



GALWAY COUNTY COUNCIL
Comhairle Chontae na Gaillimhe

**DUNKELLIN RIVER AND AGGARD STREAM
FLOOD RELIEF SCHEME**

WORKS DESCRIPTION DRAWINGS

SEPTEMBER 2014



TOBIN
Consulting Engineers



DUNKELLIN RIVER AND AGGARD STREAM FLOOD RELIEF SCHEME

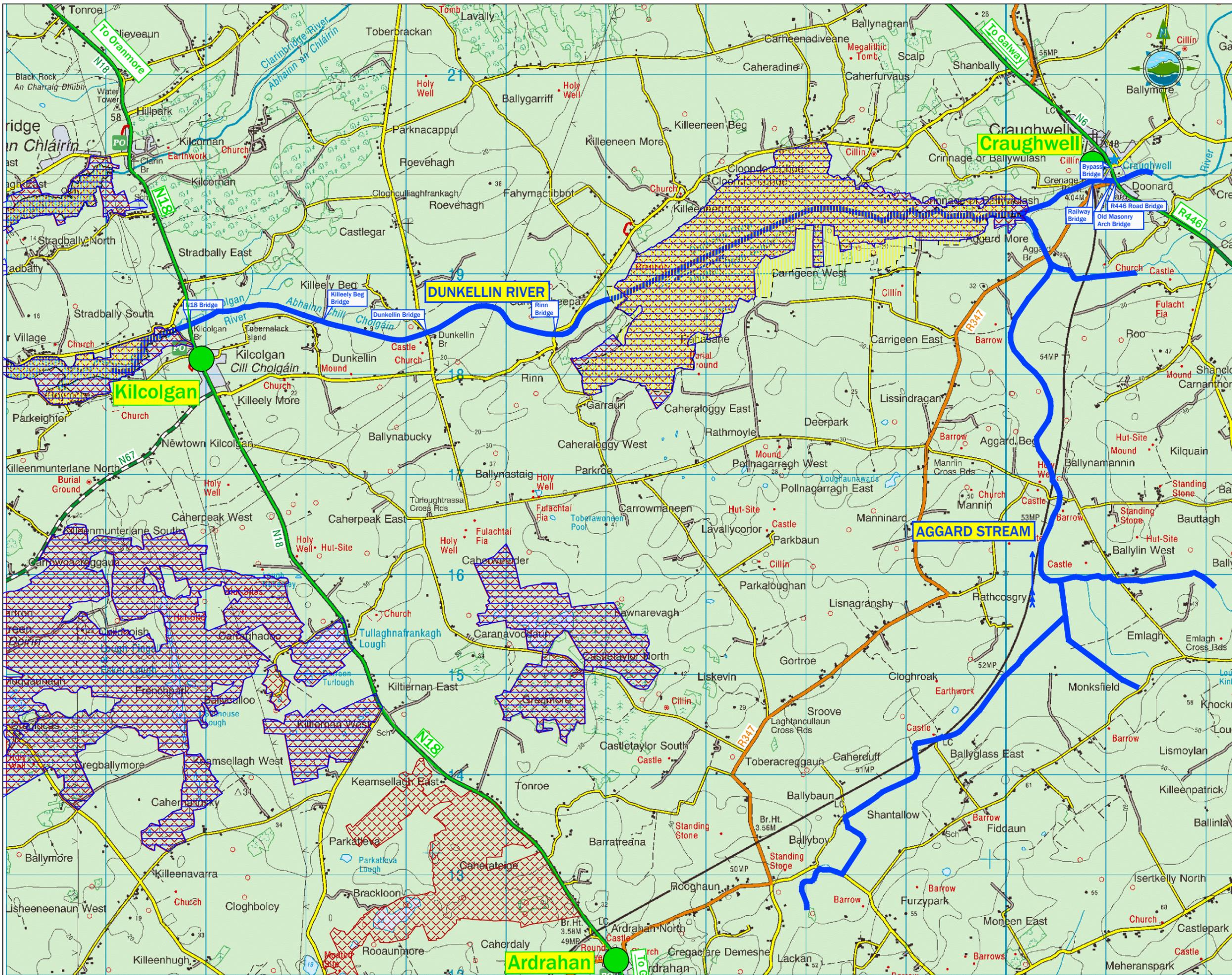
WORKS DESCRIPTION DRAWINGS

SEPTEMBER 2014



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Consulting Engineers

DRAWING	Rev	DESCRIPTION
6408-2200	A	Study Area Location
6408-2201	B	November 2009 Flood Event Estimated Flood Extents Based on Aerial Photography after the Event
6408-2202	F	Layout Plan and Longitudinal Section of Existing channel & Proposed Works Sheet 1 of 7
6408-2203	G	Layout Plan and Longitudinal Section of Existing channel & Proposed Works Sheet 2 of 7
6408-2204	G	Layout Plan and Longitudinal Section of Existing channel & Proposed Works Sheet 3 of 7
6408-2205	D	Layout Plan and Longitudinal Section of Existing channel & Proposed Works Sheet 4 of 7
6408-2206	C	Layout Plan and Longitudinal Section of Existing channel & Proposed Works Sheet 5 of 7
6408-2207	C	Layout Plan and Longitudinal Section of Existing channel & Proposed Works Sheet 6 of 7
6408-2208	F	Layout Plan and Longitudinal Section of Existing channel & Proposed Works Sheet 7 of 7
6408-2210	C	Proposed Works at Bridges on the Dunkellin River Sheet 1 of 2
6408-2211	C	Proposed Works at Bridges on the Dunkellin River Sheet 2 of 2
6408-2215	E	Proposed Works at Bridges on the Dunkellin River Sheet
6408-2216	D	Predicted Water Levels for 5%-ile Flows Pre & Post Flood Alleviation Works
6408-2217	D	Predicted Water Levels for 10%-ile Flows Pre & Post Flood Alleviation Works
6408-2218	D	Predicted Water Levels for Mean Annual Flow Conditions Pre & Post Flood Alleviation Works
6408-2220	A	Layout Plan of Proposed Works Along Aggard Stream
6408-2221	C	Locations of Proposed Culvert Replacement along Aggard Stream Sheet 1 of 2
6408-2222	C	Locations of Proposed Culvert Replacement along Aggard Stream Sheet 2 of 2
6408-2250	A	Location of Site Notices



LEGEND

- RIVER 
- SPECIAL PROTECTION AREAS (SPA's) 
- PROPOSED NATURAL HERITAGE AREAS (pNHA's) 
- NATURAL HERITAGE AREAS (NHA's) 
- SPECIAL AREAS OF CONSERVATION (SAC's) 

NOTES:

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5. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD.

Rev	Date	Description	By	Chkd.
A	Oct/11	First Issue	PMF	MMCD

Client: Galway County Council

Project: Dunkellin River and Aggard Stream Flood Relief Scheme

Title: Study Area Location

Scale @ A1: 1:17,500
Scale @ A3: 1:35,000

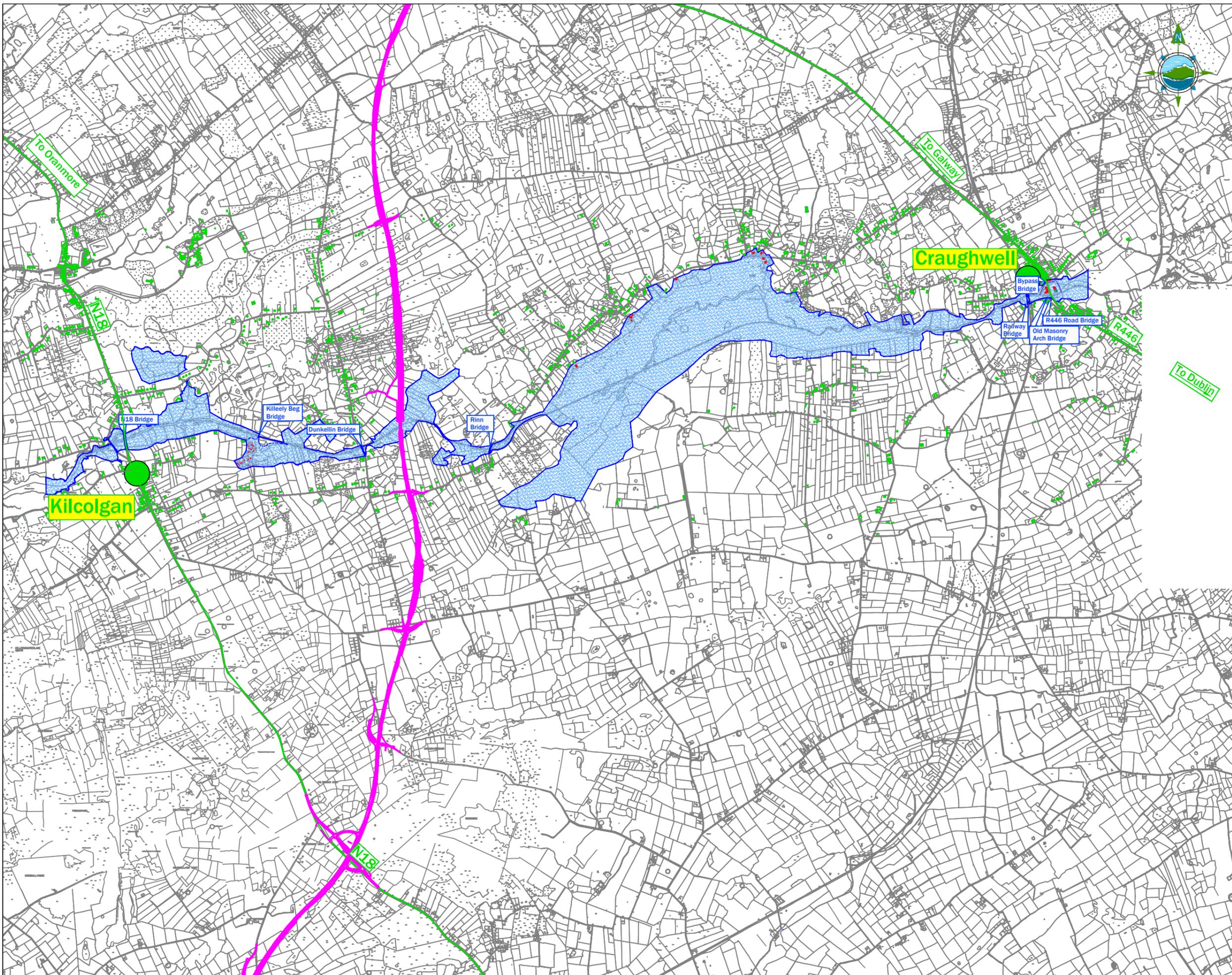
Prepared by: PMF
Checked: MMCD
Date: Oct 2011

Project Director: Michael Garrick



TOBIN
Patrick J. Tobin & Co. Ltd.
TOBIN Consulting Engineers,
Fairgreen House, Fairgreen Road,
Galway, Ireland.
tel: +353-(0)91-565211
fax: +353-(0)91-565398
e-mail: galway@tobin.ie
www.tobin.ie

Drawing No.: 6408-2200
Revision: A



LEGEND

Estimated flood extent based on aerial photography after the November 2009 event



Proposed M18 Motorway



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Rev	Date	Description	By	Chkd.
B	July/14	Issue	CK	MMcD

Client: Galway County Council

Project: Dunkellin River and Aggard Stream Flood Relief Scheme

Title: November 2009 Flood Event
Estimated Flood Extents
Based on Aerial Photography
after the Event

Scale @ A1: 1:17,500
Scale @ A3: 1:35,000

Prepared by: PFM
Checked: MMcD
Date: Oct 2011

Project Director: Michael Garrick

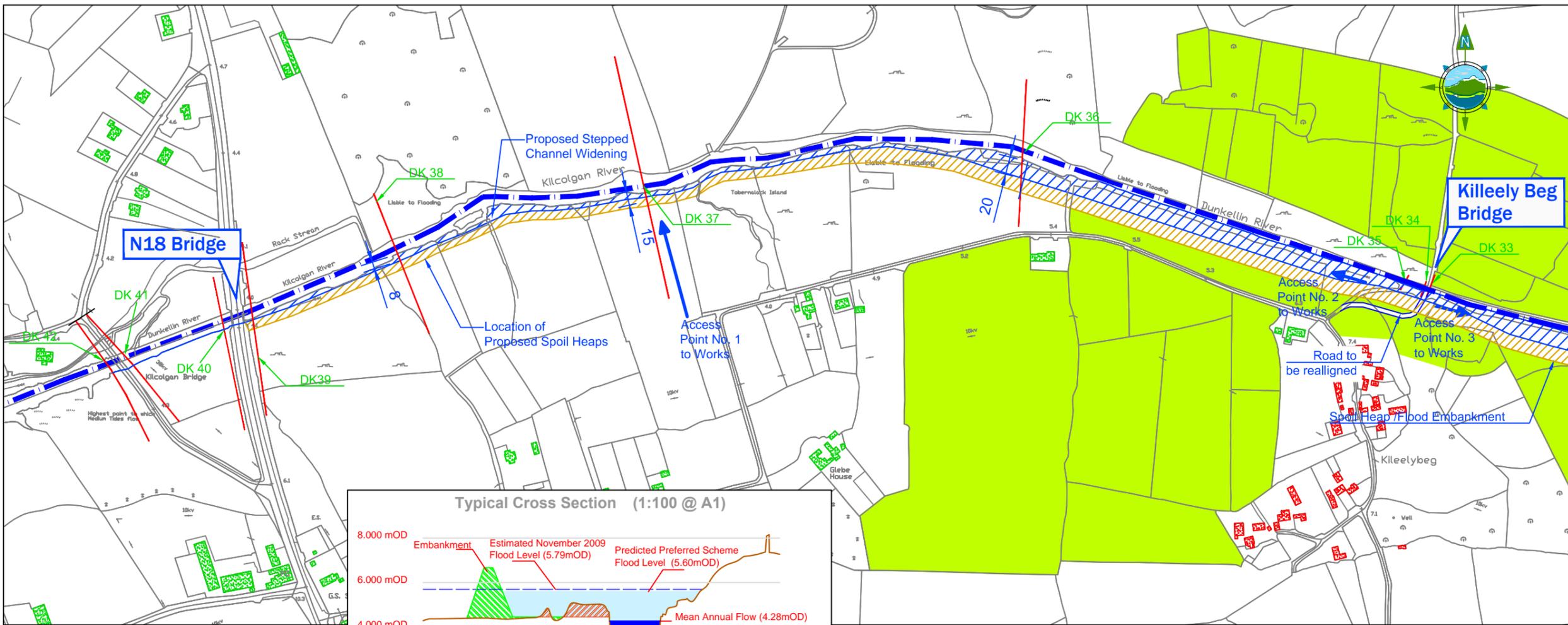
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TOBIN Consulting Engineers,
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Galway, Ireland.
tel: +353-(0)91-565211
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e-mail: galway@tobin.ie
www.tobin.ie

Drawing No.: 6408-2201

Revision: B

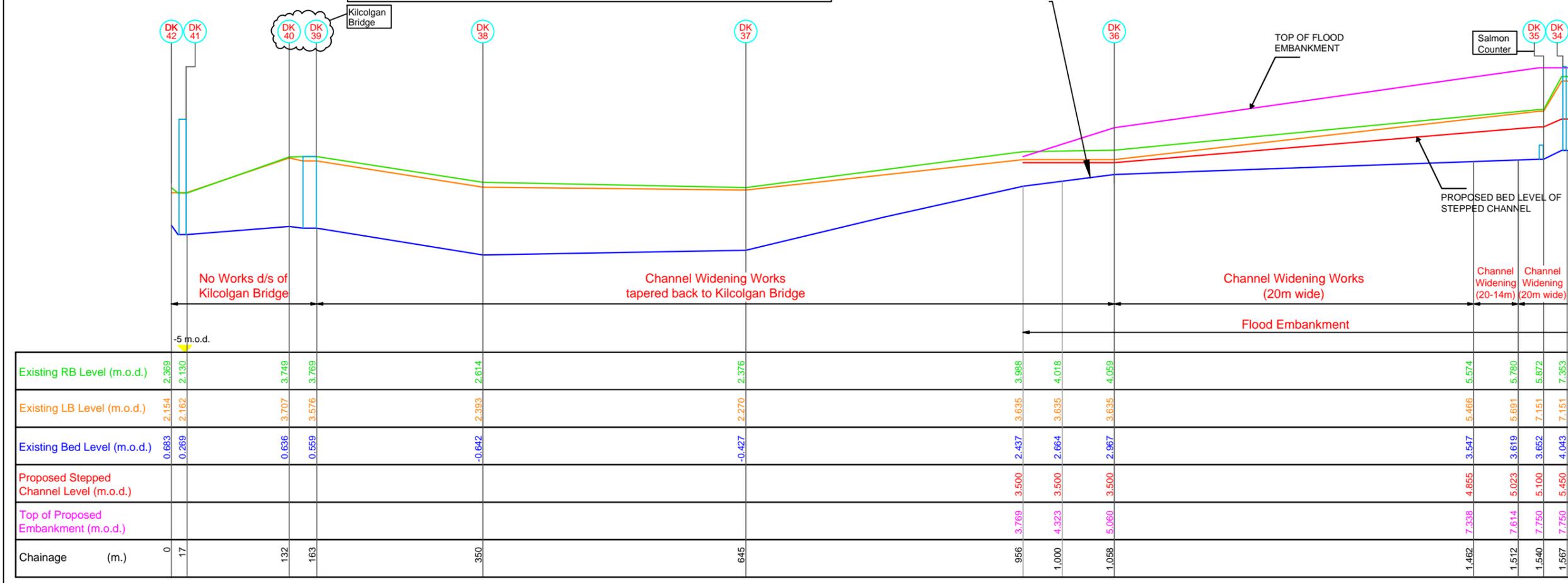
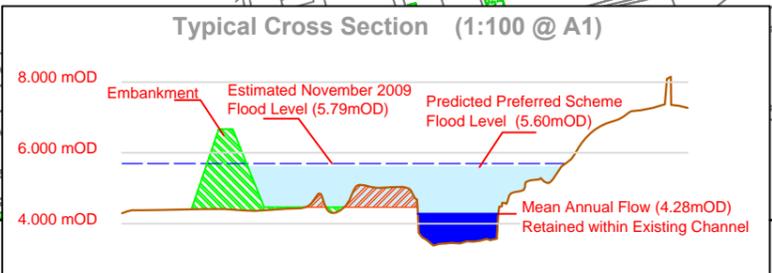


LEGEND

- RIVER: Blue dashed line
- Cross Section Reference: Red line with DK label (e.g., DK 38)
- Proposed Stepped Channel Widening: Blue hatched area
- Location of Proposed Spoil Heaps / Flood Embankments: Yellow hatched area
- Location of Proposed Spoil Spreading: Green hatched area

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Rev	Date	Description	By	Chkd.
F	Sep/14	Issue	CK	MMcD



Client: Galway County Council

Project: Dunkellin River and Aggard Stream Flood Relief Scheme

Title: Layout Plan & Longitudinal Section of Existing channel and Proposed works
Sheet 1 of 7

Scale @ A1: H - 1:2500 V - 1:100
Scale @ A3: H - 1:5000 V - 1:200

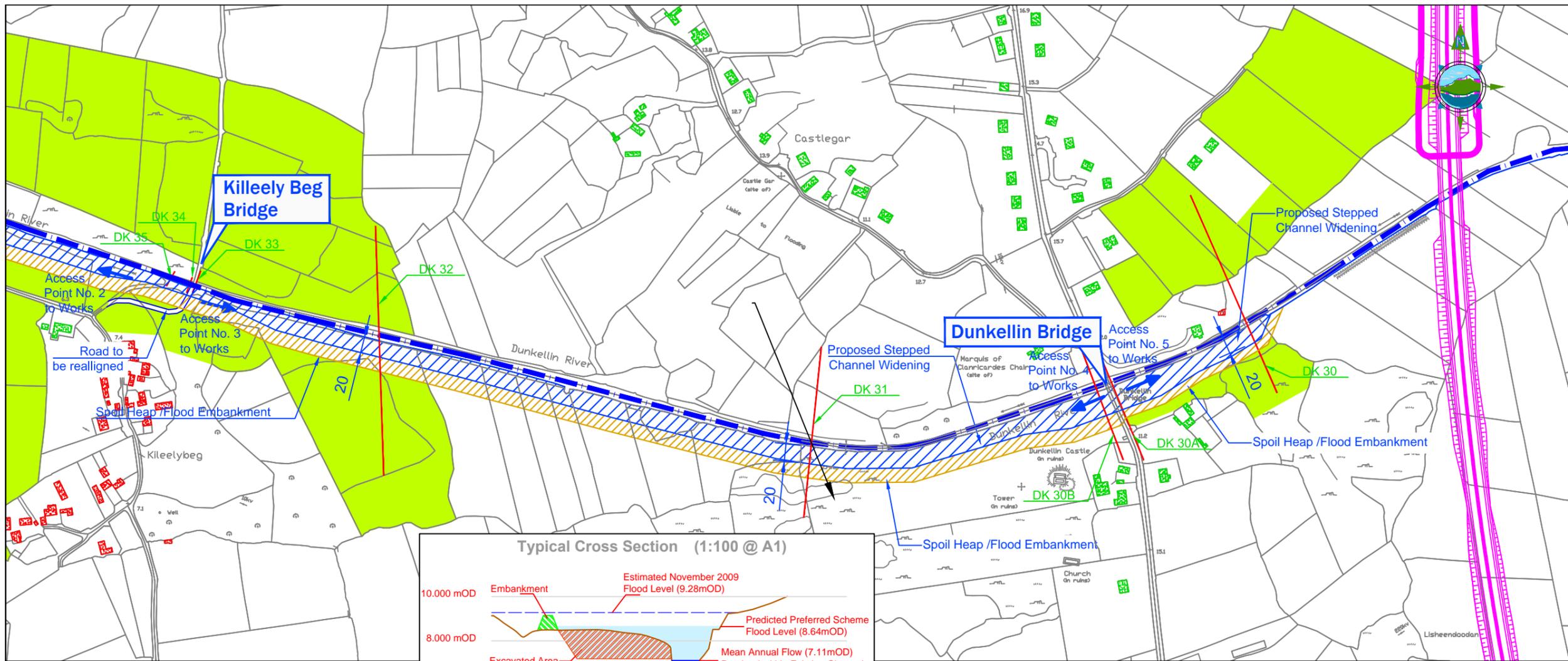
Prepared by: PFM
Checked: MMcD
Date: Oct 2011

Project Director: Michael Garrick

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Drawing No.: 6408-2202 F

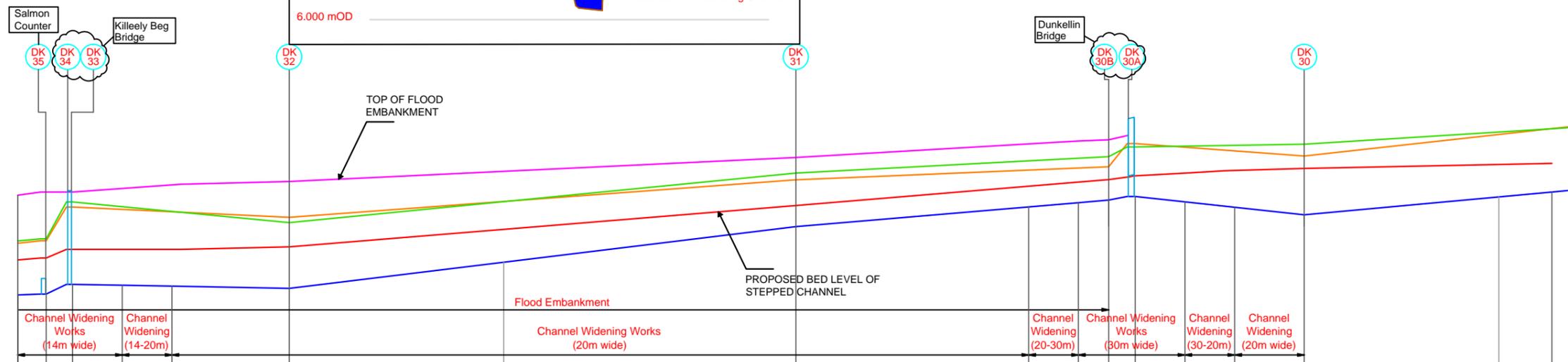
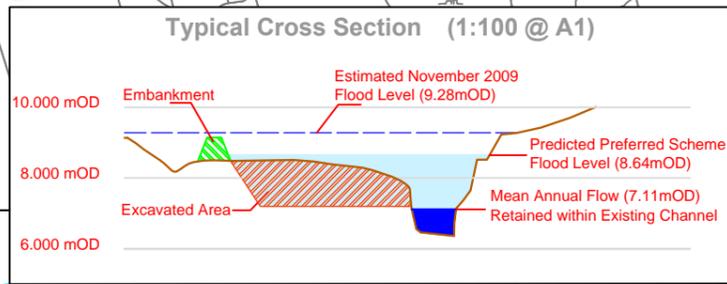


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- Proposed Stepped Channel Widening: Blue hatched area
- Location of Proposed Spoil Heaps / Flood Embankments: Yellow hatched area
- Location of Proposed Spoil Spreading: Green hatched area
- Proposed M18 Motorway: Pink hatched area

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Rev	Date	Description	By	Chkd.
G	Sept/14	Issue	CK	MMcD



	1,512	1,540	1,567	1,567	1,667	1,785	2,000	2,294	2,528	2,578	2,608	2,635	2,685	2,735	2,804	3,000	3,053
Existing RB Level (m.o.d.)	5.780	5.872	7.353	7.182	6.971	6.521	7.364	8.513	9.002	9.107	9.170	9.593	9.595	9.627	9.671	10.063	10.298
Existing LB Level (m.o.d.)	5.691	7.151	7.151	7.056	6.960	6.735	7.364	8.237	8.631	8.716	8.766	9.699	9.552	9.405	9.200	10.063	10.298
Existing Bed Level (m.o.d.)	3.619	3.652	4.043	4.006	3.970	3.883	4.931	6.359	7.154	7.323	7.426	7.572	7.355	7.137	6.833	7.552	7.748
Proposed Stepped Channel Level (m.o.d.)	5.023	5.100	5.450	5.450	5.450	5.550	6.252	7.210	7.983	8.148	8.250	8.400	8.508	8.613	8.700	8.857	8.900
Top of Proposed Embankment (m.o.d.)	7.614	7.750	7.750	7.892	8.035	8.170	8.590	9.140	9.686	9.802	9.850	10.014	10.014	10.014	10.014	10.014	10.014
Chainage (m.)	1,512	1,540	1,567	1,567	1,667	1,785	2,000	2,294	2,528	2,578	2,608	2,635	2,685	2,735	2,804	3,000	3,053

Client: Galway County Council

Project: Dunkellin River and Aggard Stream Flood Relief Scheme

Title: Layout Plan & Longitudinal Section of Existing channel and Proposed works
Sheet 2 of 7

Scale @ A1: H - 1:2500 V - 1:100
Scale @ A3: H - 1:5000 V - 1:200

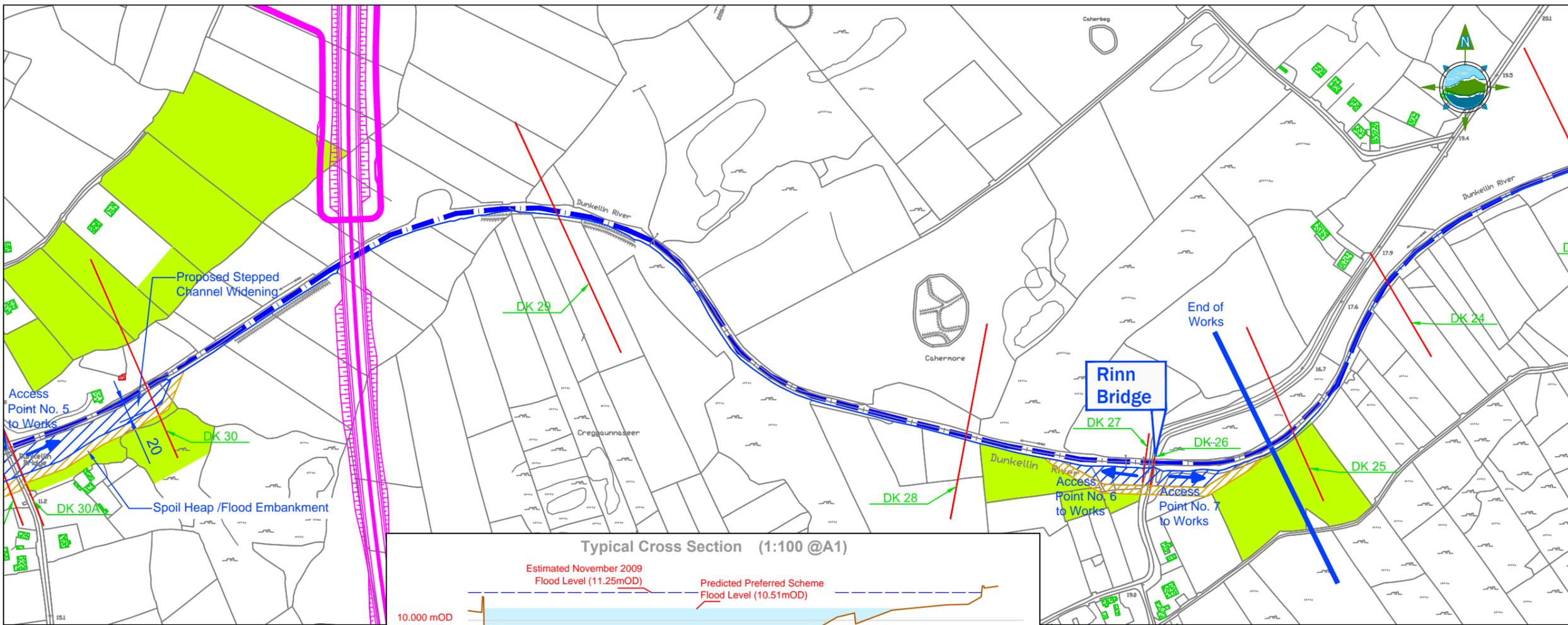
Prepared by: PFM Checked: MMcD Date: Oct 2011

Project Director: Michael Garrick

Drawing Status:

TOBIN Consulting Engineers,
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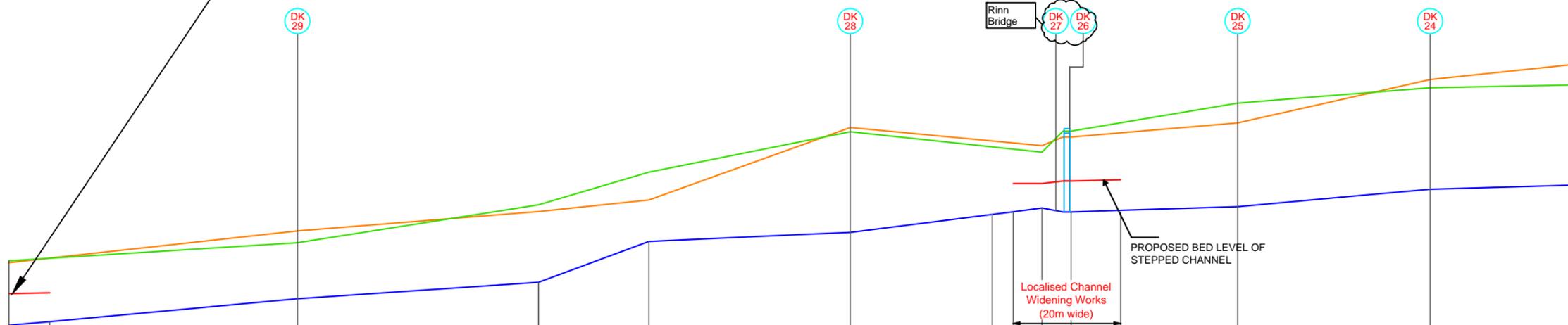
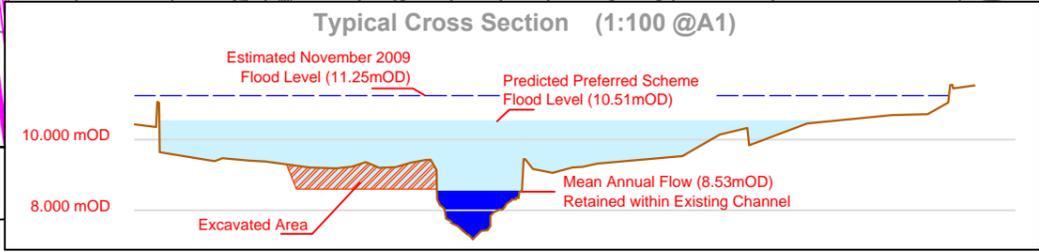
Drawing No.: 6408-2203 G



LEGEND

- RIVER
- Cross Section Reference
- Proposed Stepped Channel Widening
- Location of Proposed Spoil Heaps
- Location of Proposed Spoil Spreading
- Proposed M18 Motorway

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Chainage (m.)	3,053	3,302	3,544	3,655	3,858	4,000	4,021	4,050	4,079	4,129	4,247	4,440
Existing RB Level (m.o.d.)	10.298	10.919	12.443	13.751	15.382	15.012	14.680	14.556	15.406	15.741	16.527	17.152
Existing LB Level (m.o.d.)	10.298	11.395	12.172	12.634	15.548	15.012	14.931	14.822	15.167	15.337	15.736	17.477
Existing Bed Level (m.o.d.)	7.748	8.664	9.323	10.969	11.333	12.052	12.160	12.312	12.155	12.220	12.370	13.070
Proposed Stepped Channel Level (m.o.d.)	8.900					13.300	13.300	13.300	13.400	13.450		

Rev	Date	Description	By	Chkd.
G	Sept'14	Issue	CK	MMcD

Client: Galway County Council

Project: Dunkellin River and Aggard Stream Flood Relief Scheme

Title: Layout Plan & Longitudinal Section of Existing channel and Proposed works
Sheet 3 of 7

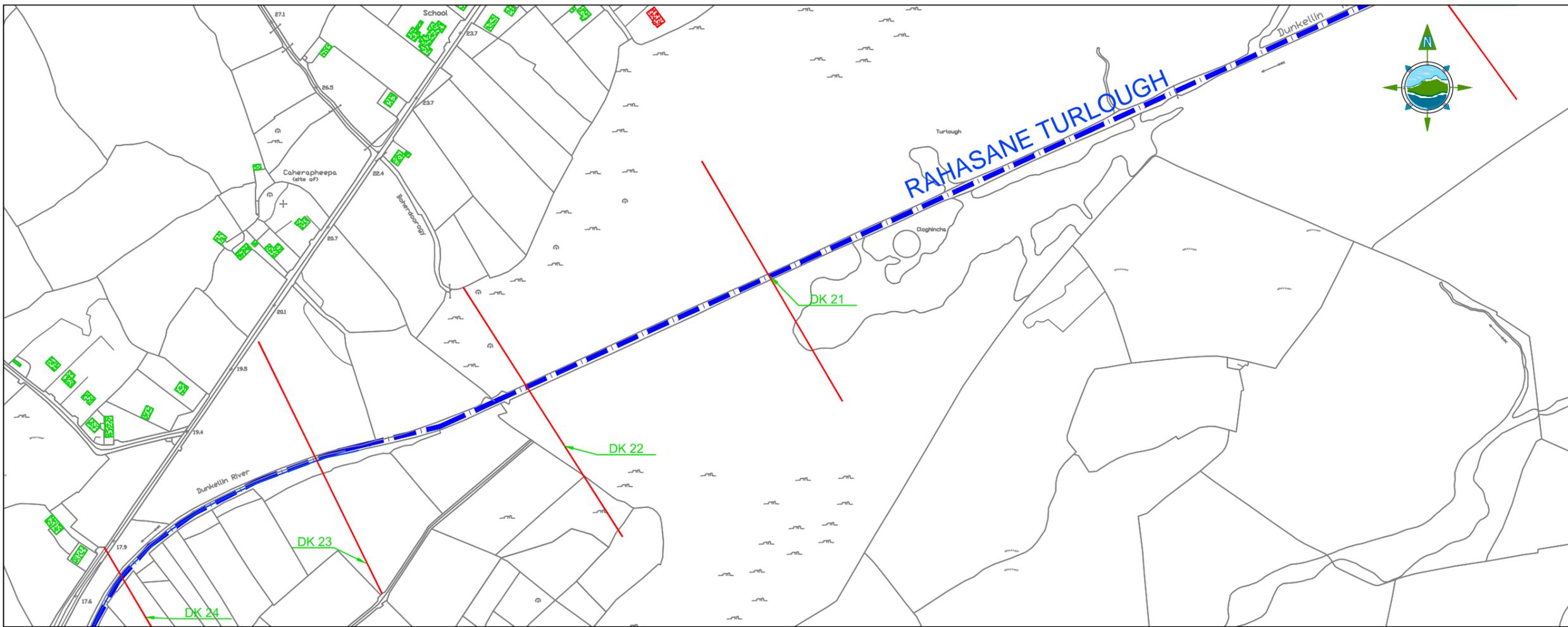
Scale @ A1: H - 1:2500 V - 1:100
Scale @ A3: H - 1:5000 V - 1:200

Prepared by: PMF
Checked: MMcD
Date: Oct 2011

Project Director: Michael Garrick

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Drawing No.: 6408-2204 G

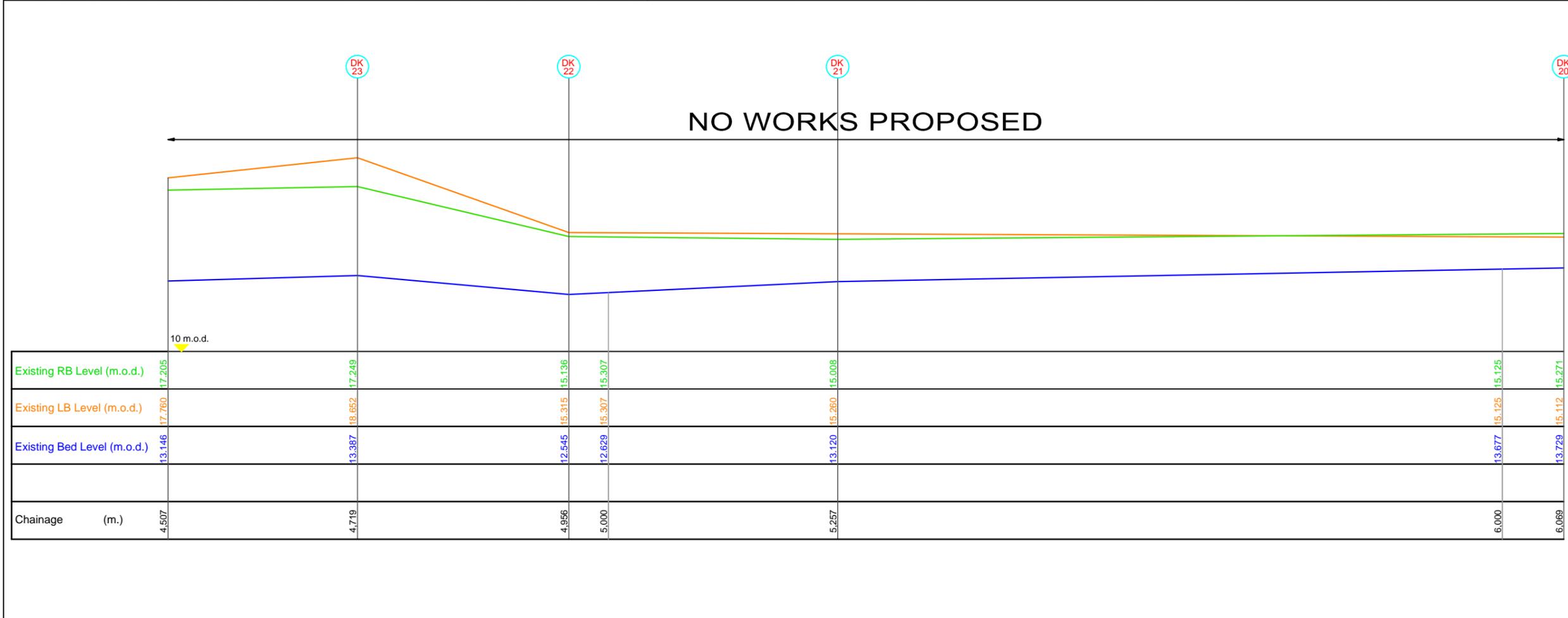


LEGEND

- RIVER
- Cross Section Reference
- Proposed Stepped Channel Widening
- Location of Proposed Spoil Heaps
- Location of Proposed Spoil Spreading

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Rev	Date	Description	By	Chkd.
D	Sept'13	Issue	CK	MMcD



Client: Galway County Council

Project: Dunkellin River and Aggard Stream Flood Relief Scheme

Title: Layout Plan & Longitudinal Section of Existing channel and Proposed works
Sheet 4 of 7

Scale @ A1: H - 1:2500 V - 1:100
Scale @ A3: H - 1:5000 V - 1:200

Prepared by: PMF
Checked: MMcD
Date: Oct 2011

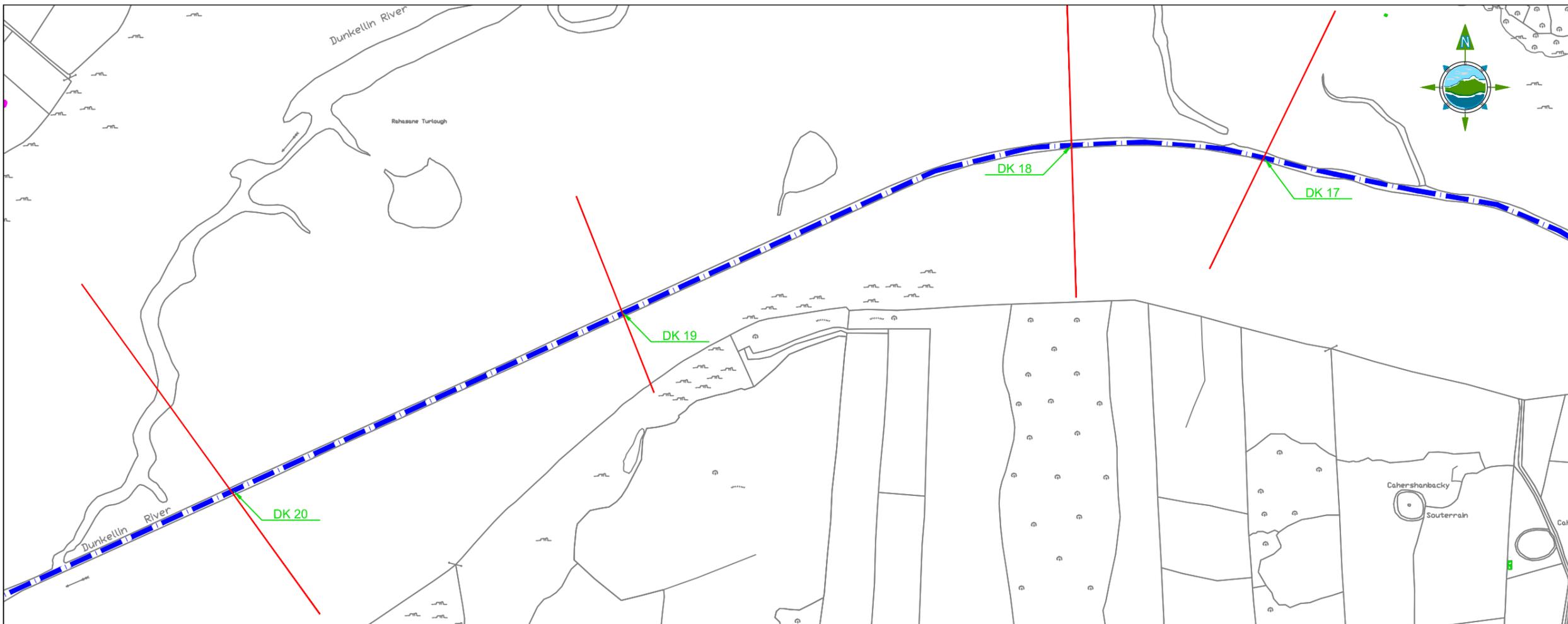
Project Director: Michael Garrick

Drawing Status:

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tel: +353-(0)91-565211
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Drawing No.: 6408-2205

Revision: D



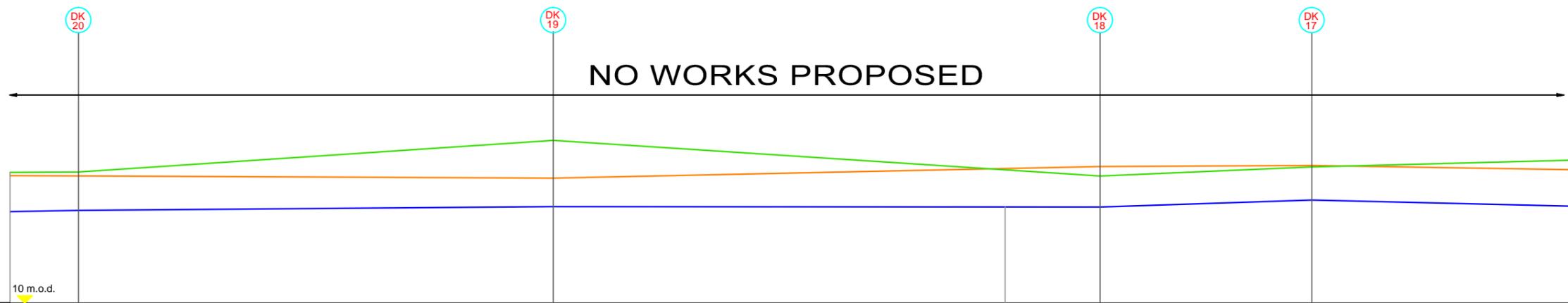
LEGEND

RIVER

Cross Section Reference

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Rev	Date	Description	By	Chkd.
C	Sept'13	Issue	CK	MMcD



Chainage (m.)	6,000	6,069	6,546	7,000	7,095	7,308
Existing RB Level (m.o.d.)	15.125	15.271	16.534	15.410	15.103	15.474
Existing LB Level (m.o.d.)	15.125	15.112	17.249	15.410	15.491	15.526
Existing Bed Level (m.o.d.)	13.677	13.729	13.878	13.865	13.862	14.146

Client: Galway County Council

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Title: Layout Plan & Longitudinal Section of Existing channel and Proposed works
Sheet 5 of 7

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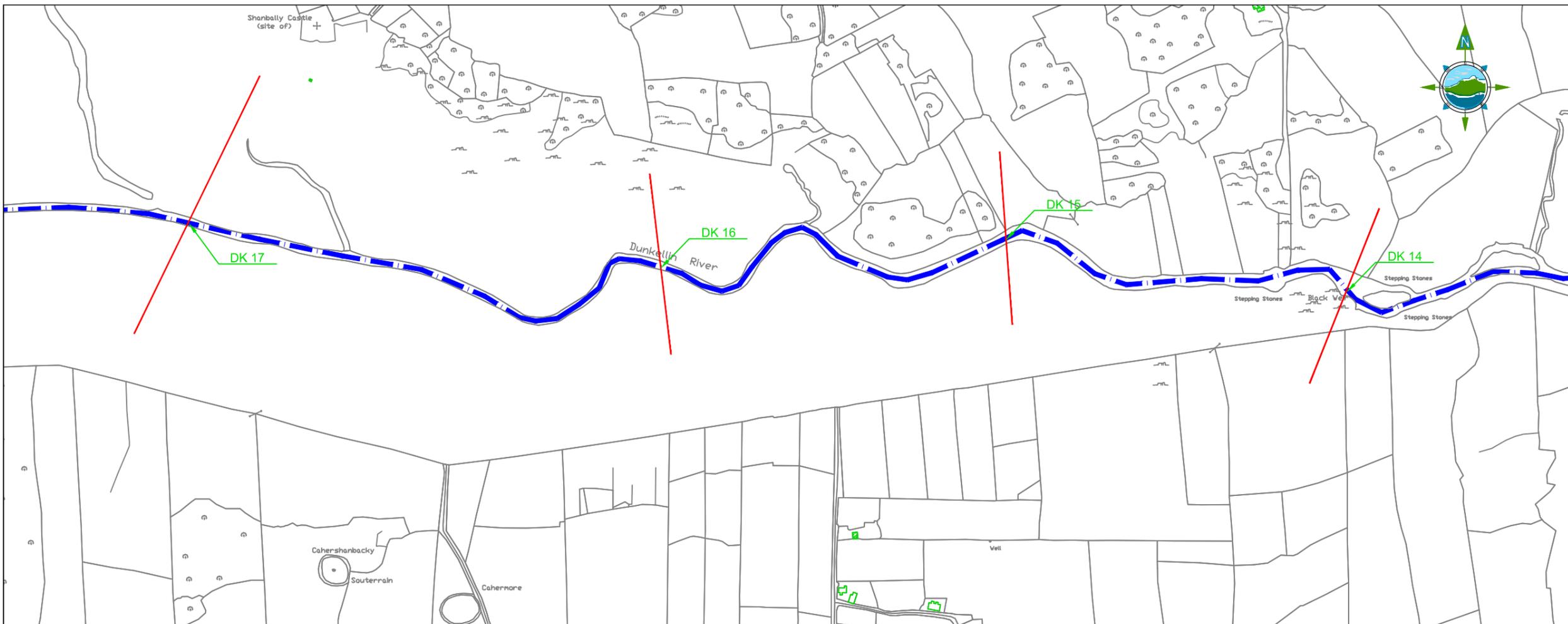
Prepared by: PMF
Checked: MMcD
Date: Oct 2011

Project Director: Michael Garrick

Drawing Status:

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Drawing No.: **6408-2206** **C**



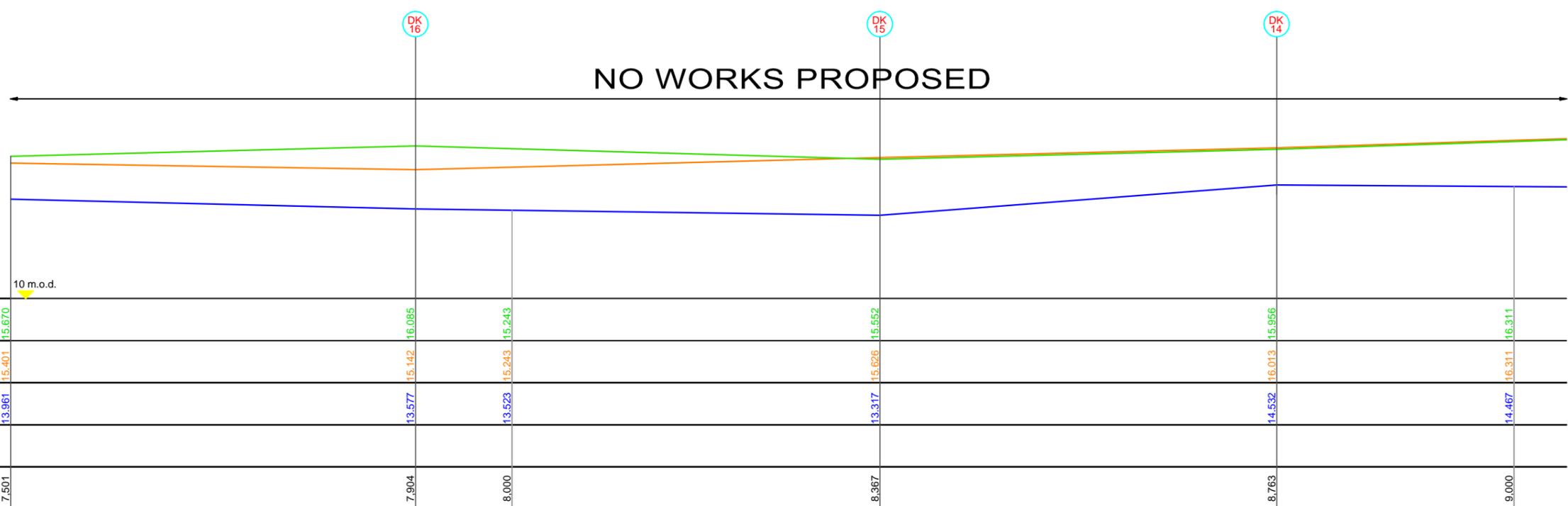
LEGEND

RIVER

Cross Section Reference

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Title: Layout Plan & Longitudinal Section of Existing channel and Proposed works
Sheet 6 of 7

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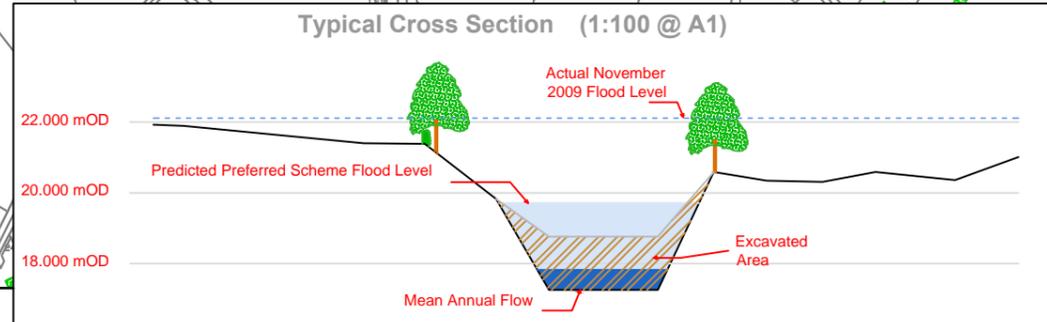
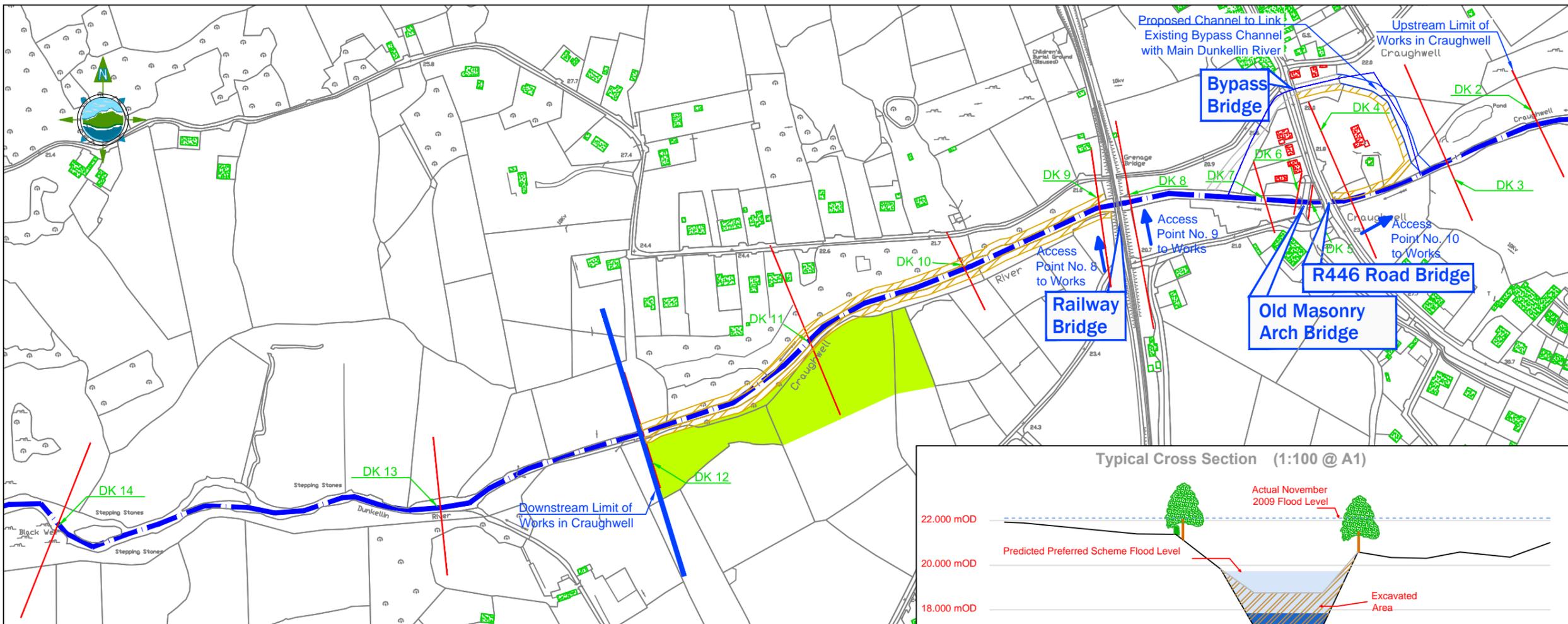
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Drawing No.: **6408-2207** **C**



LEGEND

RIVER

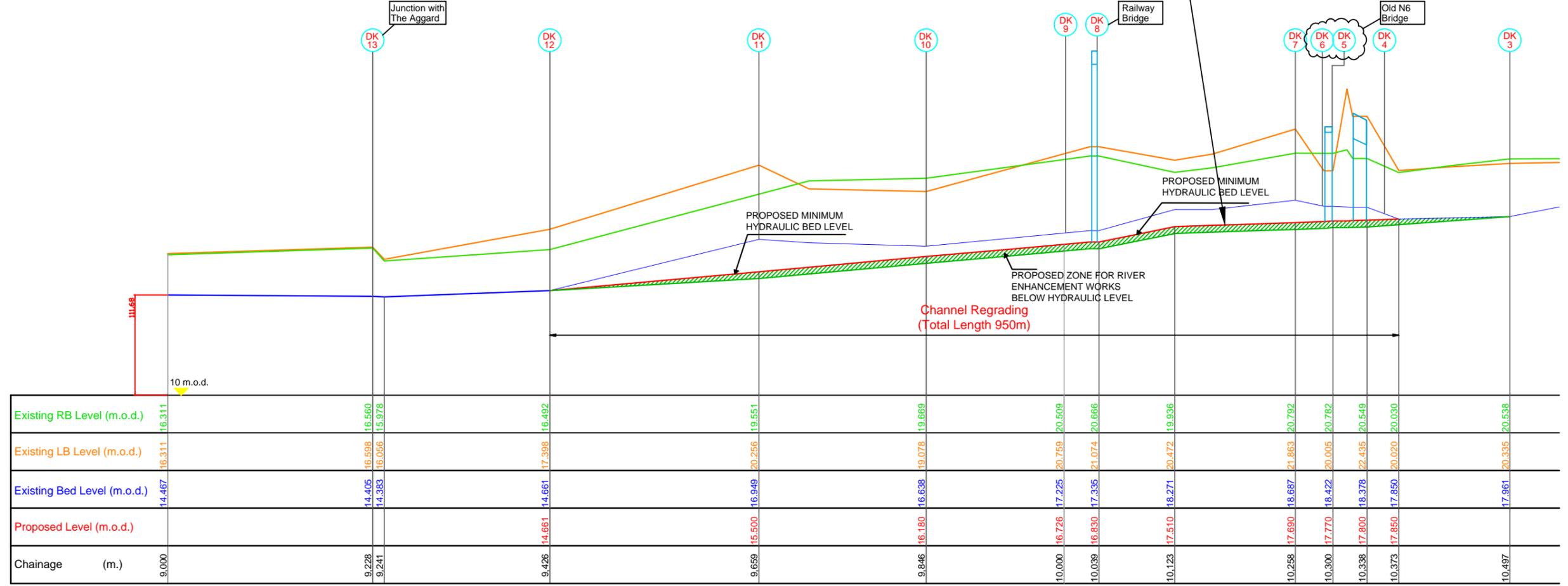
Cross Section Reference

Location of Proposed Spoil Heaps

Location of Proposed Spoil Spreading

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Title: Layout Plan & Longitudinal Section of Existing channel and Proposed works
Sheet 7 of 7

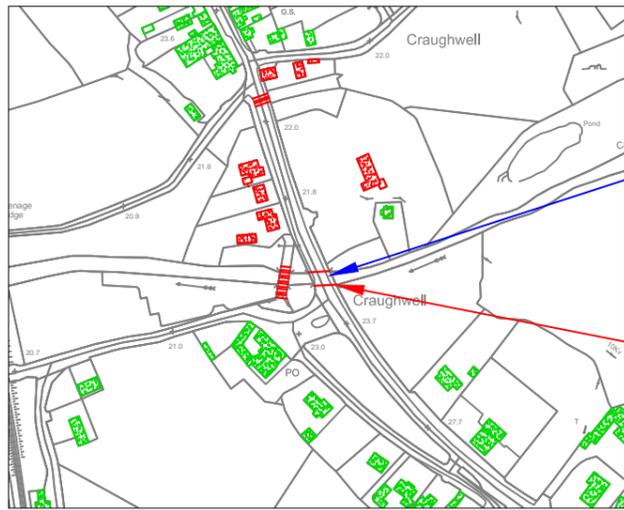
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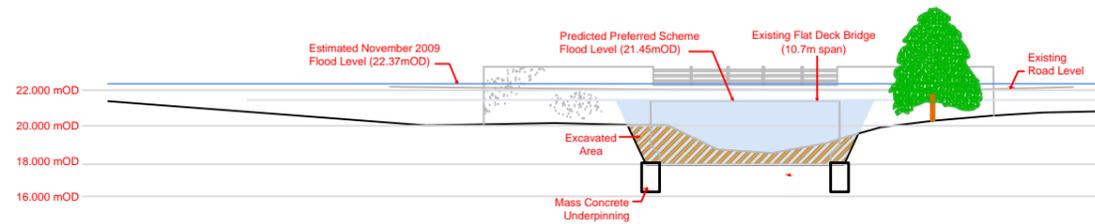
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Drawing No.: 6408-2208 F



Main R446 Bridge

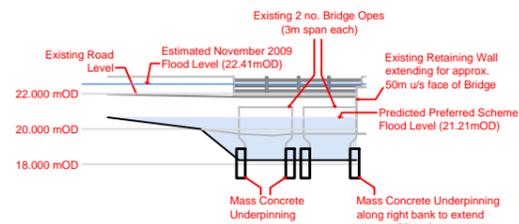
Mass Concrete Underpinning



Main R446 Bridge

Bypass Bridge

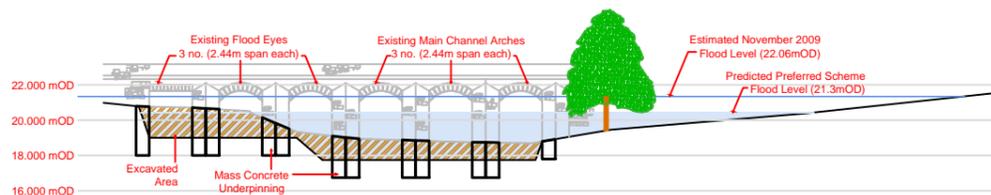
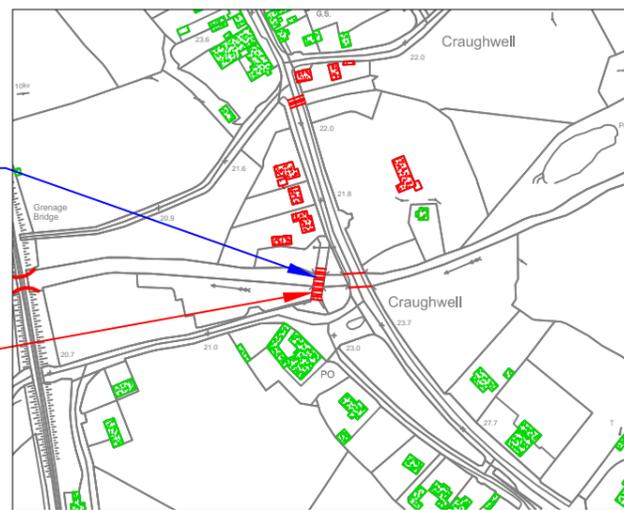
Mass Concrete Underpinning



Bypass Channel Bridge

Old Masonry Arch Bridge

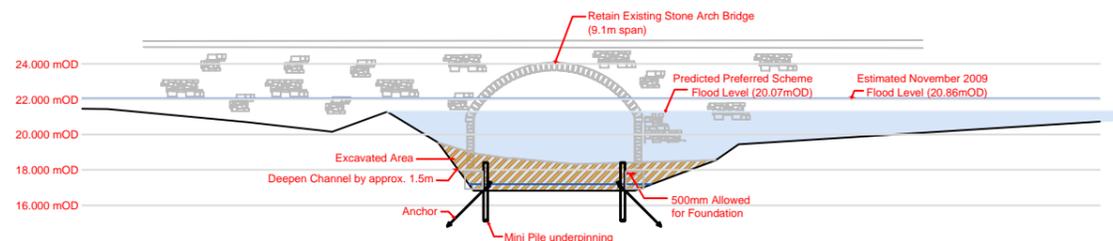
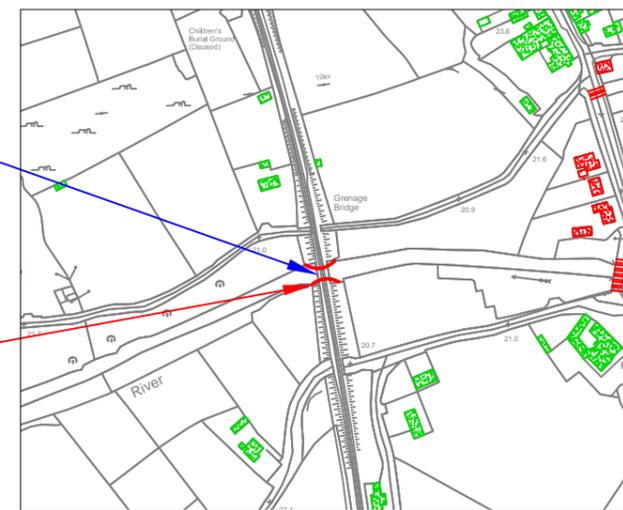
Mass Concrete Underpinning



Old Masonry Arch Pedestrian Bridge

Railway Bridge

Mini Pile Underpinning



Railway Bridge

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- ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD.

Rev	Date	Description	By	Chkd.
C	Sept/14	Issue	CK	MMcD

Client: Galway County Council

Project: Dunkellin River and Aggard Stream Flood Relief Scheme

Title: Proposed Works at Bridges on the Dunkellin River Sheet 1 of 2

Scale @ A1: Elevation 1:200 Plan 1:2500
 Scale @ A3: Elevation 1:400 Plan 1:5000

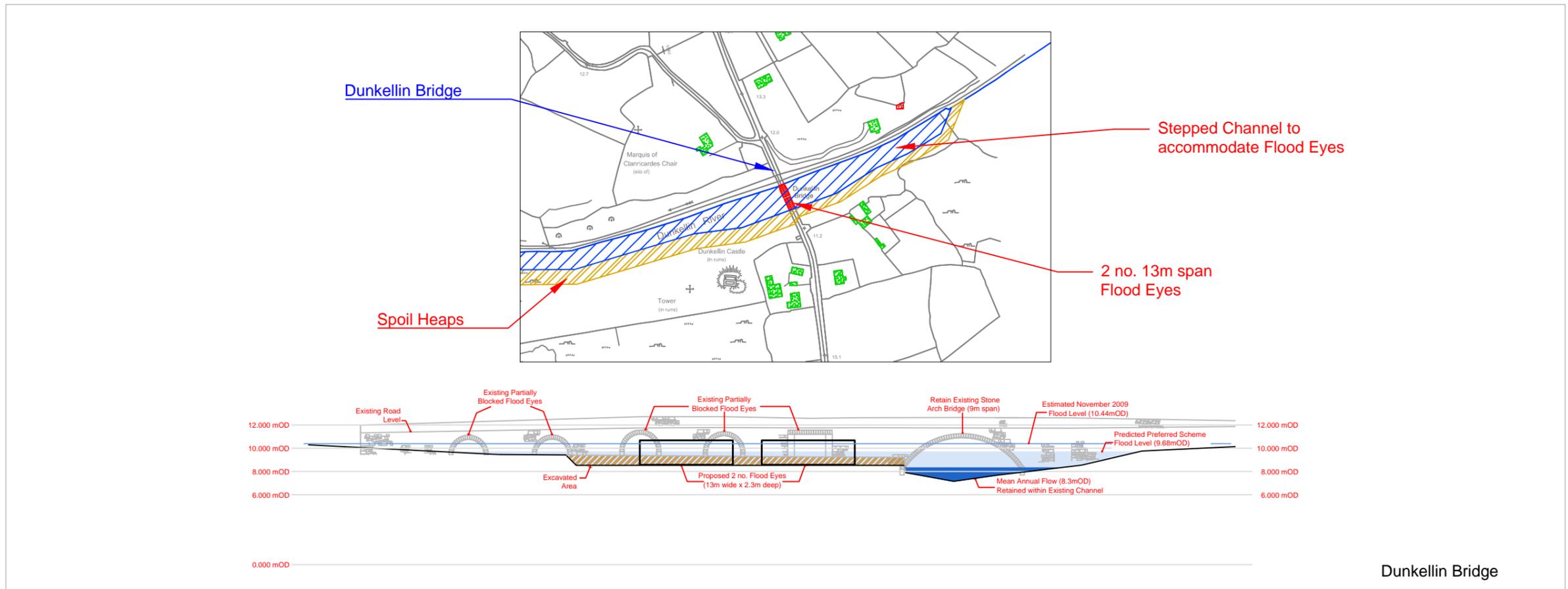
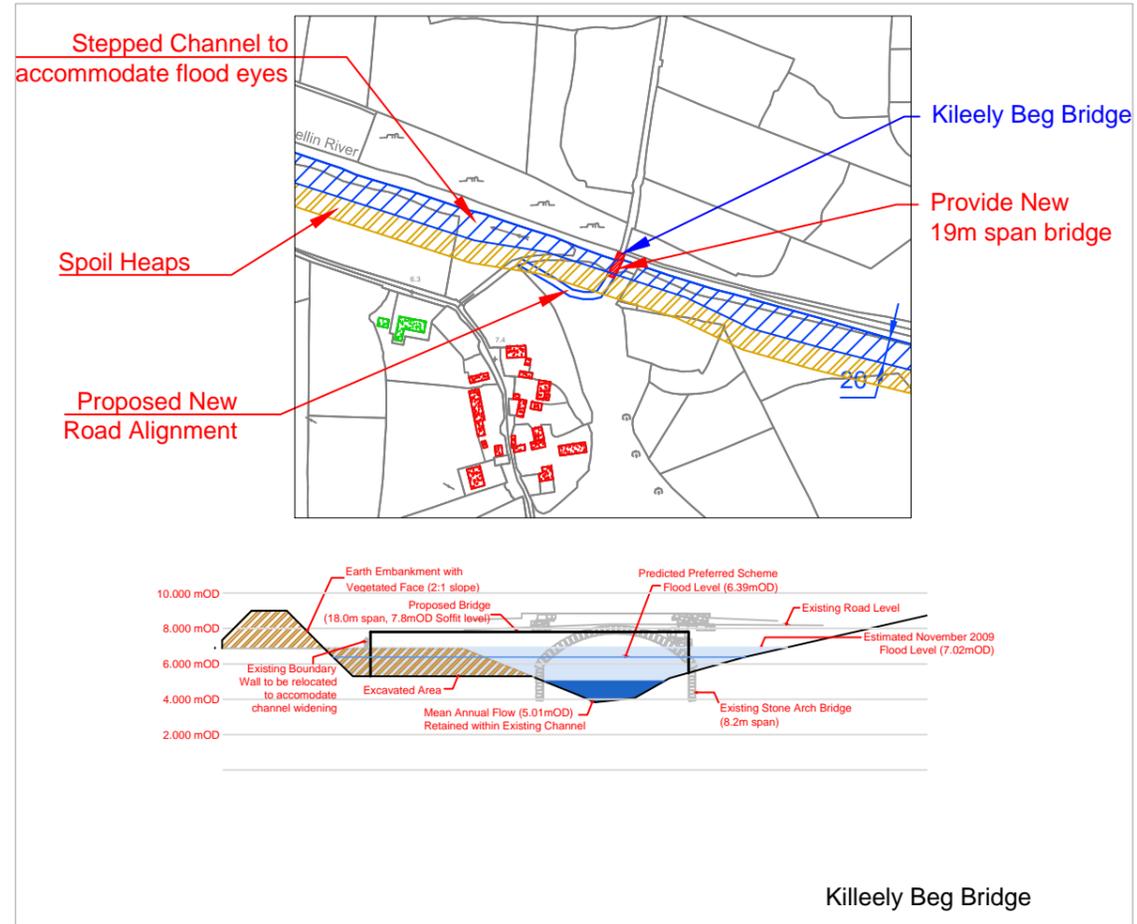
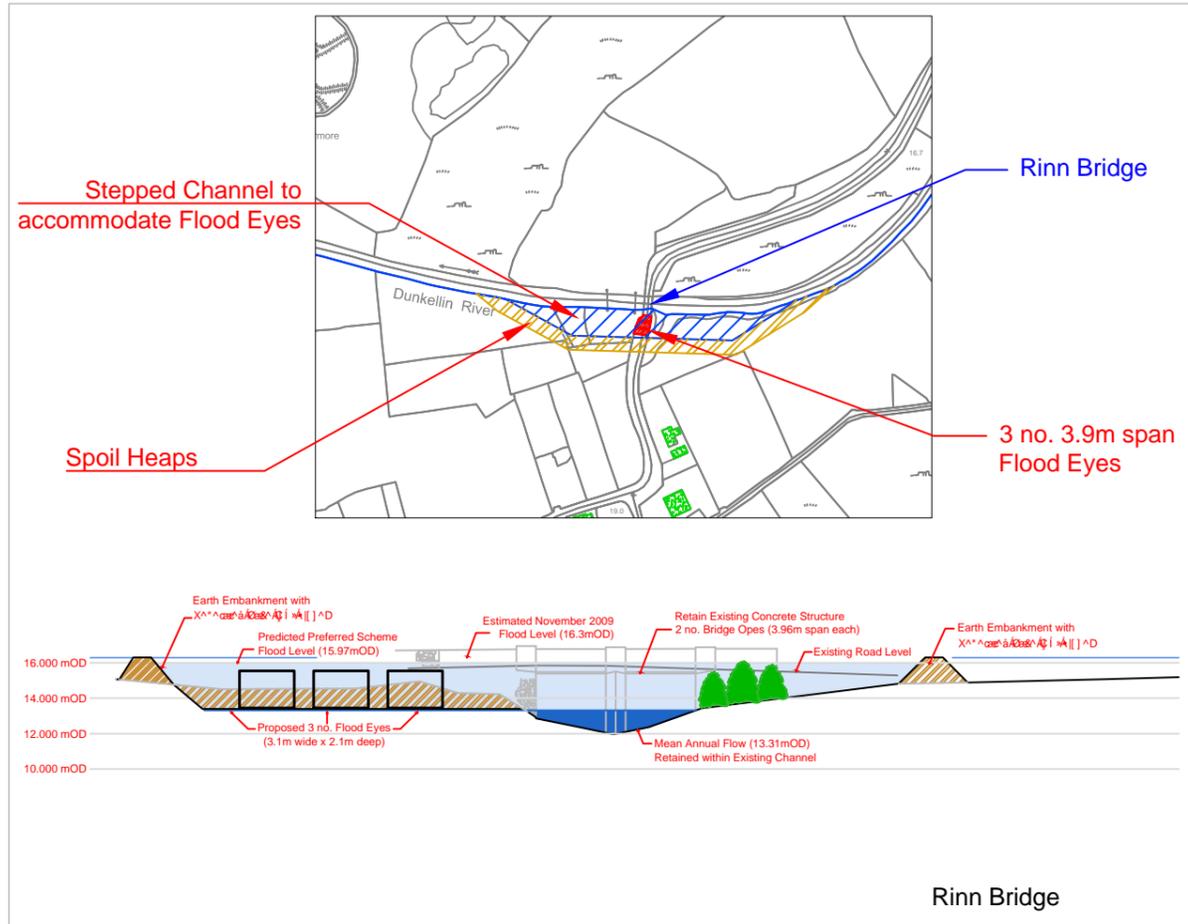
Prepared by: PMF
 Checked: MMcD
 Date: Oct 2011

Project Director: Michael Garrick

Drawing Status:

TOBIN
 Patrick J. Tobin & Co. Ltd.
 TOBIN Consulting Engineers,
 Fairgreen House, Fairgreen Road,
 Galway, Ireland.
 tel: +353-(0)91-565211
 fax: +353-(0)91-565398
 e-mail: galway@tobin.ie
 www.tobin.ie

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 - ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD.

Rev	Date	Description	By	Chkd.
C	Sept/14	Issue	CK	MMcD

Client: Galway County Council

Project: Dunkellin River and Aggard Stream Flood Relief Scheme

Title: Proposed Works at Bridges on the Dunkellin River Sheet 2 of 2

Scale @ A1: Elevation 1:200 Plan 1:2500
Scale @ A3: Elevation 1:400 Plan 1:5000

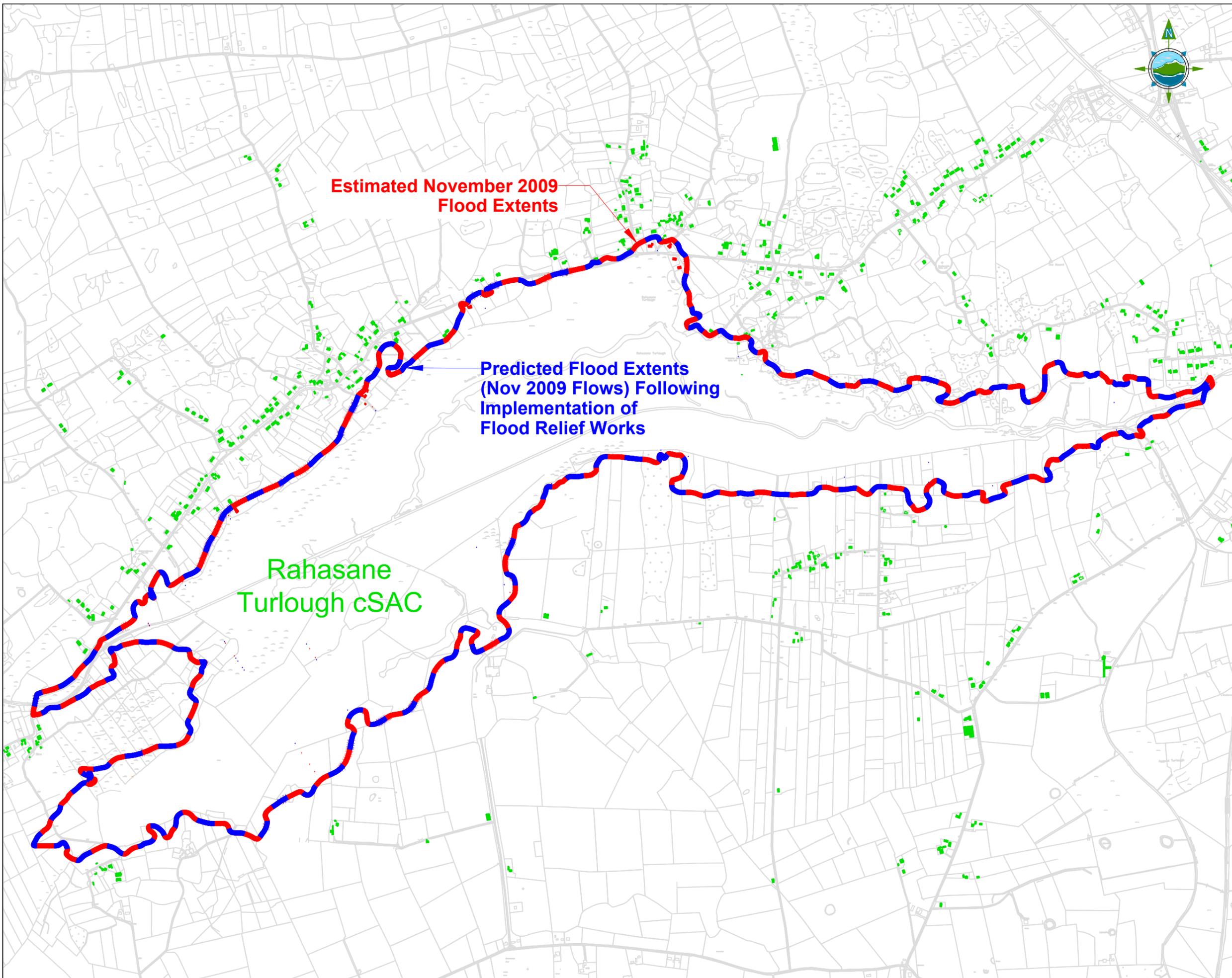
Prepared by: PMF
Checked: MMcD
Date: Oct 2011

Project Director: Michael Garrick

Drawing Status:

TOBIN
Patrick J. Tobin & Co. Ltd.
TOBIN Consulting Engineers,
Fairgreen House, Fairgreen Road,
Galway, Ireland.
tel: +353-(0)91-565211
fax: +353-(0)91-565398
e-mail: galway@tobin.ie
www.tobin.ie

Drawing NO.: 6408-2211 C



**Estimated November 2009
Flood Extents**

**Predicted Flood Extents
(Nov 2009 Flows) Following
Implementation of
Flood Relief Works**

**Rahasane
Turlough cSAC**

NOTES:

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Rev	Date	Description	By	Chkd.
E	July/14	Issue	CK	MMcD

Client: Galway County Council

Project: Dunkellin River and Aggard Stream Flood Relief Scheme

Title: Predicted Water Levels for November 2009 flood event Pre & Post Flood Alleviation Works

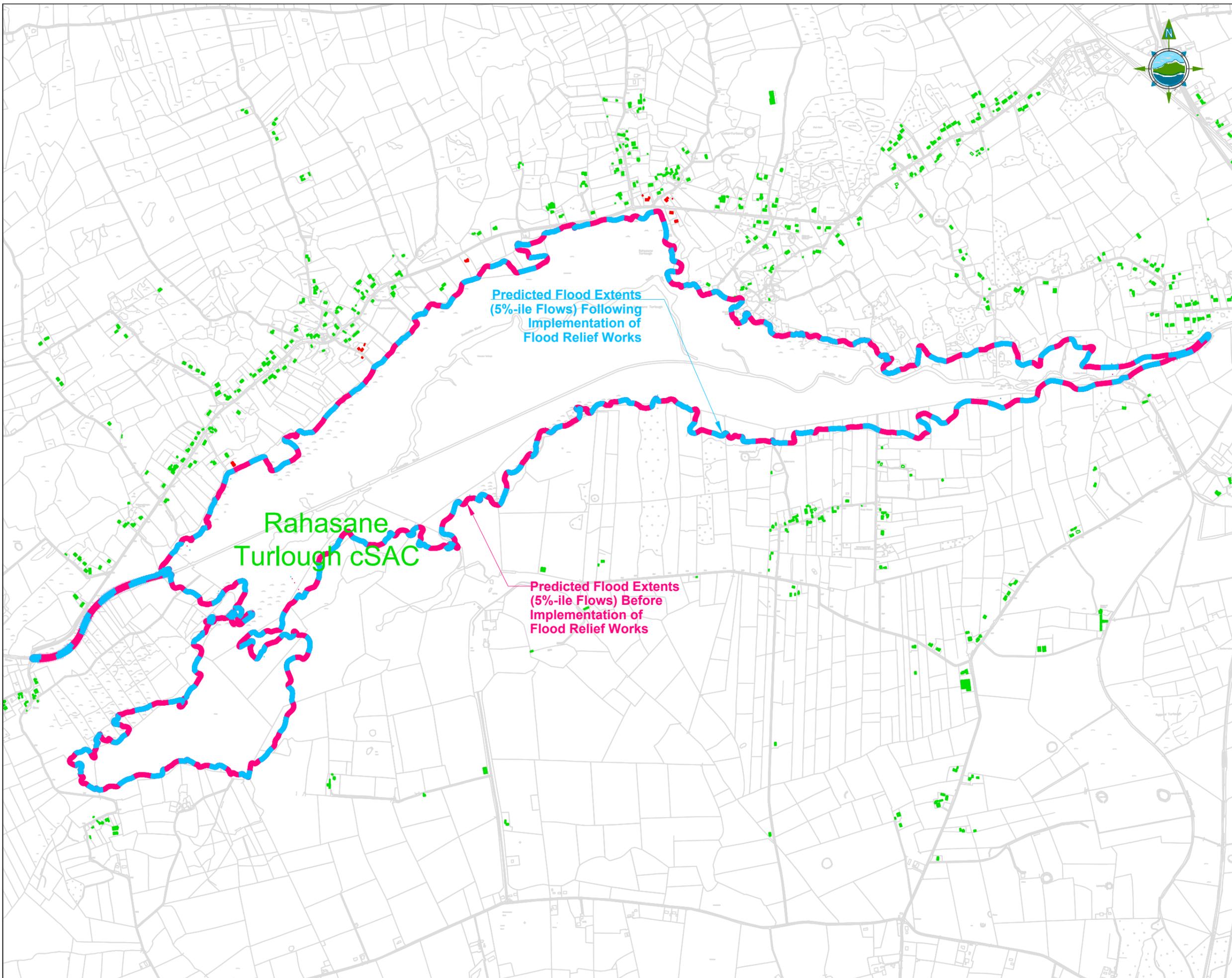
Scale @ A1: 7,500
Scale @ A3: 15,000

Prepared by: PMF
Checked: MMcD
Date: October 2011

Project Director: Michael Garrick
Drawing Status:

TOBIN
Patrick J. Tobin & Co. Ltd.
TOBIN Consulting Engineers,
Fairgreen House, Fairgreen Road,
Galway, Ireland.
tel: +353-(0)91-565211
fax: +353-(0)91-565398
e-mail: galway@tobin.ie
www.tobin.ie

Drawing No.: **6408-2215** E



Predicted Flood Extents
(5%-ile Flows) Following
Implementation of
Flood Relief Works

Rahasane
Turlough cSAC

Predicted Flood Extents
(5%-ile Flows) Before
Implementation of
Flood Relief Works

NOTES:

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5. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD.

Rev	Date	Description	By	Chkd.
D	July/14	Issue	CK	MMcD

Client: Galway County Council

Project: Dunkellin River and Aggard Stream Flood Relief Scheme

Title: Predicted Water Levels for 5%-ile Flows Pre & Post Flood Alleviation Works

Scale @ A1: 7,500
Scale @ A3: 15,000

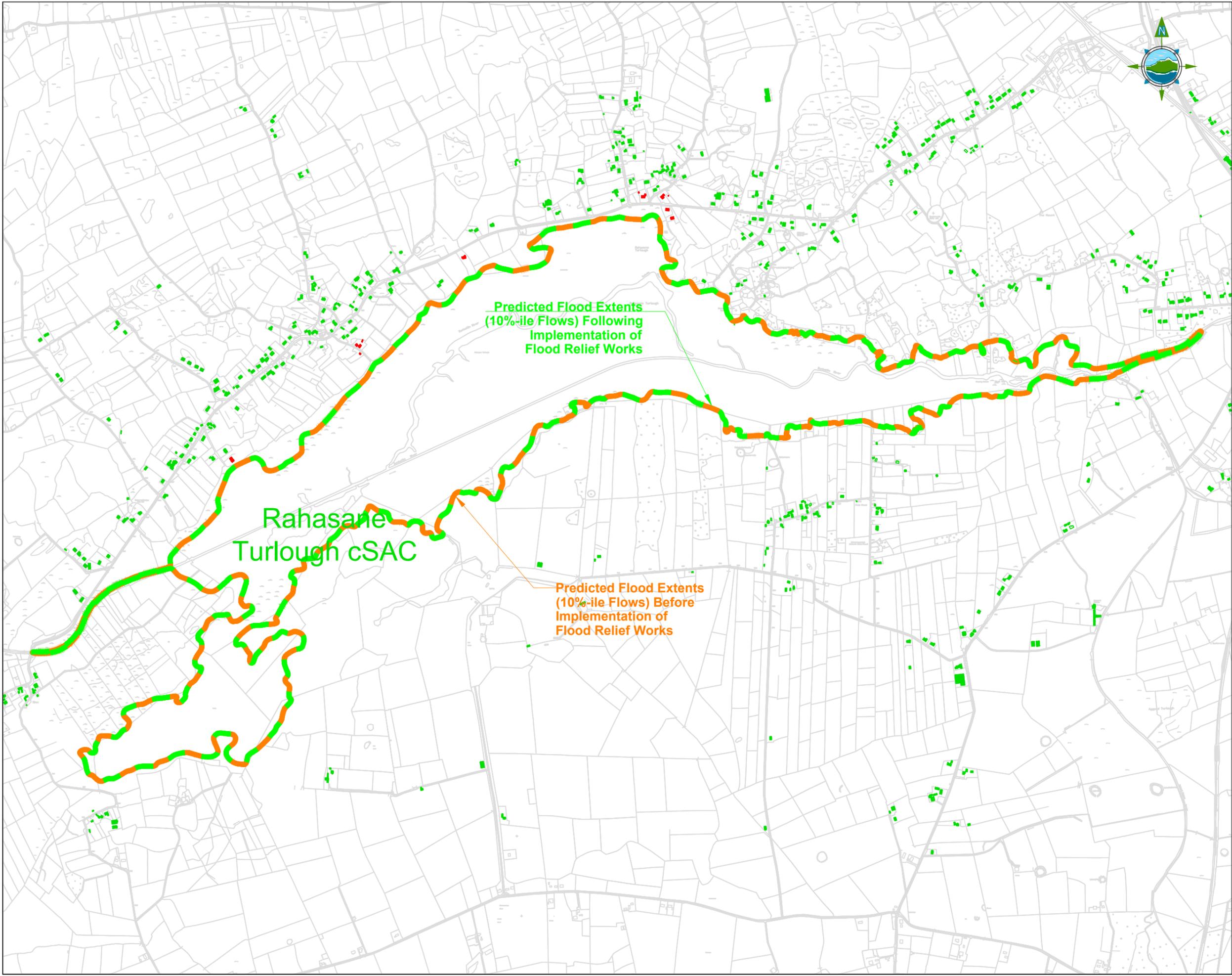
Prepared by: PMF Checked: MMcD Date: October 2011

Project Director: Michael Garrick

Drawing Status:

TOBIN Consulting Engineers,
Fairgreen House, Fairgreen Road,
Galway, Ireland.
tel: +353-(0)91-565211
fax: +353-(0)91-565398
e-mail: galway@tobin.ie
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Rev	Date	Description	By	Chkd.
D	July/14	Issue	CK	MMcD

Client: Galway County Council

Project: Dunkellin River and Aggard Stream Flood Relief Scheme

Title: Predicted Water Levels for 10%-ile Flows Pre & Post Flood Alleviation Works

Scale @ A1: 7,500
Scale @ A3: 15,000

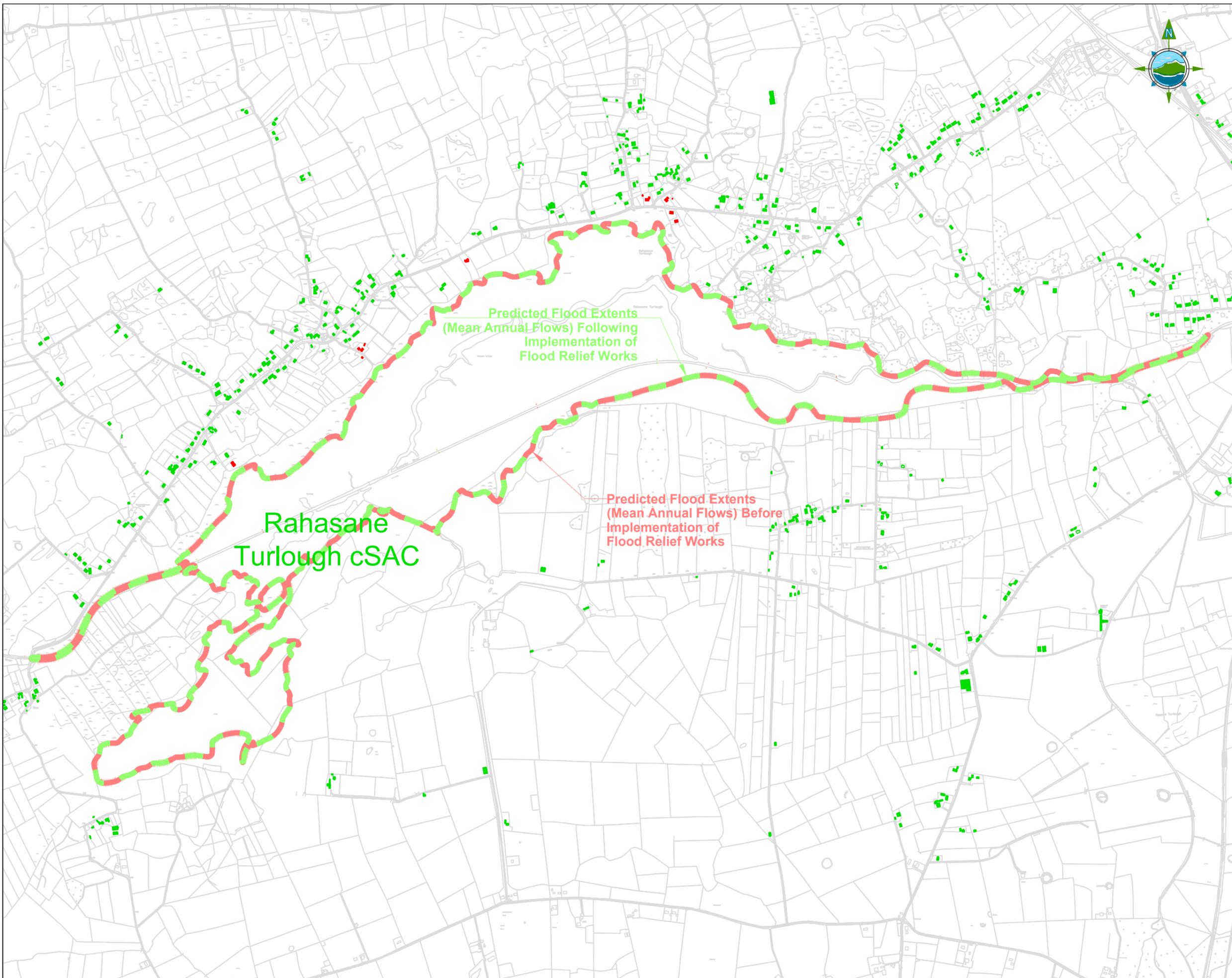
Prepared by: PMF
Checked: MMcD
Date: October 2011

Project Director: Michael Garrick
Drawing Status:

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Patrick J. Tobin & Co. Ltd.
TOBIN Consulting Engineers,
Fairgreen House, Fairgreen Road,
Galway, Ireland.
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Rev	Date	Description	By	Chkd.
D	July/14	Issue	CK	MMcD

Client: Galway County Council

Project: Dunkellin River and Aggard Stream Flood Relief Scheme

Title: Predicted Water Levels for Mean Annual Flow Conditions Pre & Post Flood Alleviation Works

Scale @ A1: 7,500
Scale @ A3: 15,000

Prepared by: PMF
Checked: MMcD
Date: October 2011

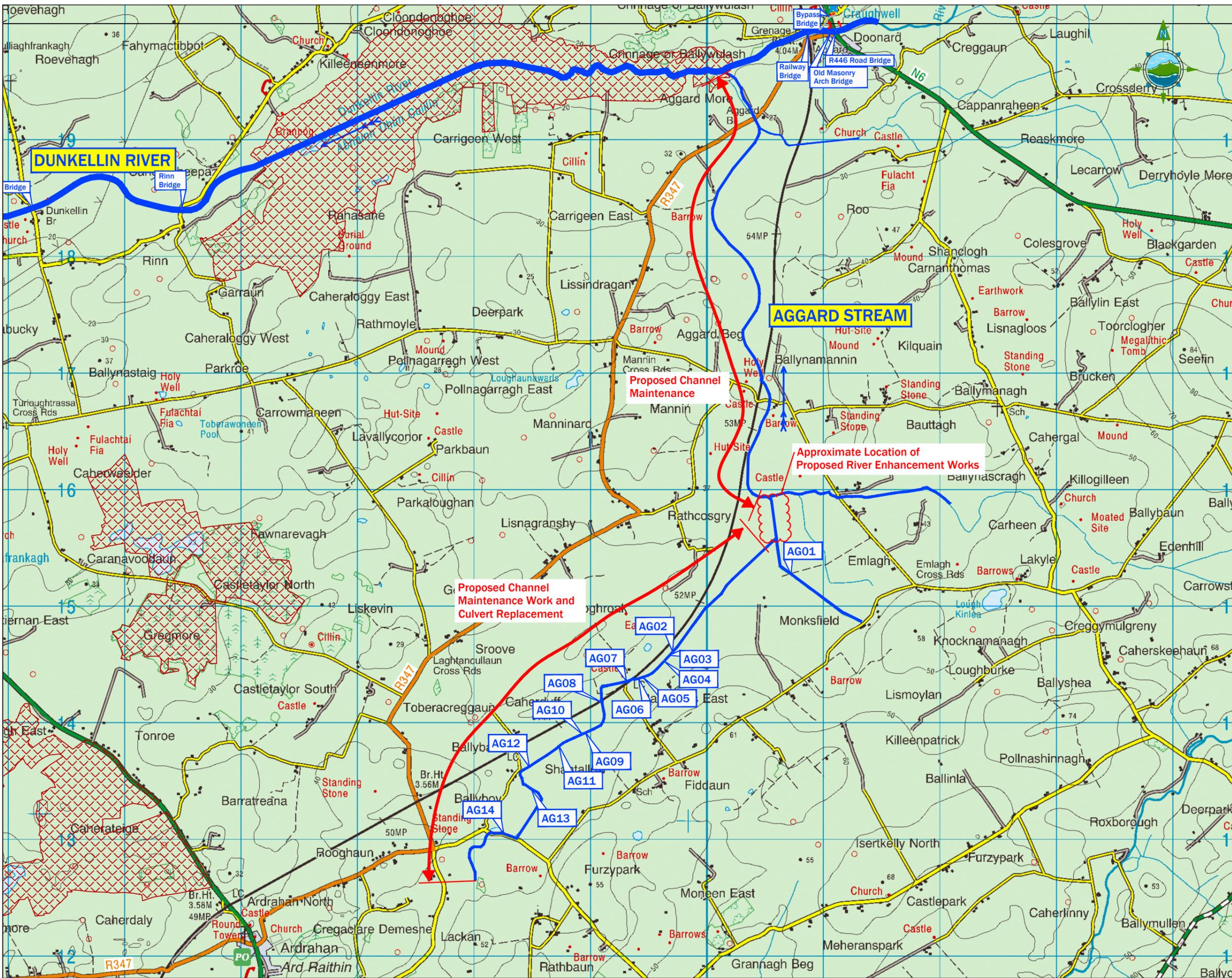
Project Director: Michael Garrick

Drawing Status:

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Fairgreen House, Fairgreen Road,
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fax: +353-(0)91-565398
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LEGEND

- RIVER
- SAC's, pNHA's, & SPA

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Rev	Date	Description	By	Chkd.
A	Nov/11	First Issue	PMF	MMcD

Client: Galway County Council

Project: Dunkellin River and Aggard Stream Flood Relief Scheme

Title: Layout Plan of Proposed Works along Aggard Stream

Scale @ A1: 15,000
Scale @ A3: 30,000

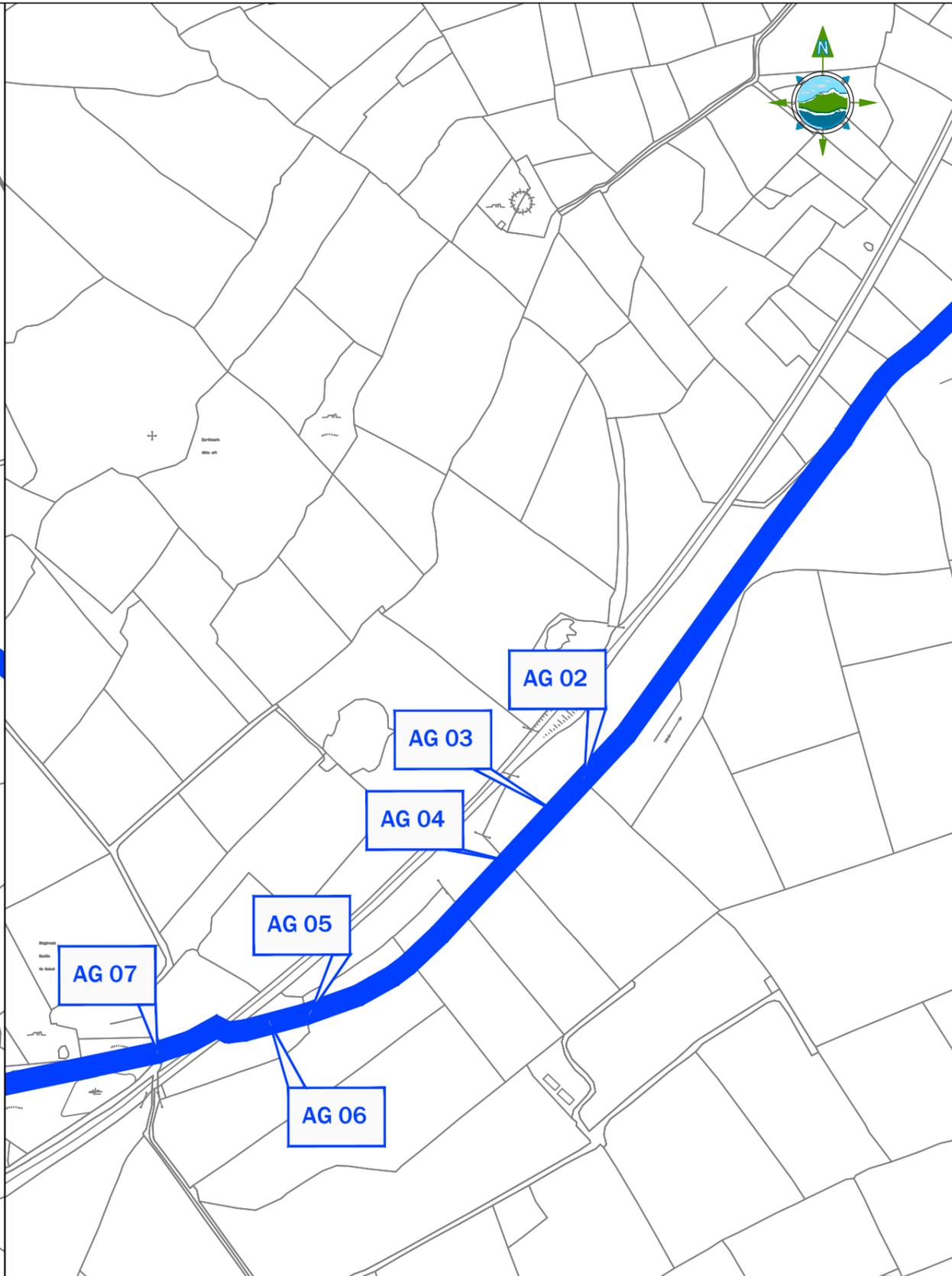
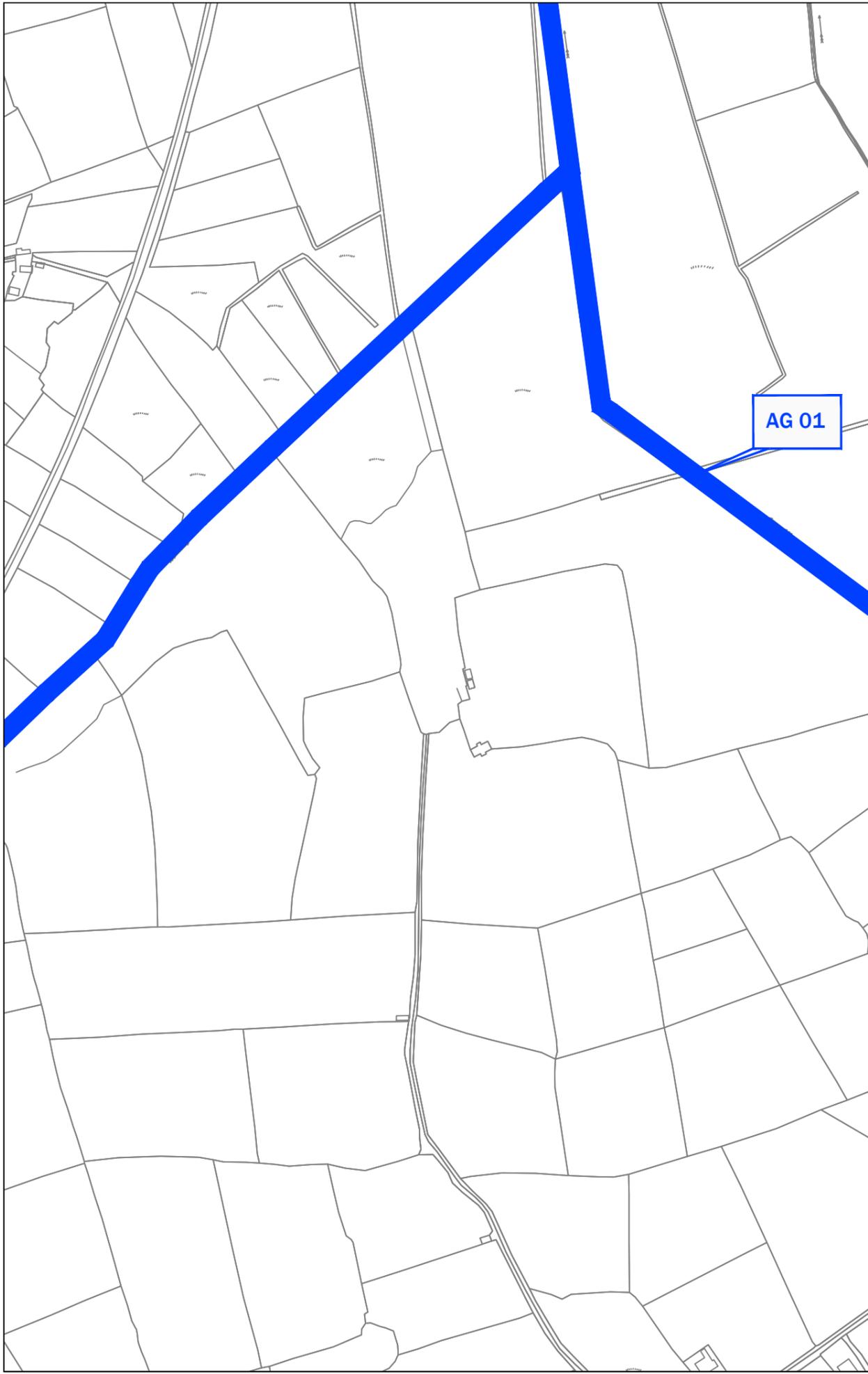
Prepared by: PMF Checked: MMcD Date: Nov 2011

Project Director: Michael Garrick

Drawing Status:

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Fairgreen House, Fairgreen Road,
Galway, Ireland.
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Drawing No.: 6408-2220 Revision: A



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RIVER

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Rev	Date	Description	By	Chkd.
C	Sept'14	Issue	CK	PC

Client: Galway County Council

Project: Dunkellin River and Aggard Stream Flood Relief Scheme

Title: Locations of Proposed Culvert Replacement along Aggard Stream Sheet 1 of 2

Scale @ A1: 2500
Scale @ A3: 5000

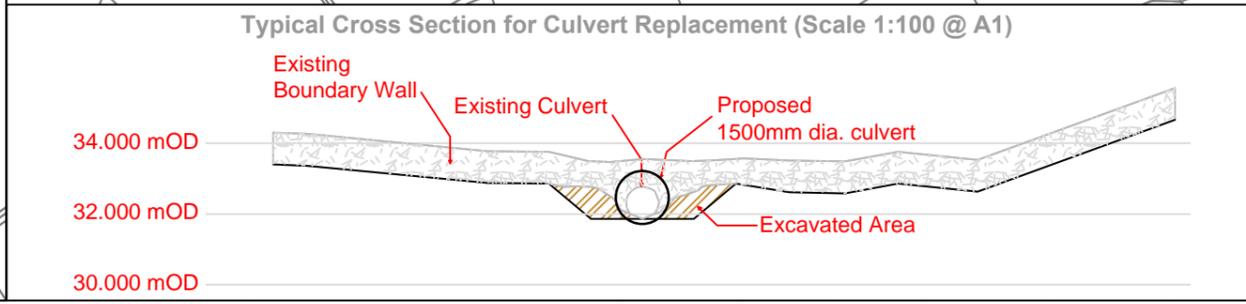
Prepared by: PMF
Checked: MMCD
Date: Nov 2011

Project Director: Michael Garrick
Drawing Status:



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TOBIN Consulting Engineers,
Fairgreen House, Fairgreen Road,
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RIVER

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Rev	Date	Description	By	Chkd.
C	Sept'14	Issue	CK	PC

Client: Galway County Council

Project: Dunkellin River and Aggard Stream Flood Relief Scheme

Title: Locations of Proposed Culvert Replacement along Aggard Stream Sheet 2 of 2

Scale @ A1: 2500
Scale @ A3: 5000

Prepared by: PMF
Checked: MMCD
Date: Nov 2011

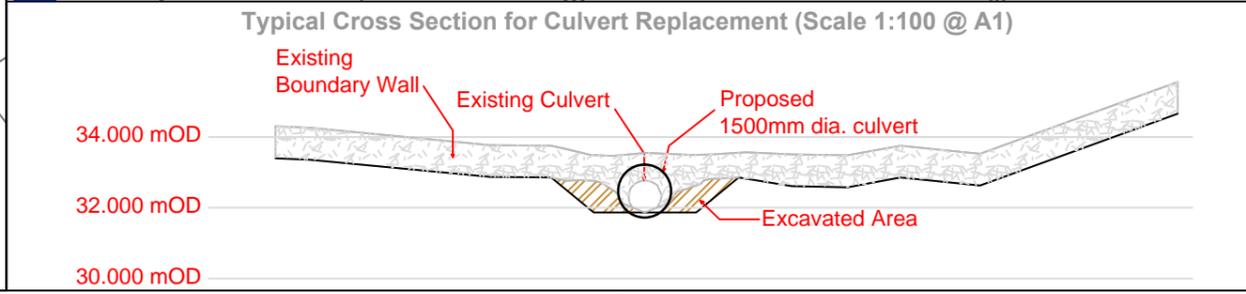
Project Director: Michael Garrick

Drawing Status:

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TOBIN Consulting Engineers,
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Galway, Ireland.
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e-mail: galway@tobin.ie
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Drawing No.: 6408-2222

Revision: C





LEGEND

RIVER

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Rev	Date	Description	By	Chkd.
A	Sept14	First Issue	CK	PC

Client: Galway County Council

Project: Dunkellin River and Aggard Stream Flood Relief Scheme

Title: Location of Site Notices

Scale @ A1: 1:17,500
Scale @ A3: 1:35,000

Prepared by: CK Checked: PC Date: Sept 14

Project Director: Michael Garrick

Drawing Status:

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Patrick J. Tobin & Co. Ltd.
TOBIN Consulting Engineers,
Fairgreen House, Fairgreen Road,
Galway, Ireland.
tel: +353-(0)91-565211
fax: +353-(0)91-565398
e-mail: galway@tobin.ie
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