 17:53]

Eoin

Please find attached covering letter and consolidated Prescribed Bodies Consultation's observations and recommendations for the above application for your attention.

Regards

Martina
Martina Gallagher

Marine Planning & Foreshore Section
Department of Environment, Community & Local Government
Newtown Road
Wexford
Y35 AP90

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Registered Company: Malachy Walsh & Co Ltd
Registered Office: Park House, Mahon Technology Park Bessboro Road, Blackrock, Cork, Ireland.
Registered in Ireland No. 133445
.....

Malachy Walsh and Partners

Engineering and Environmental Consultants

Cork | Tralee | Limerick | London



**Project Methodology Outline –
Response to IFI Queries**

Project: Courtown Harbour Dredging

Client: Wexford County Council

**Project No.: 15193
Document No.: 6008-B
Date: 06/01/2016**

PROJECT TITLE: **Courtown Harbour Dredging**

DOCUMENT TITLE: **Project Methodology Outline – Response to IFI Queries**

DOCUMENT No.: **15193-6008-B**

CLIENT: **Wexford County Council**

PROJECT LOCATION: **Courtown Harbour, Co. Wexford.**

Rev	Date	Issue Description			By	Checked	Approved
A	18/11/2015	Issued for Information			EL	PP	PP
B	06/01/2016	Issued for Information			EL	PP	PP
C	21/03/2016	Issued for Information			EL	PP	PP
This Document Comprises of:		DCS	TOC	Text	Tables	Figures	Appendices

DOCUMENT ISSUED FOR:

<input checked="" type="checkbox"/>	Entire Document Issued this Revision	<input type="checkbox"/>	In-House Review	<input type="checkbox"/>	Tender
		<input checked="" type="checkbox"/>	Information Only	<input type="checkbox"/>	Construction
<input type="checkbox"/>	Revised Pages Only Issued this Revision	<input type="checkbox"/>	Client Approval	<input type="checkbox"/>	Final Issue

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1.0 Introduction

This document has been prepared in response to queries presented by Inland Fisheries Ireland in relation to the application by Wexford County Council for a foreshore licence to carry out maintenance dredging works within Courtown Harbour, Co. Wexford. It outlines the Project Methodology and includes proposed methods of handling fish fauna.

It is proposed to conduct the dredging of Courtown harbour primarily in the dry. This will have a number of advantages in terms of the project programme and in the minimising of potential environmental impact due to the works.

Drying of the harbour will be achieved by blocking the harbour channel with sand and dewatering the basin. Blocking of the channel is occasionally conducted by the Harbour Authority to protect the basin area from the ingress of wave action during storms and in the past it has been used to undertake dredging of the basin and works to the harbour walls.

This document includes a written description of the methodology and is accompanied by descriptive drawing (15193-5005) identifying locations of proposed activities.

2.0 Outline Methodology

1. The Owenavorrhagh River offshoot is to be blocked at junction between it and the original river way. This blockage point is shown as "Owenavorrhagh River Barrier No.1" on the accompanying drawing. The temporary barrier is to be constructed of one tonne sand bags wrapped with PVC liner.
2. An agreed flow will be allowed through the barrier. This flow will be provided by means of over-pumping. This flow will prevent the water behind "Owenavorrhagh River Barrier No.2" from becoming stagnant and will allow fish fauna to survive behind the barrier during the dredging works. All pump suction heads will be fitted with suitable fish screen to prevent entrance by fish fauna into the pump system.
3. A second barrier will be constructed at entrance of the Owenavorrhagh offshoot to the Harbour basin. This blockage point is shown as Owenavorrhagh River Barrier No. 2". Barrier No. 2 will be constructed similarly to Barrier No.1. Barrier No.2 will fully seal the harbour from the Owenavorrhagh river waters. A second pumping operation will be set up in front of Barrier No.2. It will be set to pump when the river reaches an agreed level behind the barrier. Similarly, this pump will be fitted with a fish screen to protect fish within the offshoot.
4. The pumps will be routinely inspected and maintained for the duration of the works to ensure constant flow of fresh water into the off-shoot.
5. Measures will be put in place to secure the river from the public for the duration of the works. The concerns of the IFI are understood in relation to members of the public taking fish from this section. This element will be included in the contract.
6. A contingency plan will be developed by the contractor for situations where the barrier to the harbour overflows to rescue any fish that overflow. This will include a water level alert system to notify the contractor that water levels are approaching the top level of the barrier. This will allow the contractor to take action to reduce water levels behind the barrier. A sump will be constructed on the harbour side of the barrier. This will be of sufficient size to capture overflowing fish and allow for manual extraction.
7. A 5x50m sump will be excavated at the location shown at the entrance of south westerly stream to the harbour basin. The sump will be used as a point for fish trapped in the harbour to migrate to during the drying out process. From here they can be extracted. The sump level is to be 0.2m below the proposed dredge level of -2.8mODM. The side slopes of the sump will have a gradient of 1:2 on all sides.

8. A third pumping point will be set up within the sump for the duration of the works. The sump will be used to over pump incoming stream water out of the harbour. This pump will be fitted with a fish screen to protect fish within the sump.
9. A 5m x 15m sump will be excavated on the Southern boundary of the harbour. This area has the lowest bed level in the harbour. It will be excavated to a depth of -3.5mODM. The side slopes of the sump will have a gradient of 1:2 on all sides. The sump will be used a recovery location for fish trapped in the harbour to be removed during the dewatering process. A permanent pump will be located at this location for any additional dewatering required during the works.
10. It is a possibility that low point pockets may collect fish within them. If this occurs fish will be extract immediately from these locations.
11. Once the harbour is prepared as described above, the harbour mouth will be blocked with a barrier constructed of sand excavated at the mouth.
12. The contractor is to liaise with the IFI on the pump start date and to facilitate the IFI in the removal of fish.
13. Once agreed with the IFI the pumping operations will then commence to dry out the harbour.
14. When the harbour has dried out sufficiently and all fish are safely removed in line an agreed methodology the dredging operations will commence.
15. Dredging operations are expected to take 6-8 weeks.
16. Dredge spoil will be moved to the south western corner of the harbour within reach of a long reach excavator.
17. It is proposed to use bulldozers to move dredge spoil to the south western corner of the harbour within reach of a long reach excavator positioned on the quayside. The spoil will be piled up in this area. It is then proposed to create a containing boundary around the spoil using large bulk bags filled with dredge spoil to contain the dredge spoil within a small area for removal into trucks for transport to the land disposal site.
18. With the harbour dewatered it will be possible to inspect the structural soundness of the existing harbour quay walls. Repairs will be carried out as required during this period.
19. Once this temporary storage area is constructed and the material placed in this area the harbour channel sand embankment and the northern stream blockade can be removed allowing water back into the harbour and use of the harbour to resume. Removal of the dredge spoil can be conducted using a long reach excavator from the quayside adjacent the spoil build up area. Once the loose spoil is removed the bags will be lifted from the harbour and the material inside disposed of similarly.

2.1 Fish Fauna Handling

Trapped or stranded fish are to be 'handled' or 'processed' with a view to moving them to safety in the following manner:

- Fish are to be collected either by hand or by knotless fishing nets as directed by IFI personnel;
- When collected by hand or when taken from a net by hand, personnel are to use wet towels or wet hands;
- Fish fauna are to be stored in containers containing locally sourced water. Sea or fresh as directed by the IFI. The volume of the containers will be fish box size or otherwise agreed with the IFI. The duration of storage before releasing the fish into the sea is to be agreed with the IFI;
- Fish fauna are to be released into the sea with care. The box can be placed in the sea with the water surface above the top of the box, allowing fish to swim free;
- Handling is to be carried out by the contractor under the contract and under the supervision of the IFI.

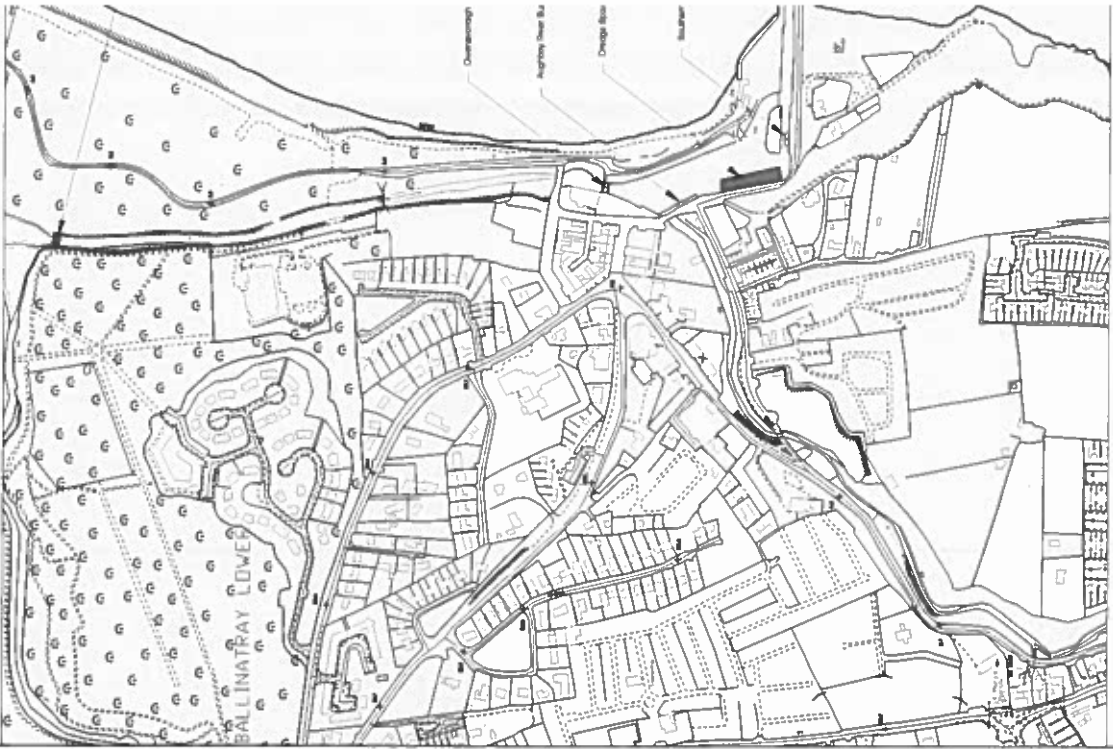
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In order to facilitate free passage of fish fauna into and out of the river during the works it is being proposed to Place pipes with a total cross sectional area of 1.5m² to allow the free flow of water to and from the river. It is anticipated that the cross sectional area will be sufficient for fish to enter and leave the river.

3.0 Drawing

Dwg 15193-5005-B attached.



Plan Outline - Harbour to Owenavonagh River
Scale: 1:100

Martina Gallagher

From: Martina Gallagher - (DECLG)
Sent: 18 March 2016 09:47
To: 'Eoin Lucey'
Cc: 'Matthew McLoughlin - (DECLG)'
Subject: RE: FS006403 Courtown Harbour Basin Maintenance Dredging
Attachments: RE: FS006403 Courtown Harbour maintenance dredging; 2016.03.18 IFI- comment on documents of 2.2016_3.16.docx

Eoin

I refer to the above application made on behalf of Wexford County Council and to my previous correspondence of the 11 February 2016.

Please see the attached email dated 10 March 2016 from the Department of Arts, Heritage and the Gaeltacht which have further recommendations of the Underwater Archaeology Unit (UAU). Inland Fisheries Ireland are seeking further clarifications on the above application, response dated 18 March 2016 attached, both of which must be addressed before your application for a Foreshore licence can be progressed.

It is noted by the Department that works for this application are proposed to commence in late autumn 2016.

In order to progress this application in a timely manner and to have the appropriate Foreshore consent in place, could you please advise me as to the progress with the attached requests within two weeks of the date of this email.

Regards

Martina

Martina Gallagher
Marine Planning & Foreshore Section
Department of Environment, Community & Local Government
Newtown Road
Wexford
Y35 AP90

☎ 0539117367



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From: Eoin Lucey [<mailto:Eoin.Lucey@mwp.ie>]
Sent: 17 February 2016 08:57
To: Matthew McLoughlin - (DECLG)

Cc: Martina Gallagher - (DECLG); John Lambe; Pat Parle
Subject: FW: FS006403 Courtown Harbour Basin Maintenance Dredging

Hello again Mathew,

Related to a separate foreshore application in Courtown, Co. Wexford (FS006403), is there anything further required from us at this stage?

Am I correct in saying the Foreshore Licence will be granted based on the conditions set out in the attachments to last Thursdays email?

Best regards,
Eoin Lucey
For Malachy Walsh and Partners

From: Martina Gallagher - (DECLG) [<mailto:Martina.Gallagher@environ.ie>]
Sent: 11 February 2016 17:47
To: Eoin Lucey
Cc: Matthew McLoughlin - (DECLG)
Subject: FS006403 Courtown Harbour Basin Maintenance Dredging [Filed 11 Feb 2016 17:53]

Eoin

Please find attached covering letter and consolidated Prescribed Bodies Consultation's observations and recommendations for the above application for your attention.

Regards

Martina
Martina Gallagher
Marine Planning & Foreshore Section
Department of Environment, Community & Local Government
Newtown Road
Wexford
Y35 AP90

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Registered Office Park House, Mahon Technology Park Bessboro Road, Blackrock, Cork, Ireland.

Further to your email of 5 November 2014 requesting that a detailed Underwater Archaeological Impact Assessment (UAIA) be carried out in advance of the licence/permit being granted in respect of the above Foreshore Application.

The consultants have indicated that they have been in consultation with DAHG on this matter.

Can you please confirm that you are satisfied with the proposed report as soon as possible.

Regards

Martina

Martina Gallagher
Marine Planning & Foreshore Section
Department of Environment, Community & Local Government
Newtown Road
Wexford
Y35 AP90

☎ 0539117367



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From: Eoin Lucey [<mailto:Eoin.Lucey@mwp.ie>]
Sent: 21 January 2016 11:05
To: Martina Gallagher - (DECLG)
Cc: Pat Parle; Matthew McLoughlin - (DECLG)
Subject: RE: FS006403 Courtown Harbour maintenance dredging (#15193)

Martina,

Thank you for your email. I apologise for using the incorrect channels.

Please find attached our response to the IFI and our Underwater Archaeological Impact Assessment carried out by ADCO Ltd.

I will call you later today just to discuss briefly.

Best regards,
Eoin Lucey
For Malachy Walsh and Partners

Eoin Lucey BE MEngSc CEng MIEI
Malachy Walsh and Partners
Engineering and Environmental Consultants
Park House, Mahon Technology Park,
Bessboro Road, Blackrock, Cork, T12 X251.

Tel: 021 4536400
Fax: 021-4536450
E: eoin.lucey@mwp.ie
W: www.mwp.ie

From: Martina Gallagher - (DECLG) [<mailto:Martina.Gallagher@environ.ie>]
Sent: 21 January 2016 10:45
To: Eoin Lucey
Cc: Matthew McLoughlin - (DECLG)
Subject: FW: FS006403 Courtown Harbour maintenance dredging (#15193)

Eoin

I refer to you below mail regarding the above Foreshore Application. As part of our consultation phase we requested the below information from your office and your client, Wexford County Council, on a number of occasions in 2015. The last correspondence rested with your client on 23 June 2015.

Please note that all your responses should have been directed through this Department as we are the consenting authority for Foreshore Applications.

You should now send the responses and report mentioned in your mail below to this section for our consideration.

The consultation phase cannot be completed until this information is furnished to us.

If you wish to discuss the matter further, please contact me at the below number.

Yours sincerely

Martina Gallagher
Martina Gallagher
Marine Planning & Foreshore Section
Department of Environment, Community & Local Government
Newtown Road
Wexford
Y35 AP90

☎ 0539117367



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From: Anthony Doran - (DECLG)
Sent: 21 January 2016 10:04
To: Eoin Lucey
Cc: Liz M O'Brien - (DECLG); Martina Gallagher - (DECLG); Matthew McLoughlin - (DECLG)
Subject: RE: FS006403 Courtown Harbour maintenance dredging (#15193)

Eoin,

I no longer work in the Foreshore Unit. Please refer all future correspondence to LizM.O'Brien@environ.ie ; Martina.Gallagher@environ.ie ; matt.macloughlin@environ.ie

Regards,
Anthony

From: Eoin Lucey [<mailto:Eoin.Lucey@mwp.ie>]
Sent: 20 January 2016 16:57
To: Anthony Doran - (DECLG)
Subject: FW: FS006403 Courtown Harbour maintainence dredging (#15193)

Hello Anthony,

Have there been any updates in the progress of our Foreshore consent?

It is our understanding that the NMI and DAHG have been supplied with an Underwater Archaeological Impact Assessment Report undertaken by the Archaeological Diving Company Ltd. We have also been in consultation with the IFI in relation to their concerns which we have addressed with them.

Many thanks,
Eoin Lucey
For Malachy Walsh and Partners

From: Anthony Doran - (DECLG) [<mailto:Anthony.Doran@environ.ie>]
Sent: 15 April 2015 10:23
To: Pat Parle; Eoin Lucey; postmaster@wexfordcoco.ie; planning@wefordcoco.ie
Cc: Martina Gallagher - (DECLG)
Subject: FS006403 Courtown Harbour maintainence dredging

Dear Mr Paryle,

I refer to the above application made on behalf of Wexford County Council and to my previous correspondence of the 5th November 2014 and subsequent reminder of the 23rd January 2015 (attached) seeking further information in the form of an Underwater Archaeological Impact Assessment and other specific clarifications made by Inland Fisheries Ireland, both of which must be addressed before your application for a Foreshore licence can be progressed.

It is noted by the Department that works for this application are proposed to commence in the summer of this year.

In order to progress this application in a timely manner and to have the appropriate Foreshore consent in place, could you please advise me as to the progress with the attached requests which have been resting with you since the 5th of November 2014.

Regards,

Anthony Doran
Marine Planning and Foreshore
Department of the Environment, Community and Local Government
Newtown Road
Wexford

Tel: 0539117465



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Registered in Ireland. No. 133445
.....

Martina Gallagher

From: Foreshore EPA Marine
Sent: 10 March 2016 09:13
To: Martina Gallagher - (DECLG)
Cc: foreshore
Subject: RE: FS006403 Courtown Harbour maintenance dredging

Re: Proposed maintenance dredging at Courtown Harbour, Co. Wexford.

A Chara

On behalf of the Department of Arts, Heritage and the Gaeltacht, I refer to the above.

Outlined below please find the Underwater Archaeology & Nature Conservation observations.

Having considered the submitted Underwater Archaeological Impact Assessment (UAIA) Report, the following are the further recommendations of the Underwater Archaeology Unit (UAU):

Archaeological recording and monitoring:

1. Wexford County Council shall engage the services of a suitably qualified underwater archaeologist to carry out the archaeological monitoring, under licence to this Department.
2. The monitoring can be on an agreed scaled basis, with full monitoring to begin with and then, based on what the nature and extent of the material being removed is, it can be scaled back accordingly.
3. The UAU agrees with the recommendation made in the UAIA Report for archaeological recording of the quay structure. This can be by way of photographic and descriptive survey carried out by the underwater archaeologist during the course of the monitoring.
4. No impact shall take place to the quay structures, and measures to ensure this (e.g. by way of a buffer zone) shall be implemented to ensure there is no damage to the quays during the course of the dredging works.
5. A finds retrieval strategy to focus on the areas that retain the deepest silts to form part of the monitoring methodology, which may include assessing the dredge spoil in advance of it being dumped. This can be done on a percentage basis if amounts of spoil being removed prove to be of high quantities and again, can then be on an agreed scaled basis depending on the results from the finds retrieval strategy.

Where archaeological material/features are shown to be present, this Department may make further archaeological recommendations. This may include preservation *in situ* (avoidance), preservation by record (archaeological excavation) or archaeological monitoring.

The submitted method statement with the licence application can propose a scaled model for the archaeological monitoring to be agreed as part of the licencing process. The Underwater Archaeology Unit shall be on hand to discuss this and agree on the proposed monitoring brief.

Reason: To ensure the continued preservation (either *in situ* or by record) of places, caves, sites, features or other objects of archaeological interest.

Mise le meas,

Simon Dolan
Development Applications Unit
Department of Arts, Heritage and The Gaeltacht
Newtown Road
Wexford

tel: 0539117377



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

From: Martina Gallagher - (DECLG)
Sent: 01 March 2016 14:56
To: Foreshore EPA Marine
Cc: Simon Dolan - (DAHG)
Subject: RE: FS006403 Courtown Harbour maintenance dredging (#15193)

Simon

Just a reminder that your views on the below report are awaited in respect of the Foreshore Application for the Courtown Harbour maintenance dredging.

Martina

Martina Gallagher
Marine Planning & Foreshore Section
Department of Environment, Community & Local Government
Newtown Road
Wexford
Y35 AP90

 0539117367



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From: Martina Gallagher - (DECLG)
Sent: 22 February 2016 14:05
To: Foreshore EPA Marine
Cc: Simon Dolan - (DAHG)
Subject: FW: FS006403 Courtown Harbour maintenance dredging (#15193)

Simon

Martina Gallagher - (DECLG)

From: Eoin Lucey <Eoin.Lucey@mwp.ie>
Sent: 17 February 2016 08:57
To: Matthew McLoughlin - (DECLG)
Cc: Martina Gallagher - (DECLG); John Lambe; Pat Parle
Subject: FW: FS006403 Courtown Harbour Basin Maintenance Dredging
Attachments: 2016.02.11 letter re Consultee obs and Public submissions to Applicant.pdf; Consolidated PBC Observations.pdf; ATT00001.txt

Hello again Mathew,

Related to a separate foreshore application in Courtown, Co. Wexford (FS006403), is there anything further required from us at this stage?

Am I correct in saying the Foreshore Licence will be granted based on the conditions set out in the attachments to last Thursdays email?

Best regards,
Eoin Lucey
For Malachy Walsh and Partners

From: Martina Gallagher - (DECLG) [<mailto:Martina.Gallagher@environ.ie>]
Sent: 11 February 2016 17:47
To: Eoin Lucey
Cc: Matthew McLoughlin - (DECLG)
Subject: FS006403 Courtown Harbour Basin Maintenance Dredging [Filed 11 Feb 2016 17:53]

Eoin

Please find attached covering letter and consolidated Prescribed Bodies Consultation's observations and recommendations for the above application for your attention.

Regards

Martina
Martina Gallagher
Marine Planning & Foreshore Section
Department of Environment, Community & Local Government
Newtown Road
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Martina Gallagher - (DECLG)

From: Anthony Doran - (DECLG)
Sent: 21 January 2016 10:04
To: Eoin Lucey
Cc: Liz M O'Brien - (DECLG); Martina Gallagher - (DECLG); Matthew McLoughlin - (DECLG)
Subject: RE: FS006403 Courtown Harbour maintainence dredging (#15193)

Eoin,

I no longer work in the Foreshore Unit. Please refer all future correspondence to LizM.O'Brien@environ.ie ; Martina.Gallagher@environ.ie ; matt.macloughlin@environ.ie

Regards,
Anthony

From: Eoin Lucey [<mailto:Eoin.Lucey@mwp.ie>]
Sent: 20 January 2016 16:57
To: Anthony Doran - (DECLG)
Subject: FW: FS006403 Courtown Harbour maintainence dredging (#15193)

Hello Anthony,

Have there been any updates in the progress of our Foreshore consent?

It is our understanding that the NMI and DAHG have been supplied with an Underwater Archaeological Impact Assessment Report undertaken by the Archaeological Diving Company Ltd. We have also been in consultation with the IFI in relation to their concerns which we have addressed with them.

Many thanks,
Eoin Lucey
For Malachy Walsh and Partners

From: Anthony Doran - (DECLG) [<mailto:Anthony.Doran@environ.ie>]
Sent: 15 April 2015 10:23
To: Pat Parle; Eoin Lucey; postmaster@wexfordcoco.ie; planning@wexfordcoco.ie
Cc: Martina Gallagher - (DECLG)
Subject: FS006403 Courtown Harbour maintainence dredging

Dear Mr Paryle,

I refer to the above application made on behalf of Wexford County Council and to my previous correspondence of the 5th November 2014 and subsequent reminder of the 23rd January 2015 (attached) seeking further information in the form of an Underwater Archaeological Impact Assessment and other specific clarifications made by Inland Fisheries Ireland, both of which must be addressed before your application for a Foreshore licence can be progressed.

It is noted by the Department that works for this application are proposed to commence in the summer of this year.

In order to progress this application in a timely manner and to have the appropriate Foreshore consent in place, could you please advise me as to the progress with the attached requests which have been resting with you since the 5th of November 2014.

Regards,

Anthony Doran
Marine Planning and Foreshore
Department of the Environment, Community and Local Government
Newtown Road
Wexford

Tel: 0539117465



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Martina Gallagher - (DECLG)

From: Eoin Lucey <Eoin.Lucey@mwp.ie>
Sent: 06 January 2016 15:21
To: Donnachadh Byrne
Cc: Pat Parle
Subject: RE: RE: Courtown Dredging - Methodology - 15193
Attachments: 15193-Courtown Dredging-Project Methodology Outline-Response to IFI Queries-Rev B.pdf

Hi Donnachadh,

I've updated our methodology to take into account your comments. Those being; the location of fish recovery sump, the depth of fish recovery sump and the contingency plan for overflow of water and fish over Barrier No.2 into the harbour.

I hope that the edits are to your satisfaction.

I look forward to your response.

Best regards,
Eoin Lucey
For Malachy Walsh and Partners

From: Donnachadh Byrne [mailto:Donnachadh.Byrne@fisheriesireland.ie]
Sent: 06 January 2016 10:10
To: Eoin Lucey
Subject: RE: RE: Courtown Dredging - Methodology - 15193 [Filed 06 Jan 2016 10:29]

Hi Eoin,

Apologies for the delays on this.

Please re-submit the methodology and drawings including the edits as suggested suggested by me. The contingency arrangements referred to at the end of the e-mail are important.

If fish re-enter the site while the works are ongoing they will need to be removed.

Kind regards,

Donnachadh Byrne

Senior Fisheries Environmental Officer

Iascach Intíre Éireann
Inland Fisheries Ireland

Tel +353 (0)1 8842600
Email donnachadh.byrne@fisheriesireland.ie
Web www.fisheriesireland.ie

3044 Lake Drive, Citywest Business Campus, Dublin 24, Ireland.

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From: Eoin Lucey [<mailto:Eoin.Lucey@mwp.ie>]
Sent: 05 January 2016 12:52
To: Donnachadh Byrne
Cc: Pat Parle
Subject: RE: RE: Courtown Dredging - Methodology - 15193

Hi Donnachadh,

I haven't heard from Alan in relation to the proposed works in Courtown.

If I re-submit the methodology and drawing including the edits you have suggested below do you think that would be sufficient?

Many thanks,
Eoin Lucey
For Malachy Walsh and Partners

From: Donnachadh Byrne [<mailto:Donnachadh.Byrne@fisheriesireland.ie>]
Sent: 02 December 2015 12:23
To: Eoin Lucey
Cc: Alan Cullagh
Subject: RE: RE: Courtown Dredging - Methodology - 15193 [Filed 05 Jan 2016 09:41]

Hi Alan,

Just in from Eoin Lucey.

I sent an e-mail before I went on annual leave, (copied it to you) relating to the locations of the sumps and the general areas where fish are likely to end up while draining the harbour.
I think Eoin was in agreement.

Best regards,

Donnachadh Byrne

Senior Fisheries Environmental Officer

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Inland Fisheries Ireland

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Email donnachadh.byrne@fisheriesireland.ie
Web www.fisheriesireland.ie

3044 Lake Drive, Citywest Business Campus, Dublin 24, Ireland.

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From: Eoin Lucey [<mailto:Eoin.Lucey@mwp.ie>]
Sent: 02 December 2015 12:06
To: Donnachadh Byrne
Subject: RE: RE: Courtown Dredging - Methodology - 15193

Hi Donnachadh,

Are there any other conditions you would like us to include in our methodology before re-submitting to you?

Best regards,
Eoin Lucey
For Malachy Walsh and Partner

From: Donnachadh Byrne [<mailto:Donnachadh.Byrne@fisheriesireland.ie>]
Sent: 19 November 2015 10:39
To: Eoin Lucey
Cc: Alan Cullagh; Pat Parle
Subject: RE: RE: Courtown Dredging - Methodology - 15193 [Filed 19 Nov 2015 17:28]

Hi Eoin,

I have reviewed project methodology and a concern that I would have is the proposed location of the sump trench, from which it is proposed to remove the majority of the fish.

Looking at the bathymetric survey there is a deepening of the water levels within the harbour from north to south and I would suggest that the most appropriate site for the sump for fish retrieval would be in the south western corner of the harbour. As water levels drop within the harbour this is the area that fish would drop into naturally. The proposed sump location in the NW corner is naturally at a higher level than most of the rest of the harbour and without regrading most of the entire harbour area only a small number of fish are likely to seek refuge here.

The deepest section of Courtown Harbour is along the southern boundary, making this the most location for a sump for fish retrieval.

One other point that needs to be addressed is that much of the channel running out towards the Irish Sea is deeper than depth proposed for the sump (-3mODM) and this will also need to be taken into account as all the fish will need to be removed from this section also.

Once fish have been removed I would have no problem with the proposal to deposit the dredge spoil along the harbour wall in the south-western corner as laid out in drawing 15193-5005.

The Aughboy River enters the harbour at the proposed location of the sump in the northwestern corner of the harbour, but it does not appear to have scoured out any channel of note. This isn't surprising given that the Aughboy is subject to minimal flows during the Summer months. The Aughboy is not a salmonid channel and is seriously polluted and I would have no issue in a dam here with overpumping to the sea.

The report refers to contingency plans if the barrier to the harbour overflows and fish re-enter the harbour area. It is important that such contingency plans exists for the Owenavorrigh River Barrier no.2 and for the harbour mouth barrier.

Yours sincerely,

Donnachadh Byrne

Senior Fisheries Environmental Officer

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Inland Fisheries Ireland**

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Email donnachadh.byrne@fisheriesireland.ie

Web www.fisheriesireland.ie

3044 Lake Drive, Citywest Business Campus, Dublin 24, Ireland.

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From: Eoin Lucey [<mailto:Eoin.Lucey@mwp.ie>]
Sent: 18 November 2015 10:01
To: Donnachadh Byrne
Cc: Alan Cullagh; Pat Parle
Subject: FW: RE: Courtown Dredging - Methodology - 15193

Donnachadh,

Please find attached our response to your below queries dated the 17th of August.

I look forward to your comments.

Feel free to contact me by telephone on 021 4536400 if you would like to discuss the proposed methodology.

Best regards,
Eoin Lucey
For Malachy Walsh and Partners

From: Eoin Lucey
Sent: 24 August 2015 12:10
To: 'Donnachadh Byrne'
Cc: Pat Parle
Subject: RE: RE: Courtown Dredging - Methodology - 15193

Donnachadh,

The attached is a useful graphic illustrating the varying bed levels in Courtown Harbour.

Regards,
Eoin Lucey
For Malachy Walsh and Partners

From: Eoin Lucey
Sent: 17 August 2015 15:20
To: 'Donnachadh Byrne'
Cc: Pat Parle; Alan.Cullagh@fisheriesireland.ie
Subject: RE: RE: Courtown Dredging - Methodology - 15193 [Filed 17 Aug 2015 15:20]

Donnachadh,

Thank you for your comments. We will respond to you fully shortly.

For the time being, attached are copies of the latest bathymetric survey in AutoCAD and PDF. The levels are to OD Malin. Positive values shown are negative.

Best regards,
Eoin Lucey
For Malachy Walsh and Partners

From: Donnachadh Byrne [<mailto:Donnachadh.Byrne@fisheriesireland.ie>]
Sent: 17 August 2015 15:03
To: Eoin Lucey
Cc: Alan Cullagh
Subject: [pending]RE: Courtown Dredging - Methodology - 15193

Hi Eoin,

I have reviewed what you sent on to us and we would need some additional information/agreement.

We would request an expanded method statement be written up in a step by step separate document.

The issue of the volume of water coming through barrier no. 1 and how it is proposed to do this still needs to be agreed. If this is by gravity then fish would need to be excluded, and the potential of this being blocked and a reduction in the water flow be addressed also.

Being able to guarantee that this water keeps flowing is critical to the survival of fish in the section of channel between barrier 1 & 2.

The same applies to the pump at pump location 1, as if this overflows into the harbour which has been dried out the fish may end up being stranded.

We hope to remove most of the larger fish from the canal section but numbers of smaller fish are likely to remain and we would also have concerns re people illegally taking fish from this section while the works are underway.

We request that measures be put in place that would ensure that the water flow through the canal section is maintained as required 24hrs a day over the duration of the scheme and to prevent access by members of the public to the site at the lower end of the canal.

A method for the removal of the fish from the harbour area still needs to be agreed, of concerns is that most fish are likely to end up in the sump from which the water is being pumped and we would have concerns that fish might become entrained in the pumps here.

I hope to chat to Alan, re the proposed method for fish removal from the large harbour area and the best way to ensure that the majority of fish there are directed towards one location while water levels are being lowered.

Do you have a bathymetric survey for the harbour area as this would be crucial in working out the best method to retrieve the maximum numbers of fish in the smallest area.

Yours sincerely,

Donnachadh Byrne

Senior Fisheries Environmental Officer

Iascach Intíre Éireann
Inland Fisheries Ireland

Tel +353 (0)1 8842600

Email donnachadh.byrne@fisheriesireland.ie
Web www.fisheriesireland.ie

3044 Lake Drive, Citywest Business Campus, Dublin 24, Ireland.

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From: Eoin Lucey [<mailto:Eoin.Lucey@mwp.ie>]
Sent: 11 August 2015 14:38
To: Donnachadh Byrne; Alan Cullagh
Cc: Pat Parle
Subject: Courtown Dredging - Methodology - 15193

Donnachadh,

As discussed, I've attached a drawing which outlines our proposed methodology for the dredging works in Courtown Harbour including our proposals for handling and removing fish fauna during the works.

Please let me know if you would like any further details or amendments to our proposals.

Best regards,
Eoin Lucey
For Malachy Walsh and Partners

Malachy Walsh and Partners
Engineering and Environmental Consultants
Park House, Mahon Technology Park,
Bessboro Road, Blackrock, Cork
Tel: 021 4536400
Fax: 021-4536450
E: eoin.lucey@mwp.ie
W: www.mwp.ie

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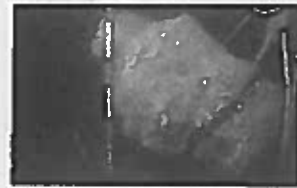
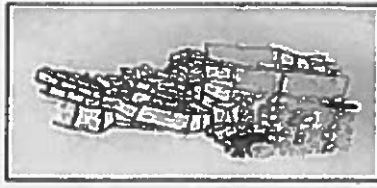
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**COURTOWN HARBOUR BASIN DREDGING
BALLINTRAY LOWER, CO. WEXFORD
UNDERWATER ARCHAEOLOGICAL IMPACT
ASSESSMENT
15D0047, 15R0055**

THE ARCHAEOLOGICAL DIVING COMPANY LTD.

**COURTOWN HARBOUR BASIN DREDGING
BALLINTRAY LOWER, CO. WEXFORD
UNDERWATER ARCHAEOLOGICAL IMPACT
ASSESSMENT
15D0047, 15R0055**

14 October 2015

Project Director

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THE ARCHAEOLOGICAL DIVING COMPANY LTD.

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LIST OF ABBREVIATIONS

ADCO	The Archaeological Diving Company Ltd
DAHG	Department of Arts, Heritage and the Gaeltacht
E	Easting
MWP	Malachy Walsh and Partners
N	Northing
NGR	National Grid Reference
OPW	Office of Public Works
RMP	Record of Monuments and Places
RPS	Record of Protected Structures

EXECUTIVE SUMMARY

The Archaeological Diving Company Ltd (ADCO) was appointed by Malachy Walsh and Partners, Civil Engineers to Wexford County Council, to undertake an underwater archaeological impact assessment of Courtown Harbour Basin, as part of a pre-development requirement for a dredging proposal of the Basin area.

The proposed area for dredging is located in the lagoon within the harbour basin at Courtown, and extends to approximately 200m North/South x 50-100m East/West in size. Water depths are on average 2-2.5m deep but in places reach 3.3m deep.

Archaeological assessment has reviewed available data sources, including Ordnance Survey maps, Admiralty Charts, the National Museum of Ireland's topographical files, the Department of Arts, Heritage and the Gaeltacht's Sites and Monuments Record and History Shipwreck and related archives. The study area retains features associated with the construction of the harbour by the renowned 19th-century engineer Alexander Nimmo.

The harbour basin is fed by two channels; a canalized stream enters from the north and another stream enters from the west. The basin was dredged in the 1980s when the harbour was drained. The seabed today is silted up but retains some evidence of the 1980s' dredging. Silt accumulating in the northern half of the basin includes red-brick and ceramic debris, and this is thought to be deposited from the outflow of the incoming river channels. The central and southern part of the basin has a clean sandy bottom that is in places scoured by the movement of fishing vessels. Bedrock outcrops at the very southwestern part of the basin. The bedrock retains clear evidence of being cut into or quarried to facilitate Nimmo's design. The Quay which is part of Nimmo's design is built from stone blocks that are recessed somewhat from the rock outcrop, which in turn acts as a lintel to the stonework above.

The remnants of Nimmo's harbour works remain of interest and all impacts with these elements should be avoided during dredging works.

There are no known archaeological features observed exposed on the basin sediments examined.

There is no archaeological reason why the development proposal should not proceed.

All impacts, direct and indirect, should be avoided with the quay island that is at the heart of the 19th-century harbour design. Consideration should be given to erecting a fence line close to the base of the quayside to ensure protection against impacts.

When the basin is drained for the current dredging proposal, the opportunity should be taken to record archaeologically the fabric of the historic quay walls that will be exposed down to their lintels.

Subject to the approval of the National Monuments Section at the Department of Arts, Heritage and the Gaeltacht, there are no further archaeological mitigations considered necessary for this project.

Recommendations are subject to the approval of the National Monuments Section at the Department of Arts, Heritage and the Gaeltacht.

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- Plate 15: Sequence of photographs showing further results of underwater assessment conducted.

1.0 INTRODUCTION

1.1 General

The Archaeological Diving Company Ltd (ADCO) was appointed by Malachy Walsh and Partners (MWP), consulting engineers to Wexford County Council, to undertake an underwater archaeological impact assessment associated with dredging proposals within Courtown Harbour basin, in Ballintray Lower townland, Co. Wexford.

Site work was carried out on 29th May 2015, under licence from the Department of Arts, Heritage and the Gaeltacht, 15D0047, 15R0055.

The assessment sets out the existing information from an archaeological perspective by considering the natural topography of the study area and the known and potential archaeological features within the study area. It assesses the proposed impacts arising from the dredging works being considered, and makes recommendations for archaeological mitigations associated with the project.

1.2 Location

The proposed works area is located in the lagoon within the harbour basin at Courtown (Table 1, Figures 1-2). The lagoon is linear in shape and aligned North-South, measuring approximately 200m long by 50-100m wide.

Reference	Easting ING	Northing
North point	320021	156264
Centre point	320042	156177
South point	320100	136099

Table 1: Coordinates that define the survey area at Courtown. Coordinates in Irish National Grid.

The lagoon is enveloped in quay walling, with a substantial quay island on the south side that separates the main basin area from a canal that gives access to the sea. The basin is shallow water, where depths are on average 2-2.5m but in places reach 3.3m deep OS Malin (Figure 3).

2.0 THE PROPOSED DEVELOPMENT¹

The area proposed for dredging occupies 1.026ha. It extends from the north end of the basin to the quay island. It does not extend into the canal used to gain access to the sea. The dredge depths will be shallow (Figure 4). It is proposed to dredge to a design depth of -2.8m ODM. In the northern half of the lagoon, this will require the dredging of up to 1.2m deep of material. In the southern half of the lagoon, this will require the dredging of between 20cm and 70cm of material.

3.0 SOURCES

The following sources were examined to inform the project from existing desktop information: Ordnance Survey maps; National Museum of Ireland's topographical files; and the Department of Arts, Heritage and the Gaeltacht's Sites and Monuments Record and History Shipwreck and related archives. The results are presented in section 8, Gazetteer, and are discussed in section 4. There are no known features or objects of archaeological interest associated with the harbour basin, apart from the harbour itself.

4.0 THE RECEIVING ENVIRONMENT

Courtown Harbour is an artificial creation resulting from works begun in the first half of the 19th century, when the engineer, Alexander Nimmo, was commissioned to design an appropriate harbour. The project took longer to complete than expected and the design was adapted over time.² In effect, however, Nimmo's vision has been maintained.

While considered an appropriate location for a harbour, seabed levels were habitually shallow, and a sandbar close inshore presented additional navigational obstacles. Nimmo's solution was to design an artificial lagoon or basin inside an outer breakwater. The lagoon would be fed by the two local rivers. A canal was constructed from the Owenvorragh River to the north of the harbour to bring the waters south. The water levels inside the lagoon would be controlled to ensure a build-up of water that could be released through sluice gates on an ebb tide and so flush out the basin area, thereby maintaining water depth for shipping to berth inside the lagoon.

¹ Details provided by MWP.

² Noel Wilkins, *Alexander Nimmo Master Engineer 1783-1832. Public works and civil surveys*, Irish Academic Press, 2009, pp 254-257.

The ambition was partly successful, and infilling has remained a challenge to the present day. Various works on the seaward side have been pursued to enhance the scouring action of the outflowing waters. These have included extending a pier out from the sluice gates. Early efforts have washed away and a modern concrete construction appears to continue this ambition (Plate 1).

The Ordnance Survey (OS) First Edition 6-inch map of 1841 provides a record of the progress made some 15 years after construction had begun (Figure 5). There is little to indicate formal quayside construction, but the elements that become faced with stonework are clearly present. The canal from the Owenvorragh River is constructed, leading water into the basin from the north, while the outlet for the Glen Aoibhinn river entering from the west is also defined. The linear shape of the basin is shown with a confidence that suggests a formal construction, while the south side of the basin includes an island that was a key element in Nimmo's design. The island funnels the headwaters from the basin seawards, and a series of sluice gates are recorded across the narrow channel that leads from the basin.

Later editions of the Ordnance Survey maps show the formalization of these essential elements, as well as the construction of more buildings around the harbour (Figure 6). A sluice controls water flow from the Glen Aoibhinn river. The island becomes a formal quay. The sluice gates to the sea are no longer positioned within the long channel but appear to have been replaced by formal lock gates on the island quay. A barrier wall was built across the basin on the east side of the island, curtailing access to the navigation channel at this point. This might have helped to focus the ebb waters along a single route seaward, and may have assisted the scouring effect of the waters to maintain the approach channel.

5.0 SITE INSPECTION

5.1 Methodology

The harbour area and the harbour basin were inspected visually, and photographs were taken to support a written account. A hand-held underwater metal-detector was used while diving the basin to assess the potential of the basin silts to retain material of archaeological interest. Dive-work was carried out in shallow water during Low Water on 29th May 2015. Niall Brady and Rex Bangerter carried out the dive work supported by Cameron Brady as dive-tender.

5.2 Observations, harbour area

The spit of land indicated on the seaward side of the harbour has been progressively reclaimed and armoured, to become a sturdy embankment against the open sea (Plate 2). It remains largely open for pedestrian and light vehicular access, except at its southern part, where the Lifeboat station has become a small complex of buildings. Two elements of quay furniture decorate the embankment; one being a large brass propeller, the other an Admiralty anchor (Plates 3-4). Neither retains labels of provenance.

Three further elements of quay furniture exist on the west side of the basin, on the angle of the road junction where a small green is developed. A second and smaller Admiralty anchor is displayed (Plate 5). There is also a stone bollard lying recumbent, and an atmospheric pressure gauge that is housed within a small timber structure. A memorial stone displayed on one side of the structure records its donation to the RNLI station at Courtown in 1926 by the local fishermen.

None of these features are recorded in the National Inventory of Architectural Heritage (NIAH) but represent artefacts of local interest and of direct relevance to the maritime heritage of Courtown.

The harbour is for the most part lined with a stone-built façade. There are several modern additions. In the northeast sector of the basin, a reinforced concrete facing extends for a distance of 15-20m and is extruded from the former quayside (Plate 6). It serves to widen the area that is today a car park but which was recorded as an area of 'Mooring Posts' on the 25-inch OS map (Figure 6). The former stone-built quay wall that continued north from this small-scale reclamation is evident but its uppermost levels close to the reclaimed piece are built in concrete, suggesting some level of repair work.

The footbridge that crosses the harbour basin at the north end of the proposed dredge area is a single-span modern construction (Plate 7). A footbridge is indicated here on the 25-inch OS map but it is likely that the current structure is a modern replacement. To its north, the western side has been reclaimed and developed (Plate 8), and one can see a clear termination of the older stone-work and the recent building.

A modern concrete lintel is added to the base of harbour walls on both its east and west sides throughout the northern half of the basin (Plates 9-10).

The seaward terminus to the harbour has been subject to modern works (Plate 11). Two reinforced concrete extensions lengthen the en-quayed portion. Both elements are weathered, with cracking concrete on the terminus of the north pier revealing a series of steel piles that inhabit its core. Steel shuttering provides a rugged façade to both extensions, while rock armouring is added to the toe of the south pier.

These modern embellishments aside, Courtown Harbour retains good stonework that is a testimony to the skill of its Victorian-period builders. Much of the harbour walls are well-built and tall. A pair of stone steps provide access to the water level on the west side, while a slipway provides access from the RNL station on the west side. It is however the island on the south side of the harbour that is of greatest interest. It is indicated as a natural feature on the 1841 OS map, but later maps show it as a formal quay and refer to it as such.

The Tara View Hotel has a series of photographs displayed in one of its bars that show the harbour drained for dredging works in 1981, and this provides a useful benchmark from which to describe the harbour (Plates 12-14).

5.3 Observations, harbour basin

The results of the assessment completed in 2015 are summarized on Figures 7 and 8 (the plates referred to on Figure 8 are presented in Plate 15). The seabed today is silted up but can be divided into two distinct areas. The northern half of the basin is covered in a coarse silt, with river cobbles forming a dominant surface at the narrow north end, and sands and gravels included more generally in the middle section. This appears to result from a natural gradation in material that is associated with the outflow from the Owenvorragh River to the north, where a constant flow creates little opportunity for siltation until the basin widens in the middle section, and flow dissipates. A second force acting in the middle section is the inflow from the Glen Aoibhinn river, entering from the west. Among the finer sand and silt in the middle section are fragments of ceramic (modern in date) and also metal debris. These are considered to be present as a result of discharge from both river channels. To the north of the Glen Aoibhinn river, it was possible to observe cut marks in the silt, which are determined to be dredge scars from the 1980s' open-cut dredging. The ceramic and modern material lies on top of such scars, indicating the more recent date of deposition. Such material can therefore be considered to be quite mobile and to have been deposited within the basin since the 1980s.

The second area within the basin is the central and southern sections. Here there is less evidence of debris, apart from abandoned tyres. The seabed has an otherwise clean sandy bottom that is in places scoured by the movement of fishing vessels, exposing a sterile clay. The presence of the tyres reflects abandoned fenders used by boats. Bedrock outcrops at the very southwestern part of the basin (Plate 15.4853). The bedrock retains clear evidence of being cut into or quarried to facilitate Nimmo's design. The presence of the bedrock both limits the depth of potential future dredging, and is part of a wider artefact that is associated with the harbour's principal construction. The Quay which is part of Nimmo's design is built from stone blocks that are recessed somewhat from the rock outcrop, which in turn acts as a lintel to the stonework above. These details deserve recording, and should be surveyed in fuller detail archaeologically when the opportunity to do so is presented by the proposed draining of the basin for the new dredging campaign.

6.0 IMPACT ASSESSMENT

The design depth for dredging at -2.8m ODM requires deeper dredging in the northern half of the basin than in the south. 1.2m deep of material is to be removed from the northern half, while between 20cm and 70cm of material will be removed in the southern half, on the north side of the Quay island (Figure 4).

The impact from dredging will remove the siltation in the northern half, where small debris has accumulated. The dredging will also remove the loose sand that has accumulated in the southern half

Bedrock should be avoided.

7.0 MITIGATION PROPOSALS

There is no archaeological reason why the development proposal should not proceed.

7.1 Pre-construction Measures

None.

7.2 Construction Phase Measures

AVOIDANCE. All impacts, direct and indirect, should be avoided with the quay island that is at the heart of the 19th-century harbour design. Consideration should be given to erecting a fence line close to the base of the quayside to ensure protection against impacts. Should avoidance of impacts not be possible, all impacts on and around the quay island and associated features would require a reasoned justification to be made to the DAHG, and would be subject to the Department's consideration. It is likely that such impacts, if permitted, would require archaeological monitoring, with the proviso to record fully all impacts that may occur.

RECORDING OF HISTORIC QUAYSIDE. When the basin is drained for the current dredging proposal, the opportunity should be taken to record archaeologically the fabric of the historic quay walls that will be exposed down to their lintels. Such recording would aim to produce metrically accurate scaled records of the stone fabric and its construction techniques, and would be achieved using a combination of photogrammetry and Total Station measurements. Such work should be done by qualified and experienced maritime archaeologists.

Subject to the approval of the National Monuments Section at the Department of Arts, Heritage and the Gaeltacht, there are no further archaeological mitigations considered necessary for this project.

PLEASE NOTE: All of the above observations and conclusions are based on the archaeological information and information supplied for the Courtown Harbour dredging project. Should any alteration occur, further assessment would be required.

PLEASE NOTE: Recommendations are subject to approval by the National Monuments Section at the Department of Arts, Heritage and the Gaeltacht.

8.0 GAZETTEER OF KNOWN ARCHAEOLOGICAL SITES AND FEATURES

8.1 Artefacts/isolated finds

Source: National Museum of Ireland topographical files

There are no artefacts or features of archaeological interest recorded in the Topographical Files associated with the harbour basin at Courtown. The nearest objects are generally provenanced to Courtown only.

Reg No	Findplace	Townland	Type	Distance to development
RSAI 291	Courtown	Courtown	Ceramic Urn fragment, may also be provenanced to Piltown, Co. Westmeath	unknown
2014:171, IA/38/2008	Courtown	Courtown	Human mandible, given to the NMI by the State Pathologist's office as part of a larger collection of human remains from across Ireland	unknown

8.2 Monuments/structures

Source: Sites and Monuments Record files

There are no sites or features of archaeological interest recorded in the Sites and Monuments Record files associated with the harbour basin at Courtown. The nearest recorded archaeological monument is a fragment of a High Cross located in 1.1km NW in Ballintra Lower townland, WX12-006.

8.3 Recorded Shipwreck sites

Source: Historic Shipwreck Inventory

There are no recorded shipwreck sites recorded in the Historic Shipwreck Inventory associated with the harbour basin at Courtown. There are however two sites provenanced generally to Courtown, but their locations cannot be refined further.

Name	Location	Observations	Distance to development
<i>Idalia</i>	at Courtown	A ship <i>en route</i> from New Orleans to Liverpool was on 13/01/1873	unknown
<i>Ullswater</i>	at Courtown	A ship carrying general cargo that wrecked on 13/01/1868	unknown

8.4 Known Shipwreck sites

Source: Historic Shipwreck Inventory of Ireland, detail recorded in the Littoral Archaeology Project database, 2008.

See also <http://www.infomar.ie/data/ShipwrecksMap.php>

There are no known shipwreck sites recorded in the Historic Shipwreck Inventory associated with the harbour basin at Courtown. The nearest known shipwreck lies 18km east of the harbour, and is the wreck of the South Arklow light ship, which was lost after being sunk by a German submarine on 28/03/21917, and lies in 50m of water.

8.5 Licensed excavations/interventions

Source: Excavations Bulletin. <http://www.excavations.ie/>

There has been no licensed archaeological intervention work associated with the harbour basin at Courtown. The nearest licensed work has been an intertidal survey on the north beach, extending north of the harbour (04D115). That work did not reveal any material of archaeological interest.

Reg No	Easting	Northing	Observations	Distance to development
98E0341	319500	154499	Inspection of engineering test-trenches and pits along the proposed route of the Courtown Drainage Scheme. No archaeological inclusions were noted	1.7km South of development
98E0341 ext	304791	121651	Monitoring of specified groundworks associated with the Courtown-Riverchapel Main Drainage Scheme. No archaeological material was encountered.	80m West of development
00E0952	319152	158170	Monitoring of groundworks associated with the Courtown-Riverchapel Main Drainage Scheme. Topsoil-stripping at the wastewater treatment plant site revealed a number of discrete areas of burning. One feature was a pit, cut into the natural, sandy subsoil. A single sherd of prehistoric pottery was recovered from this layer, and it is possible that the feature represents a disturbed cremation pit.	2km Northeast of development
98E0341 ext.	319901	156270	Monitoring of groundworks recovered a number of flint artefacts and some flint waste.	80m West of development
04D115	319948	156280	The north beach between Courtown Harbour and Duffcarrick Rocks was surveyed at low tide. Nothing of archaeological interest was recorded	70m East of development

8.6 Architectural heritage

Source: National Inventory of Architectural Heritage of Ireland,
<http://www.buildingsofireland.ie/>

Reg No	Easting	Northing	Type	Distance to development
15611015	320035	156349	Single-arch road bridge over canal, built 1841-74; extant 1904. Semi-coursed random rubble stone walls with dressed granite string-courses supporting parapets having squared granite coping. Single round or segmental arch with dressed granite voussoirs, and red brick(?) soffits. Sited spanning canal to north end of harbour basin with unkempt banks to canal. Recognised as an integral component of the 19th-century civil engineering legacy of Courtown.	50m North of development
15611016	320045	156165	Courtown Harbour. An artificial harbour recognised as a particularly important component of the 19th-century maritime architectural legacy of coastal Co. Wexford. Description pending.	Within
15611018	320143	156124	Courtown Lifeboat station. Detached single-bay (three-bay deep) double-height gable-fronted lifeboat house, built 1911.	4m West of development
15611019	320006	156192	Cast iron water hydrant. Seamount td	13m North of development



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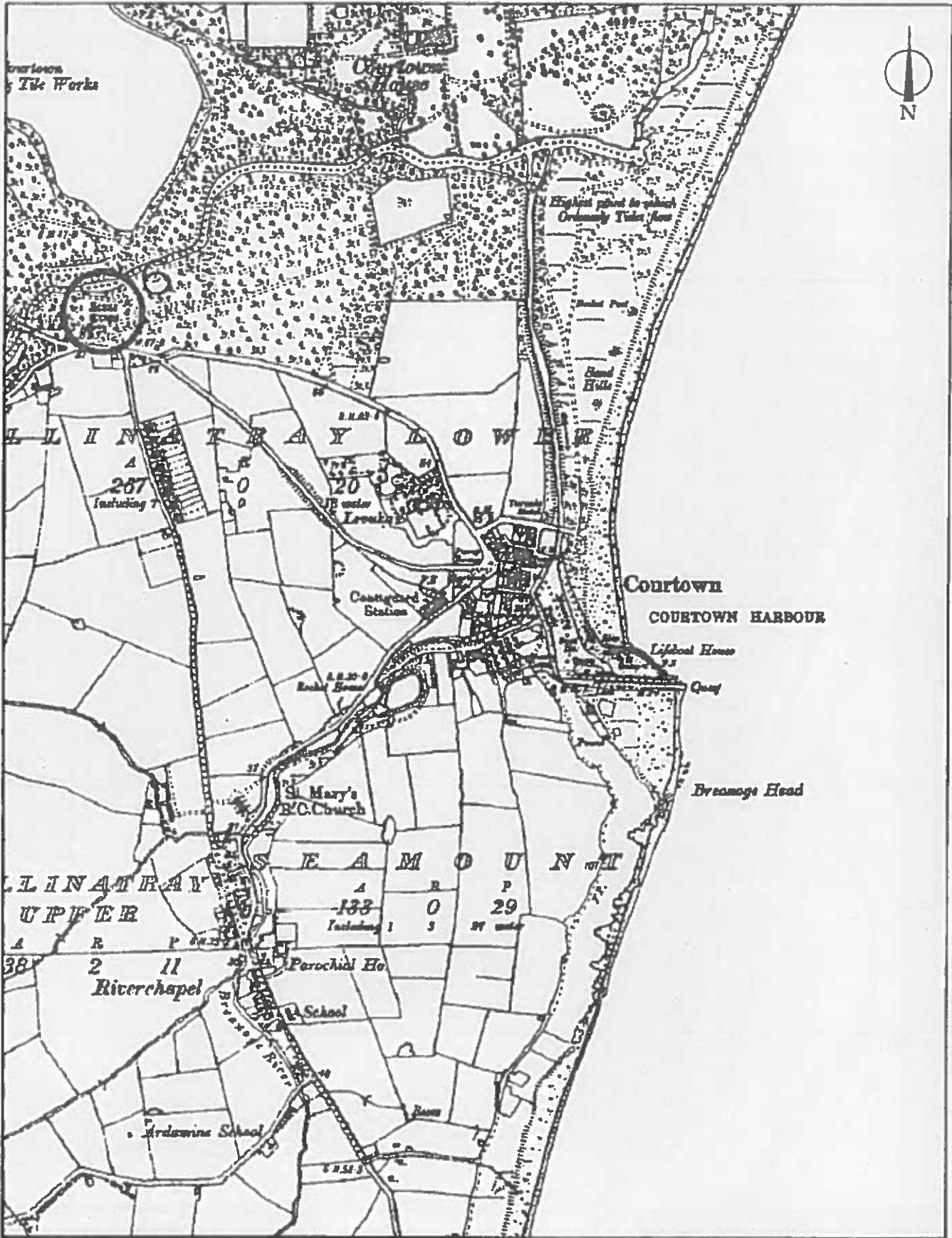
Notes
 Source: OSI Discovery Series Mapping

Title
 Figure 1- Extract from OS mapping showing location of Courtown Harbour, Co. Wexford.

Client
 Malachy Walsh & Partners/ Wexford County Council

Project
 Courtown Harbour Archaeological Assessment

Job/Ess No. 15000x
 Compiled by R.Bengert
 CAD reference Courtown
 Date 09.06.15
 Scale 1:30,000
 Drawing No. Figure 1



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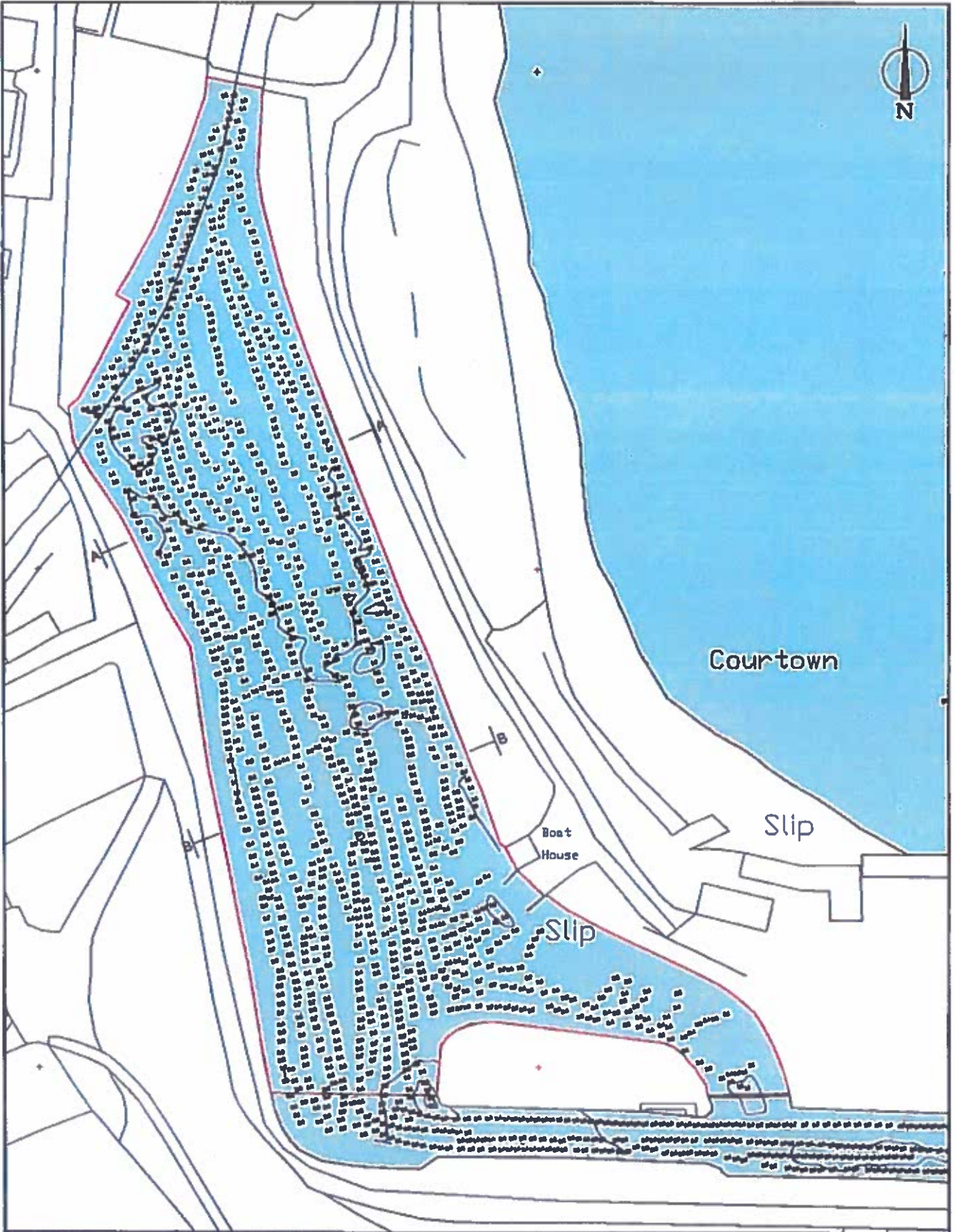
Notes
Source: RMP Archaeological Mapping, Wexford Sheet 012

— Proposed Drudge Area
— Extant of ADCO Underwater Survey and harbour side field-walking

A4

Title
Figure 2- Extract from RMP Archaeological Mapping showing Courtown Harbour with extent of proposed dredging and ADCO Survey Area superimposed.

Client Malachy Walsh & Partners/ Wexford County Council	Job/Exc No. 1500047	Compiled by R.Bangerter	CAD reference Courtown	Date 09.08.15	Scale 1:30 000	Drawing No. Figure 2
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 Tel. 056 4440236 email: info@adco.ie.com

Client
 Malachy Walsh & Partners/ Westford County Council

Notes
 Source: Figure adapted from Project Drawing.
 [Hydrographic data gathered by Hydrographic Surveys Ltd.]
 — Proposed Dredge Area

Title
 Figure 3- Project Drawing showing proposed dredge area and hydrographic survey data [see Figure 4 for cross-section A-A & B-B].

A4

Project
 Courtown Harbour Basin Dredging

Job/Exc No.
 16D0047

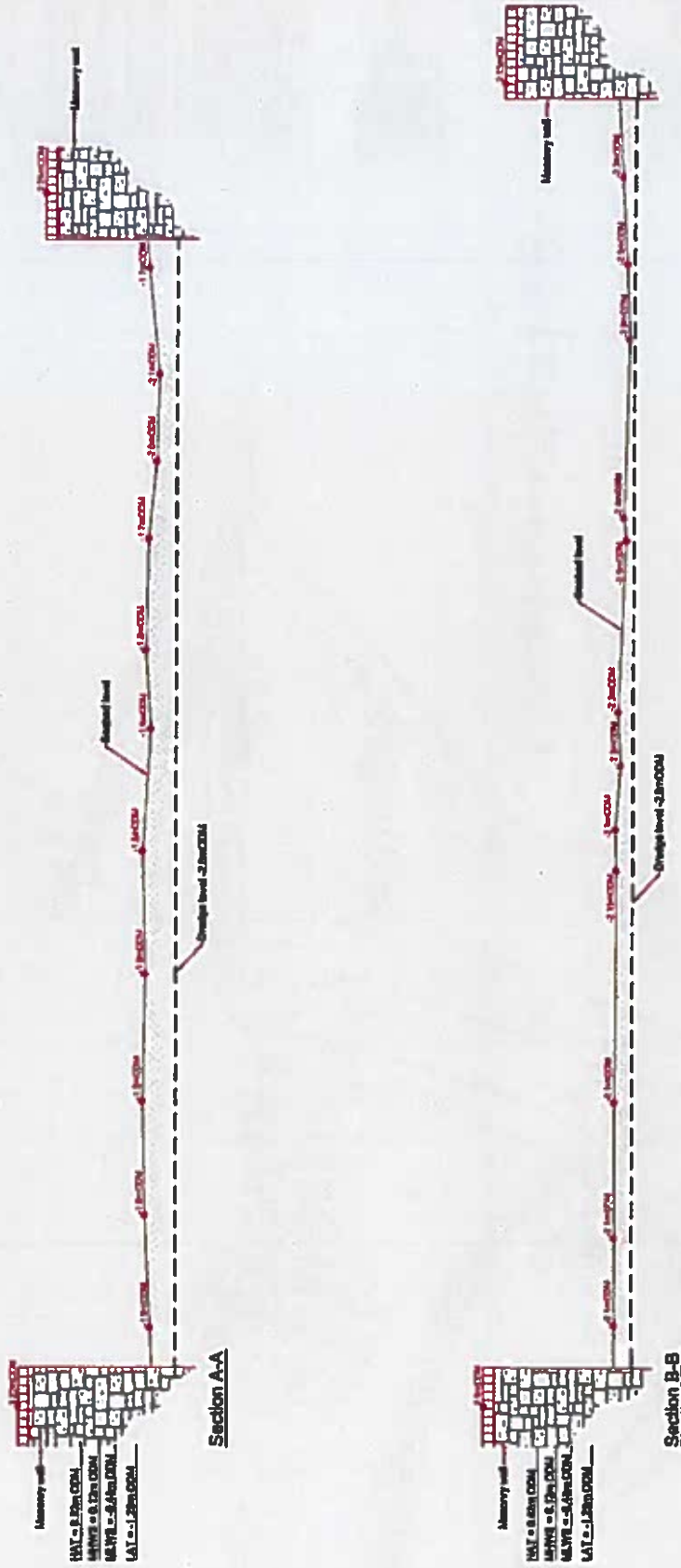
Compiled by
 R.Bengter

CAD reference
 Courtown

Date
 09.08.15

Scale
 1:1000

Drawing No.
 Figure 3



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 TEL: 085 4488256 info@adc.ie

Notes
 Source: Malachy Walsh & Partners Ltd.

AA

Job Ref No.
 1800047

Completed by
 K.Berginger

CAD reference
 Courtown

Client
 Malachy Walsh & Partners/Woodford Co. Council

Project
 Courtown Harbour Basin Dredging

Title
 Figure 4. Project drawing showing existing bed level and proposed dredge profile across Courtown Harbour (see Figure 3 for section locations).

ITM CENTRE PT. COORDS
720088,658204

DESCRIPTION

MAP SHEETS

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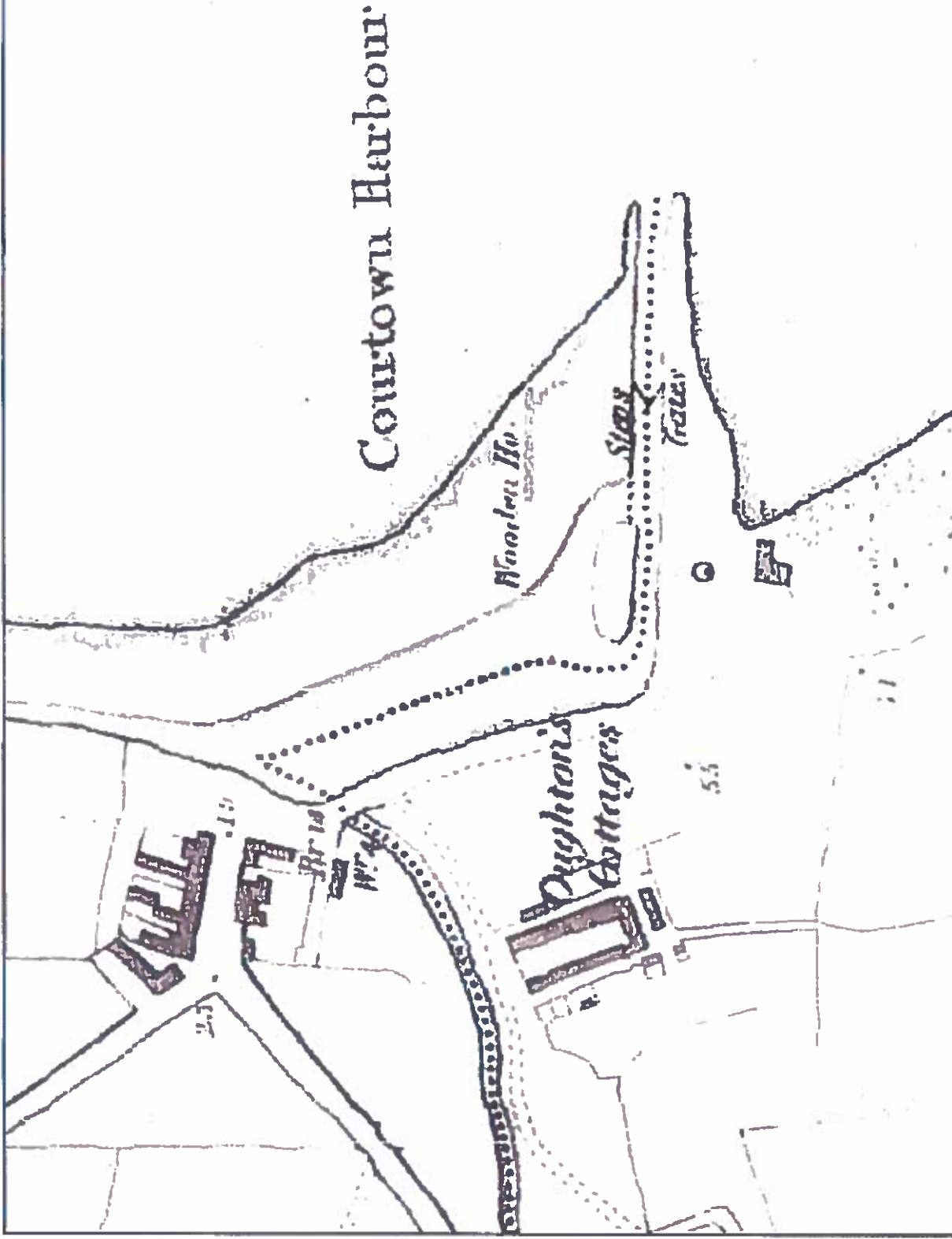
OS
Authorized
Internet Map

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Job/Draw No. 1520007	Client Indistry Walsh & Partners/Warford Co. Council
Date 05.06.15	Project Courtown Harbour Basin Dredging
Scale 1:2500	
Compiled by A. Bangerter	
CAD reference Courtown	
Drawing No. Figure 5	
AA	
Notes Source: OSI Historic Map Archive	

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Title
Figure 5- Extract from First Edition (1840) OS
Map depicting Courtown Harbour in the mid-
nineteenth century.

17M CENTRE PT COORDS
720008,656194

DESCRIPTION

MAP SHEETS

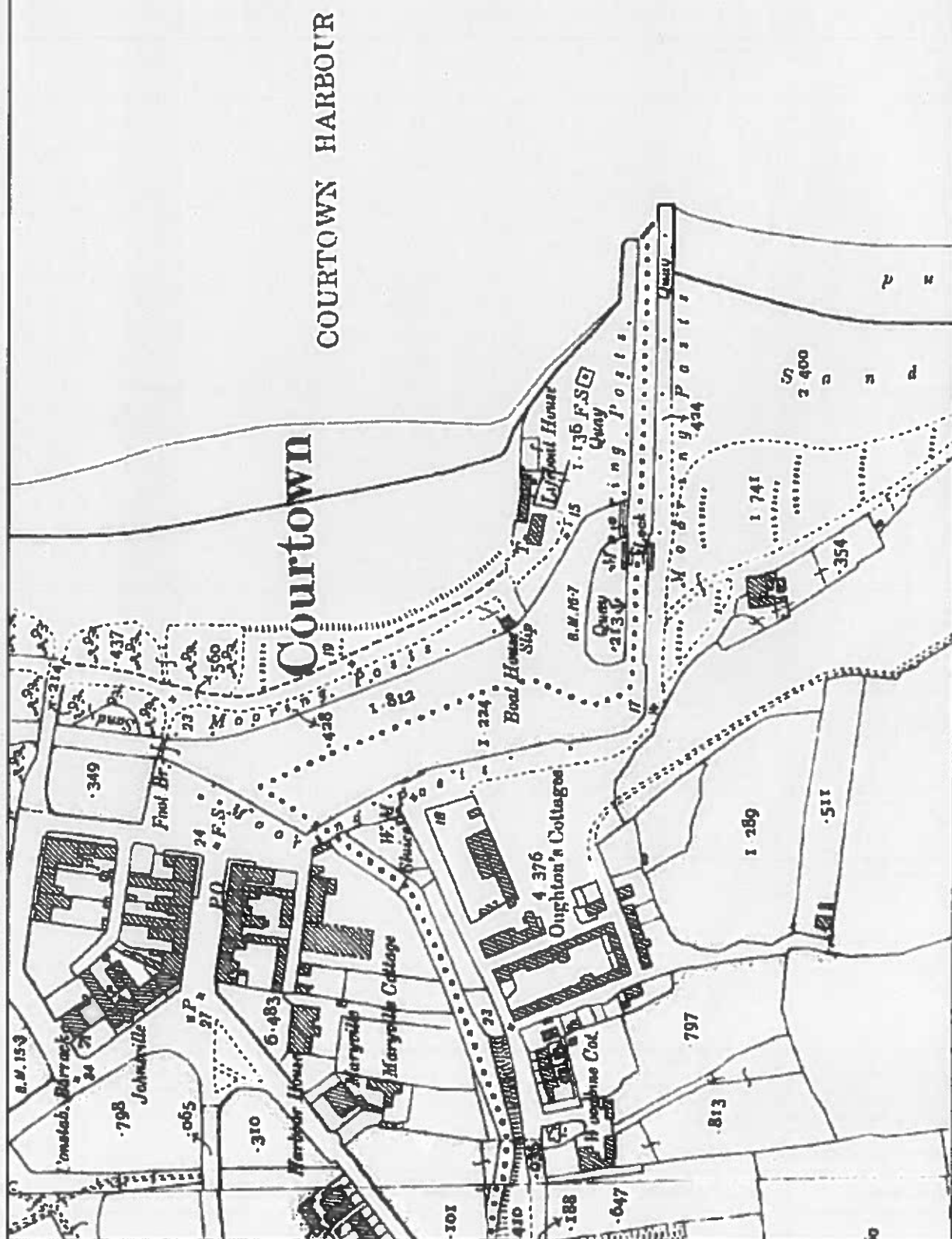
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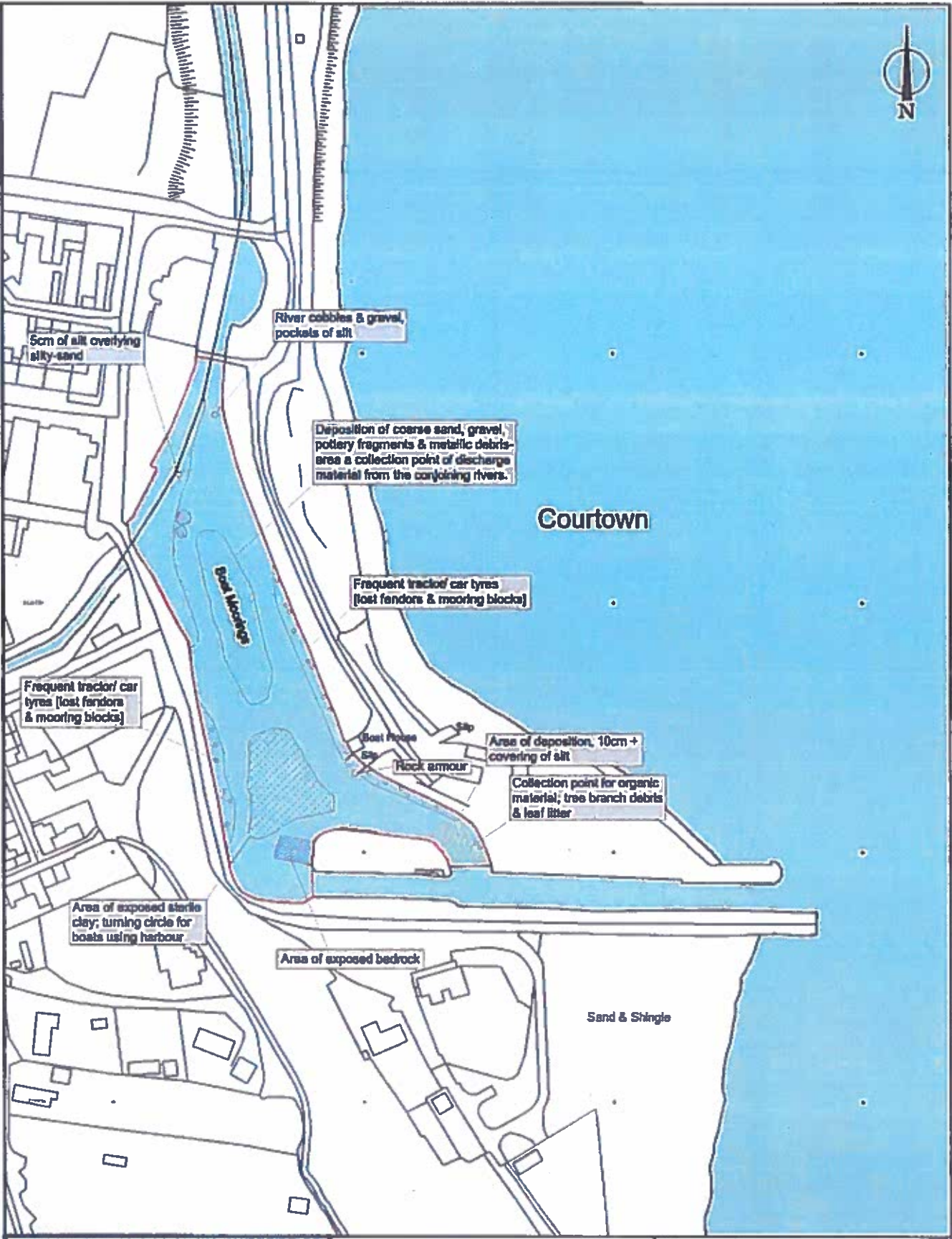
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THE ARCHAEOLOGICAL DIVING COMPANY LTD. Tel: 056 4440234 email: info@adco-ia.com		Notes Source: OSI Historic Map Archive		AA		JobRef No. 1500047		Compiled by R. Slinger		CAD reference Courtown		Client Muirchú Walsh & Partners/ Wexford Co. Council		Title Figure 6 - Extract from First Edition (1940) OS Map depicting Courtown Harbour in the mid-19th century.	
		Date 09.08.15		Scale 1:2500		Drawing No. Figure 6		Project Courtown Harbour Basin Dredging							



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Notes
 Source: Figure adapted from Project Drawing.
 — Extent of Underwater Survey Area
 ⚓ Dredge Scare

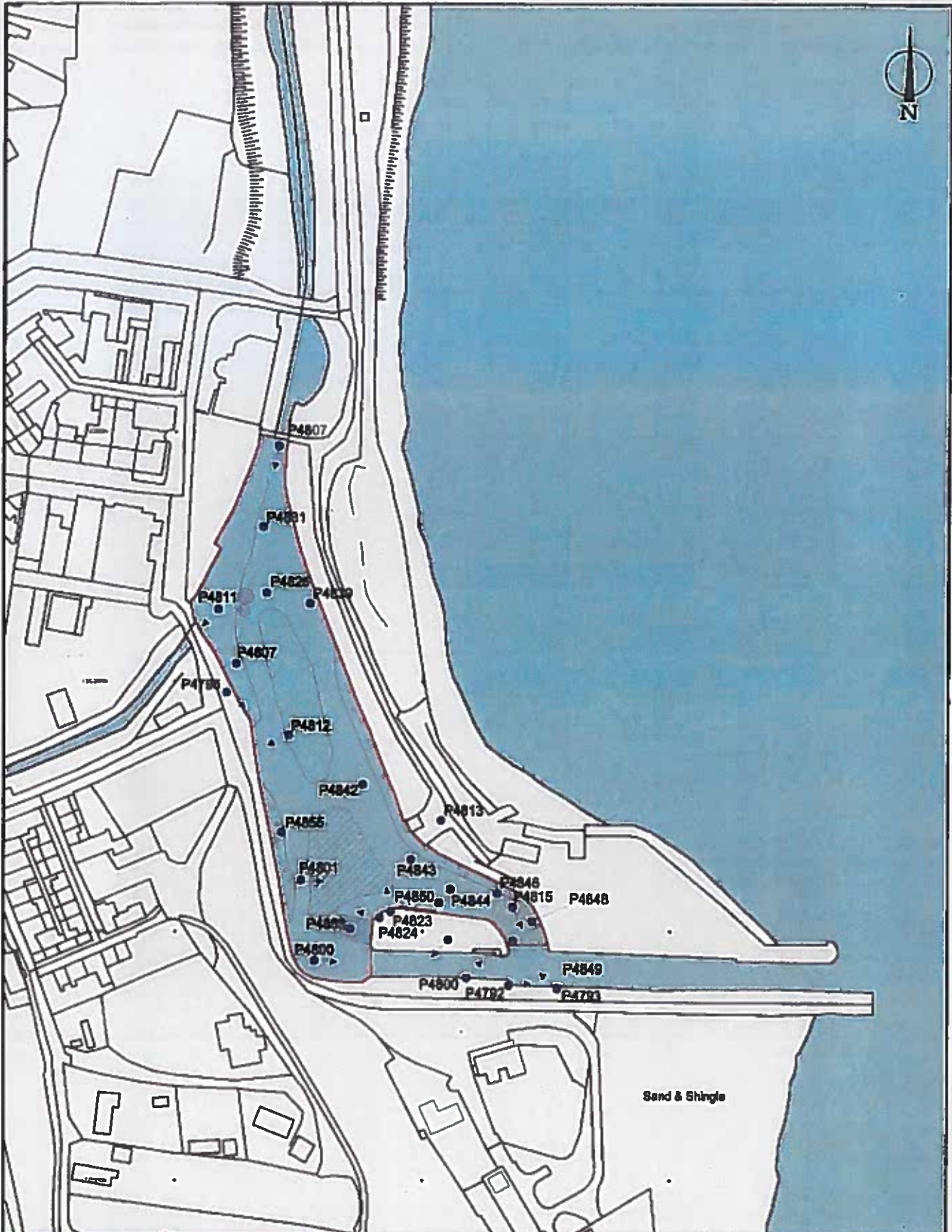
Title
 Figure 7- Project Drawing with extent of ADCO Survey Area and observations superimposed.

Client
 Malachy Walsh & Partners/ Wexford County Council

Job/Est No. 1500047
 Compiled by R.Bangorier
 CAD reference Courtown
 Date 09.06.15
 Scale 1:2000
 Drawing No. Figure 7

Project
 Courtown Harbour Basin Dredging

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Notes
 Source: Figure adapted from Project Drawing.
 — Extent of Underwater Survey Area
 ● ▶ Plate Location/ Direction

Title
 Figure 7- Project Drawing with Plates locations superimposed.

Client
 Malachy Walsh & Partners/ Wexford County Council

Project
 Courstown Harbour Basin Dredging

Job/Exc No.
 15D0047

Compiled by
 R.Bangerter

CAD reference
 Courtown

Date
 09.08.15

Scale
 1:2000

Drawing No.
 Figure 7

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Plate 1: Aerial view of Courtown Harbour taken in the 1980s, showing the canalised nature of the channel connecting the harbour basin to the sea. Source: Tara View Hotel.



Plate 2: View looking south along spit of reclaimed land that forms the eastern side of the basin.



Plate 3: Brass propeller mounted as quayside furniture on the east side of the basin.



Plate 4: Admiralty anchor mounted as quayside furniture on the east side of the basin.



Plate 5: Admiralty anchor mounted as quayside furniture on the west side of the basin.



Plate 6: View looking southwest across to the section of quayside on the Northeast angle of the basin that has been reclaimed in the recent past and accommodates parking.



Plate 7: Modern footbridge at north end of basin. This marks the most northerly point of proposed dredging.



Plate 8: View looking west at the reclaimed and developed area to the north of the footbridge.



Plate 9: View looking southwest, highlighting the modern concrete lintel that is added to the base of the quay walls,



Plate 10: View looking south into the larger basin, highlighting the concrete lintels that run along the base of the quay walls.



Plate 11: View looking northeast across the modern pier ends at the seaward entrance to the Harbour, showing its steel-and-concrete construction, and highlighting the weathered nature of these works.



Plate 12: Detail from 1980s' photograph showing the basin drained. Source: Tara View Hotel.



Plate 13: Detail from 1980s' photograph showing dredging within the basin. Source: Tara View Hotel.

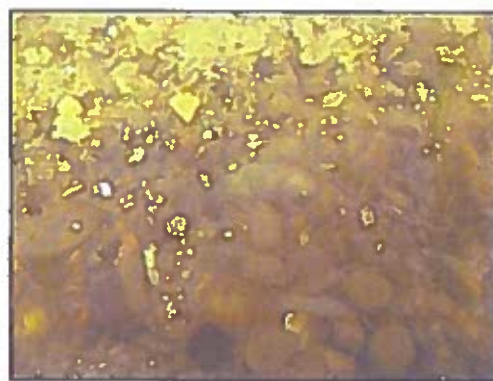


Plate 14: Detail from 1980s' photograph showing repair work to quayside stonework while the basin was drained. Source: Tara View Hotel.

Plate 15: Sequence of photographs showing further results of underwater assessment conducted. The photograph numbers are keyed to Figure 8, which shows the view direction of each image.



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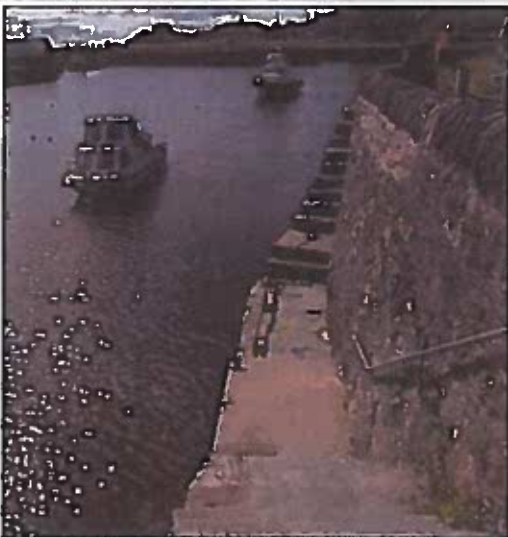
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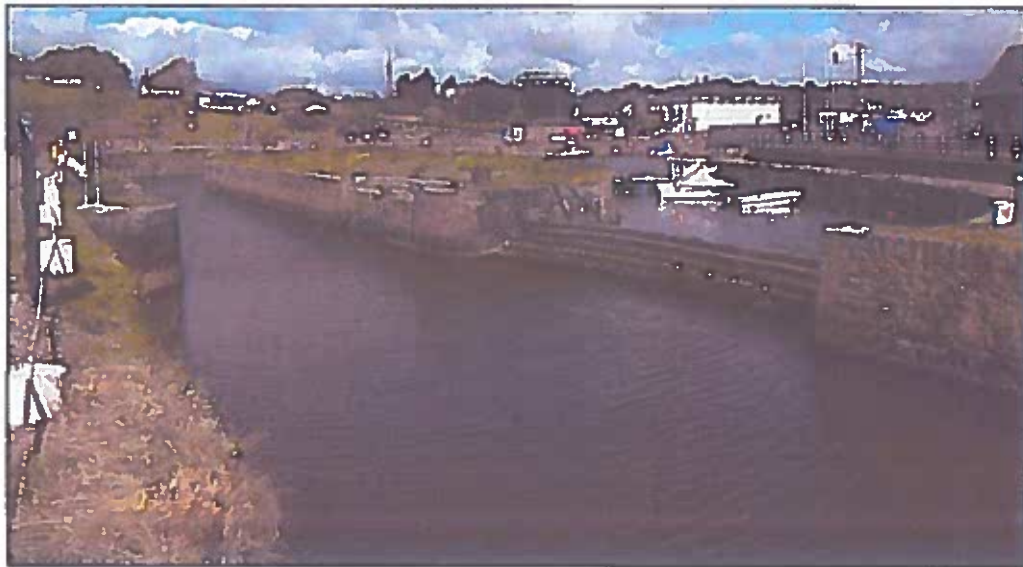
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Iron cannon on site of 17th-century
timber wreck discovered during
dredging programme
Waterford Harbour



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**Project Methodology Outline –
Response to IFI Queries**

Project: Courtown Harbour Dredging

Client: Wexford County Council

**Project No.: 15193
Document No.: 6008-B
Date: 06/01/2016**

PROJECT TITLE: Courtown Harbour Dredging

DOCUMENT TITLE: Project Methodology Outline – Response to IFI Queries

DOCUMENT No.: 15193-6008-B

CLIENT: Wexford County Council

PROJECT LOCATION: Courtown Harbour, Co. Wexford.

Rev	Date	Issue Description	By	Checked	Approved		
A	18/11/2015	Issued for Information	EL	PP	PP		
B	06/01/2016	Issued for Information	EL	PP	PP		
This Document Comprises of:		DCS	TOC	Text	Tables	Figures	Appendices

DOCUMENT ISSUED FOR:

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	Revised Pages Only Issued this Revision	<input checked="" type="checkbox"/>	Information Only	<input type="checkbox"/>	Construction
<input type="checkbox"/>		<input type="checkbox"/>	Client Approval	<input type="checkbox"/>	Final Issue

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1.0 Introduction

This document has been prepared in response to queries presented by Inland Fisheries Ireland in relation to the application by Wexford County Council for a foreshore licence to carry out maintenance dredging works within Courtown Harbour, Co. Wexford. It outlines the Project Methodology and includes proposed methods of handling fish fauna.

It is proposed to conduct the dredging of Courtown harbour primarily in the dry. This will have a number of advantages in terms of the project programme and in the minimising of potential environmental impact due to the works.

Drying of the harbour will be achieved by blocking the harbour channel with sand and dewatering the basin. Blocking of the channel is occasionally conducted by the Harbour Authority to protect the basin area from the ingress of wave action during storms and in the past it has been used to undertake dredging of the basin and works to the harbour walls.

This document includes a written description of the methodology and is accompanied by descriptive drawing (15193-5005) identifying locations of proposed activities.

2.0 Outline Methodology

1. The Owenavorrhagh River offshoot is to be blocked at junction between it and the original river way. This blockage point is shown as "Owenavorrhagh River Barrier No.1" on the accompanying drawing. The temporary barrier is to be constructed of one tonne sand bags wrapped with PVC liner.
2. An agreed flow will be allowed through the barrier. This flow will be provided by means of over-pumping. This flow will prevent the water behind "Owenavorrhagh River Barrier No.2" from becoming stagnant and will allow fish fauna to survive behind the barrier during the dredging works. All pump suction heads will be fitted with suitable fish screen to prevent entrance by fish fauna into the pump system.
3. A second barrier will be constructed at entrance of the Owenavorrhagh offshoot to the Harbour basin. This blockage point is shown as Owenavorrhagh River Barrier No. 2". Barrier No. 2 will be constructed similarly to Barrier No.1. Barrier No.2 will fully seal the harbour from the Owenavorrhagh river waters. A second pumping operation will be set up in front of Barrier No.2. It will be set to pump when the river reaches an agreed level behind the barrier. Similarly, this pump will be fitted with a fish screen to protect fish within the offshoot.
4. The pumps will be routinely inspected and maintained for the duration of the works to ensure constant flow of fresh water into the off-shoot.
5. Measures will be put in place to secure the river from the public for the duration of the works. The concerns of the IFI are understood in relation to members of the public taking fish from this section. This element will be included in the contract.
6. A contingency plan will be developed by the contractor for situations where the barrier to the harbour overflows to rescue any fish that overflow. This will include a water level alert system to notify the contractor that water levels are approaching the top level of the barrier. This will allow the contractor to take action to reduce water levels behind the barrier. A sump will be constructed on the harbour side of the barrier. This will be of sufficient size to capture overflowing fish and allow for manual extraction.
7. A 5x50m sump will be excavated at the location shown at the entrance of south westerly stream to the harbour basin. The sump will be used as a point for fish trapped in the harbour to migrate to during the drying out process. From here they can be extracted. The sump level is to be 0.2m below the proposed dredge level of -2.8mODM. The side slopes of the sump will have a gradient of 1:2 on all sides.

8. A third pumping point will be set up within the sump for the duration of the works. The sump will be used to over pump incoming stream water out of the harbour. This pump will be fitted with a fish screen to protect fish within the sump.
9. A 5m x 15m sump will be excavated on the Southern boundary of the harbour. This area has the lowest bed level in the harbour. It will be excavated to a depth of -3.5mODM. The side slopes of the sump will have a gradient of 1:2 on all sides. The sump will be used a recovery location for fish trapped in the harbour to be removed during the dewatering process. A permanent pump will be located at this location for any additional dewatering required during the works.
10. It is a possibility that low point pockets may collect fish within them. If this occurs fish will be extract immediately from these locations.
11. Once the harbour is prepared as described above, the harbour mouth will be blocked with a barrier constructed of sand excavated at the mouth.
12. The contractor is to liaise with the IFI on the pump start date and to facilitate the IFI in the removal of fish.
13. Once agreed with the IFI the pumping operations will then commence to dry out the harbour.
14. When the harbour has dried out sufficiently and all fish are safely removed in line an agreed methodology the dredging operations will commence.
15. Dredging operations are expected to take 6-8 weeks.
16. Dredge spoil will be moved to the south western corner of the harbour within reach of a long reach excavator.
17. It is proposed to use bulldozers to move dredge spoil to the south western corner of the harbour within reach of a long reach excavator positioned on the quayside. The spoil will be piled up in this area. It is then proposed to create a containing boundary around the spoil using large bulk bags filled with dredge spoil to contain the dredge spoil within a small area for removal into trucks for transport to the land disposal site.
18. With the harbour dewatered it will be possible to inspect the structural soundness of the existing harbour quay walls. Repairs will be carried out as required during this period.
19. Once this temporary storage area is constructed and the material placed in this area the harbour channel sand embankment and the northern stream blockade can be removed allowing water back into the harbour and use of the harbour to resume. Removal of the dredge spoil can be conducted using a long reach excavator from the quayside adjacent the spoil build up area. Once the loose spoil is removed the bags will be lifted from the harbour and the material inside disposed of similarly.

3.0 Drawing

Dwg 15193-5005 attached.



