

## Appendix C – Cost Estimates

Project Name: Graiguenamanagh Tinnahinch Flood Relief Scheme

Project No.: W3451

Date: 17/10/2022

Rates are based on the OPW Unit Cost Database (Oct 2013) where possible  
Construction Price Index (CPI) of 1.463 applied to amend OPW Unit rates for Oct 2021

**COST ESTIMATE - Option 1: Raised Defences Only**

Item No.	Description	Quantity	Units	Rate	Amount (€)
	<b>Contract Costs</b>				
1	Wall 1 - Retaining wall, Urban (with stone cladding), >100m in length, 1.2-2m in height	148	m	€2,710	€401,025
2	Flood Gate on Wall 1 - Double 2x3m double lift hinge gate, 1.8m high	1	Sum	€55,597	€55,597
3	Wall 2 - Retaining wall, Urban (with stone cladding), >100m in length, 1.2-2m in height	142	m	€2,710	€384,767
4	Flood Gate between Wall 1 & Wall 2 - Double 2x3m double lift hinge gate, 1.2m high	1	m	€46,233	€46,233
5	Wall 3 - Retaining wall, Urban (with stone cladding), <100m in length, 0.6-1.2m in height	120	m	€2,866	€342,935
6	Wall 4 - Retaining wall, Urban (with stone cladding), <100m in length, 1.2-2m in height	24	m	€2,866	€68,788
7	Wall 5 - Retaining wall, Urban (with stone cladding), <100m in length, 0 - 0.6m in height	41	m	€1,839	€74,575
8	Wall 6 - Retaining wall, Urban (with stone cladding), <100m in length, 0 - 0.6m in height	46	m	€1,839	€85,334
9	Wall 7 - Retaining wall, Urban (with stone cladding), <100m in length, 2 - 3m in height	22	m	€4,143	€90,870
10	Wall 8 - Retaining wall, Urban (with stone cladding), >100m in length, 0.6m in height (plus wall improvements)	383	m	€2,370	€908,324
11	Demountable Flood barriers on Wall 8	8	No	€5,472	€43,775
12	Flood Gate on Wall 8 - Double 2x3m double lift hinge gate, 1.2m high	1	Sum	€46,233	€46,233
13	Wall 9, Section 1 - Retaining wall, Urban (with stone cladding), <100m in length, 0 - 0.6m in height	70	m	€1,839	€129,428
14	Wall 9, Section 2 - Retaining wall, Urban (with stone cladding), <100m in length, 1.2-2m in height	47	m	€2,866	€134,710
15	Wall 9, Section 3 - Retaining wall, Urban (with stone cladding), <100m in length, 1.2-2m in height (Wall improvement)	22	m	€1,433	€31,528
16	Wall 12 - Retaining wall, Urban (with stone cladding), <100m in length, 1.2-2m in height	57	m	€2,866	€162,469
17	Wall improvement to building with low floor level close to Mick DoYLES	16	m	€1,433	€22,302
18	Embankment 1 - Rural clay embankment <100m, formed from imported material, height 1 - 2m	31	m	€440	€13,781
19	Embankment 2 - Rural clay embankment <100m, formed from imported material, height ranging from <1 - 3m	59	m	€287	€17,063
20	Embankment 3 - Rural clay embankment 100m - 1000m, formed from imported material, height 1 - 2m	227	m	€417	€94,449
21	Embankment 4 - Rural clay embankment <100m, formed from imported material, height ranging from <1 - 2m	50	m	€282	€14,159
22	Sluice Gates on Barrow LB - Mill Race	2	No	€24,928	€49,856
23	Inlet structure for Sluice gate on Barrow - Mill Race	1	Sum	€70,000	€70,000
24	New Pumping station on Barrow Right Bank - 200 l/s	1	No	€380,986	€380,986
25	New Pumping station on Barrow Right Bank - 50 l/s	1	No	€106,366	€106,366
26	Drainage to pumping station on right bank	301	m	€300	€90,150
27	Drainage to pumping station on left bank	60	m	€300	€18,000
28	Ground Raising required at Barrow defences	703	m2	€100	€70,286
29	Installation of NRV's	1	Sum	€100,000	€100,000
30	Allowance for Mobile Pumps	2	Sum	€100,000	€200,000
31	Miscellaneous Drainage LB	1	Sum	€50,000	€50,000
32	Miscellaneous Drainage LB	1	Sum	€50,000	€50,000
33	Wall 10 - Retaining wall, Urban (with stone cladding), <100m in length, 1.2-2m in height	18	m	€2,866	€51,591
34	Wall 12 - Miscellaneous Accommodation Works	1	Sum	€75,000	€75,000
35	Ground Raising on Duiske left bank	59	m2	€100	€5,898
36	Wall 13 - Retaining wall, Urban (with stone cladding), <100m in length, 1.2-2m in height	18	m	€2,866	€51,591
37	Wall Improvement at RB at Fox's	16	m	€1,433	€23,345
38	Bridge replacement/Modifications	2	No	€25,000	€50,000
39	Wall 11 - Retaining wall, Urban (with stone cladding), <100m in length, 1.2-2m in height	14	m	€2,866	€40,126
40	Wall 13 RB tie in - Retaining wall, Urban (with stone cladding), <100m in length, 1.2-2m in height	3	m	€2,866	€8,599
41	Duiske Debris Trap - Well Lane	1	Sum	€35,000	€35,000
	<b>Sub-Total</b>				<b>€4,695,141</b>
	Preliminary & General Items		15%		€704,271
	Unmeasured Items/Risk		20%		€939,028
	<b>Construction Works (CW) Sub-Total</b>				<b>€6,338,441</b>
	Regional Multiplier		1.00		€6,338,441
	<b>Construction Works (CW) Total</b>				<b>€6,338,441</b>

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**COST ESTIMATE - Option 2: Raised Defences and River Duiske Flow Diversion**

Item No.	Description	Quantity	Units	Rate	Amount (€)
	<b>Contract Costs</b>				
1	Wall 1 - Retaining wall, Urban (with stone cladding), >100m in length, 1.2-2m in height	148	m	€2,710	€401,025
2	Flood Gate on Wall 1 - Double 2x3m double lift hinge gate, 1.8m high	1	Sum	€55,597	€55,597
3	Wall 2 - Retaining wall, Urban (with stone cladding), >100m in length, 1.2-2m in height	142	m	€2,710	€384,767
4	Flood Gate between Wall 1 & Wall 2 - Double 2x3m double lift hinge gate, 1.2m high	1	m	€46,233	€46,233
5	Wall 3 - Retaining wall, Urban (with stone cladding), <100m in length, 0.6-1.2m in height	120	m	€2,866	€342,935
6	Wall 4 - Retaining wall, Urban (with stone cladding), <100m in length, 1.2-2m in height	24	m	€2,866	€68,788
7	Wall 5 - Retaining wall, Urban (with stone cladding), <100m in length, 0 - 0.6m in height	41	m	€1,839	€74,575
8	Wall 6 - Retaining wall, Urban (with stone cladding), <100m in length, 0 - 0.6m in height	46	m	€1,839	€85,334
9	Wall 7 - Retaining wall, Urban (with stone cladding), <100m in length, 2 - 3m in height	22	m	€4,143	€90,870
10	Wall 8 - Retaining wall, Urban (with stone cladding), >100m in length, 0.6m in height (plus wall improvements)	383	m	€2,370	€908,324
11	Demountable Flood barriers on Wall 8	8	No	€5,472	€43,775
12	Flood Gate on Wall 8 - Double 2x3m double lift hinge gate, 1.2m high	1	Sum	€46,233	€46,233
13	Wall 9 - Retaining wall, Urban (with stone cladding), <100m in length, 1.2-2m in height	114	m	€2,866	€326,744
14	Embankment 1 - Rural clay embankment <100m, formed from imported material, height 1 - 2m	31	m	€440	€13,781
15	Embankment 2 - Rural clay embankment <100m, formed from imported material, height ranging from <1 - 3m	59	m	€287	€17,063
16	Embankment 3 - Rural clay embankment 100m - 1000m, formed from imported material, height 1 - 2m	227	m	€417	€94,449
17	Embankment 4 - Rural clay embankment <100m, formed from imported material, height ranging from <1 - 2m	50	m	€282	€14,159
18	Sluice Gates on Barrow LB	2	No	€24,928	€49,856
19	Inlet structure for Sluice gate on Barrow incl. Automated Actuators	1	Sum	70,000	€70,000
20	New Pumping station on Barrow Right Bank - 200 l/s	1	No	€380,986	€380,986
21	New Pumping station on Barrow Right Bank - 50 l/s	1	No	€106,366	€106,366
22	Drainage to pumping station on right bank	301	m	€300	€90,150
23	Drainage to pumping station on left bank	60	m	€300	€18,000
24	Ground Raising required at Barrow defences	703	m2	€100	€70,286
25	Installation of NRV's	1	Sum	€100,000	€100,000
26	Flow Diversion - Culvert - 1800mm diameter pipeline	219	m	€10,000	€2,187,010
27	Culvert Inlet Structure	1	No	€100,000	€100,000
28	Culvert Outlet Structure (Headwall)	1	No	€20,000	€20,000
29	Flow Diversion - Open Channel - Trapezoidal channel, bottom width 2m, avg height 1.92m, 1:3 side slopes, 93m long	472	m3	€70	€32,808
30	Weir in Duiske for flow diversion	7	m	€7,115	€49,805
31	Bridge over channel	21	m2	€2,538	€53,307
32	Accommodation works associated with culvert	1	Sum	€75,000	€75,000
33	Service Diversions	1	Sum	€100,000	€100,000
34	Allowance for Mobile Pumps	2	Sum	€100,000	€200,000
35	Miscellaneous Drainage LB	1	Sum	€50,000	€50,000
36	Miscellaneous Drainage LB	1	Sum	€50,000	€50,000
37	Debris Trap	1	Sum	€35,000	€35,000
	<b>Sub-Total</b>				<b>€6,853,228</b>
	Preliminary & General Items		15%		€1,027,984
	Unmeasured Items/Risk		20%		€1,370,646
	<b>Construction Works (CW) Sub-Total</b>				<b>€9,251,858</b>
	Regional Multiplier		1.00		€9,251,858
	<b>Construction Works (CW) Total</b>				<b>€9,251,858</b>

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**COST ESTIMATE - Option 3: Raised Defences and River Duiske Storage**

Item No.	Description	Quantity	Units	Rate	Amount (€)
	<b>Contract Costs</b>				
1	Wall 1 - Retaining wall, Urban (with stone cladding), >100m in length, 1.2-2m in height	148	m	€2,710	€401,025
2	Flood Gate on Wall 1 - Double 2x3m double lift hinge gate, 1.8m high	1	m	€55,597	€55,597
3	Wall 2 - Retaining wall, Urban (with stone cladding), >100m in length, 1.2-2m in height	142	m	€2,710	€384,767
4	Flood Gate between Wall 1 & Wall 2 - Double 2x3m double lift hinge gate, 1.2m high	1	m	€46,233	€46,233
5	Wall 3 - Retaining wall, Urban (with stone cladding), <100m in length, 0.6-1.2m in height	120	m	€2,866	€342,935
6	Wall 4 - Retaining wall, Urban (with stone cladding), <100m in length, 1.2-2m in height	24	m	€2,866	€68,788
7	Wall 5 - Retaining wall, Urban (with stone cladding), <100m in length, 0 - 0.6m in height	41	m	€1,839	€74,575
8	Wall 6 - Retaining wall, Urban (with stone cladding), <100m in length, 0 - 0.6m in height	46	m	€1,839	€85,334
9	Wall 7 - Retaining wall, Urban (with stone cladding), <100m in length, 2 - 3m in height	22	m	€4,143	€90,870
10	Wall 8 - Retaining wall, Urban (with stone cladding), >100m in length, 0.6m in height (plus wall improvements)	383	m	€2,370	€908,324
11	Demountable Flood barriers on Wall 8	8	No	€5,472	€43,775
12	Flood Gate on Wall 8 - Double 2x3m double lift hinge gate, 1.2m high	1	Sum	€46,233	€46,233
13	Duiske Wall 1 - Retaining wall, Urban (with stone cladding), <100m in length, 1.2-2m in height	28	m	€2,866	€80,327
14	Duiske Wall 2 - Retaining wall, Urban (with stone cladding), <100m in length, 1.2-2m in height	64	m	€2,866	€184,347
15	Wall improvement	32	m	1,433	€45,645
16	Embankment 1 - Rural clay embankment <100m, formed from imported material, height 1 - 2m	31	m	€440	€13,781
17	Embankment 2 - Rural clay embankment <100m, formed from imported material, height ranging from <1 - 3m	59	m	€287	€17,063
18	Embankment 3 - Rural clay embankment 100m - 1000m, formed from imported material, height 1 - 2m	227	m	€417	€94,449
19	Embankment 4 - Rural clay embankment <100m, formed from imported material, height ranging from <1 - 2m	50	m	€282	€14,159
20	Storage Embankment - Rural clay embankment <100m, formed from imported material, height ranging from <1m - 7m	152	m	€1,208	€183,345
21	Storage Embankment - Flow Control Structure - Structural	1	Sum	100,000	€100,000
22	Storage Embankment - Flow Control Structure - M&E	1	Sum	100,000	€100,000
23	Sluice Gates on Barrow LB	2	No	€24,928	€49,856
24	Inlet structure for Sluice gate on Barrow incl. Automated Actuators	1	Sum	70,000	70,000
25	New Pumping station on Barrow Right Bank - 200 l/s	1	No	€380,986	€380,986
26	New Pumping station on Barrow Right Bank - 50 l/s	1	No	€106,366	€106,366
27	Drainage to pumping station on right bank	301	m	€300	€90,150
28	Drainage to pumping station on left bank	60	m	€300	€18,000
29	Ground Raising required at Barrow defences	703	m2	100	70,286
30	Installation of NRV's	1	Sum	100,000	100,000
31	Duiske Wall 1 - Accommodation works associated with land owners	1	Sum	50,000	€50,000
32	Allowance for Mobile Pumps	2	Sum	€100,000	€200,000
33	Miscellaneous Drainage LB	1	Sum	€50,000	€50,000
34	Miscellaneous Drainage LB	1	Sum	€50,000	€50,000
35	Duiske Debris Trap	1	Sum	€35,000	€35,000
	<b>Sub-Total</b>				<b>€4,652,219</b>
	Preliminary & General Items		15%		€697,833
	Unmeasured Items/Risk		20%		€930,444
	<b>Construction Works (CW) Sub-Total</b>				<b>€6,280,495</b>
	Regional Multiplier		1.00		€6,280,495
	<b>Construction Works (CW) Total</b>				<b>€6,280,495</b>

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**COST ESTIMATE - Option 4: Raised Defences and River Duiske Storage and Diversion**

Item No.	Description	Quantity	Units	Rate	Amount (€)
	<b>Contract Costs</b>				
1	Wall 1 - Retaining wall, Urban (with stone cladding), >100m in length, 1.2-2m in height	148	m	€2,710	€401,025
2	Flood Gate on Wall 1 - Double 2x3m double lift hinge gate, 1.8m high	1	m	€55,597	€55,597
3	Wall 2 - Retaining wall, Urban (with stone cladding), >100m in length, 1.2-2m in height	142	m	€2,710	€384,767
4	Flood Gate between Wall 1 & Wall 2 - Double 2x3m double lift hinge gate, 1.2m high	1	m	€46,233	€46,233
5	Wall 3 - Retaining wall, Urban (with stone cladding), <100m in length, 0.6-1.2m in height	120	m	€2,866	€342,935
6	Wall 4 - Retaining wall, Urban (with stone cladding), <100m in length, 1.2-2m in height	24	m	€2,866	€68,788
7	Wall 5 - Retaining wall, Urban (with stone cladding), <100m in length, 0 - 0.6m in height	41	m	€1,839	€74,575
8	Wall 6 - Retaining wall, Urban (with stone cladding), <100m in length, 0 - 0.6m in height	46	m	€1,839	€85,334
9	Wall 7 - Retaining wall, Urban (with stone cladding), <100m in length, 2 - 3m in height	22	m	€4,143	€90,870
10	Wall 8 - Retaining wall, Urban (with stone cladding), >100m in length, 0.6m in height (plus wall improvements)	383	m	€2,370	€908,324
11	Demountable Flood barriers on Wall 8	8	No	€5,472	€43,775
12	Flood Gate on Wall 8 - Double 2x3m double lift hinge gate, 1.2m high	1	Sum	€46,233	€46,233
16	Embankment 1 - Rural clay embankment <100m, formed from imported material, height 1 - 2m	31	m	€440	€13,781
17	Embankment 2 - Rural clay embankment <100m, formed from imported material, height ranging from <1 - 3m	59	m	€287	€17,063
18	Embankment 3 - Rural clay embankment 100m - 1000m, formed from imported material, height 1 - 2m	227	m	€417	€94,449
19	Embankment 4 - Rural clay embankment <100m, formed from imported material, height ranging from <1 - 2m	50	m	€282	€14,159
37	Storage Embankment - Rural clay embankment <100m, formed from imported material, height ranging from <1m - 7m	152	m	€1,208	€183,345
38	Storage Embankment - Flow Control Structure - Structural	1	Sum	€100,000	€100,000
39	Storage Embankment - Flow Control Structure - M&E	1	Sum	€100,000	€100,000
40	Storage Area OverSpill Carpet	1	Sum	€100,000	€100,000
23	Sluice Gates on Barrow LB	2	No	€24,928	€49,856
24	Inlet structure for Sluice gate on Barrow incl. Automated Actuators	1	Sum	€70,000	€70,000
25	New Pumping station on Barrow Right Bank - 200 l/s	1	No	€380,986	€380,986
27	New Pumping station on Barrow Right Bank - 50 l/s	1	No	€106,366	€106,366
26	Drainage to pumping station on right bank	301	m	€300	€90,150
28	Drainage to pumping station on left bank	60	m	€300	€18,000
29	Ground Raising	703	m2	€100	€70,286
30	Installation of NRV's	1	Sum	€100,000	€100,000
34	Allowance for Mobile Pumps	2	Sum	€100,000	€200,000
35	Miscellaneous Drainage LB	1	Sum	€50,000	€50,000
36	Miscellaneous Drainage LB	1	Sum	€50,000	€50,000
41	Weir in Duiske for flow diversion	7	m	€7,115	€49,805
42	Flow Diversion - Culvert - 1800mm diameter pipeline	219	m	€10,000	€2,187,010
43	Culvert Inlet Structure	1	No	€100,000	€100,000
44	Culvert Outlet Structure (Headwall)	1	No	€20,000	€20,000
45	Flow Diversion - Open Channel - Trapezoidal channel, bottom width 2m, avg height 1.92m, 1:3 side slopes, 93m long	472	m3	€70	€32,808
46	Bridge over channel	21	m2	€2,538	€53,307
47	Accommodation works associated with culvert	1	Sum	€75,000	€75,000
48	Service Diversions	1	Sum	€100,000	€100,000
49	Debris Trap	1	Sum	€35,000	€35,000
	<b>Sub-Total</b>				<b>€7,009,830</b>
	Preliminary & General Items		15%		€1,051,474
	Unmeasured Items/Risk		20%		€1,401,966
	<b>Construction Works (CW) Sub-Total</b>				<b>€9,463,270</b>
	Regional Multiplier		1.00		€9,463,270
	<b>Construction Works (CW) Total</b>				<b>€9,463,270</b>

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**COST ESTIMATE - Option 5: Raised Defences & River Duiske Culvert**

Item No.	Description	Quantity	Units	Rate	Amount (€)
	<b>Contract Costs</b>				
1	Wall 1 - Retaining wall, Urban (with stone cladding), >100m in length, 1.2-2m in height	148	m	€2,710	€401,025
2	Flood Gate on Wall 1 - Double 2x3m double lift hinge gate, 1.8m high	1	m	€55,597	€55,597
3	Wall 2 - Retaining wall, Urban (with stone cladding), >100m in length, 1.2-2m in height	142	m	€2,710	€384,767
4	Flood Gate between Wall 1 & Wall 2 - Double 2x3m double lift hinge gate, 1.2m high	1	m	€46,233	€46,233
5	Wall 3 - Retaining wall, Urban (with stone cladding), <100m in length, 0.6-1.2m in height	120	m	€2,866	€342,935
6	Wall 4 - Retaining wall, Urban (with stone cladding), <100m in length, 1.2-2m in height	24	m	€2,866	€68,788
7	Wall 5 - Retaining wall, Urban (with stone cladding), <100m in length, 0 - 0.6m in height	41	m	€1,839	€74,575
8	Wall 6 - Retaining wall, Urban (with stone cladding), <100m in length, 0 - 0.6m in height	46	m	€1,839	€85,334
9	Wall 7 - Retaining wall, Urban (with stone cladding), <100m in length, 2 - 3m in height	22	m	€4,143	€90,870
10	Wall 8 - Retaining wall, Urban (with stone cladding), >100m in length, 0.6m in height (plus wall improvements)	383	m	€2,370	€908,324
11	Demountable Flood barriers on Wall 8	8	No	€5,472	€43,775
12	Flood Gate on Wall 8 - Double 2x3m double lift hinge gate, 1.2m high	1	Sum	46,233	€46,233
13	Wall 9 - Retaining wall, Urban (with stone cladding), <100m in length, 0 - 0.6m in height	163	m	€2,022	€329,382
14	Wall 10 - Retaining wall, Urban (with stone cladding), <100m in length, 1.2-2m in height	18	m	€2,866	€51,591
17	Embankment 1 - Rural clay embankment <100m, formed from imported material, height 1 - 2m	31	m	€440	€13,781
18	Embankment 2 - Rural clay embankment <100m, formed from imported material, height ranging from <1 - 3m	59	m	€287	€17,063
19	Embankment 3 - Rural clay embankment 100m - 1000m, formed from imported material, height 1 - 2m	227	m	€417	€94,449
20	Embankment 4 - Rural clay embankment <100m, formed from imported material, height ranging from <1 - 2m	50	m	€282	€14,159
21	Sluice Gates on Barrow LB	2	No	€24,928	€49,856
22	Inlet structure for Sluice gate on Barrow incl. Automated Actuators	1	Sum	€70,000	€70,000
23	New Pumping station on Barrow Right Bank - 200 l/s	1	No	€380,986	€380,986
24	New Pumping station on Barrow Right Bank - 50 l/s	1	No	€106,366	€106,366
25	Drainage to pumping station on right bank	301	m	€300	€90,150
26	Drainage to pumping station on left bank	60	m	€300	€18,000
27	Duiske Culverting/Enclosing	47	m	€8,415	€395,528
28	Culvert Headwalls	2	No	€20,214	€40,428
29	Culvert - Accommodation works associated with land owners	1	Sum	€150,000	€150,000
30	Bridge replacement/Modifications	2	No	25,000	€50,000
31	Ground Raising at Barrow Defences	703	m2	€100	€70,286
32	Ground Raising at Duiske Defences	59	Sum	€100	€5,898
33	Installation of NRV's	1	Sum	€100,000	€100,000
34	Allowance for Mobile Pumps	2	Sum	€100,000	€200,000
35	Miscellaneous Drainage LB	1	Sum	€50,000	€50,000
36	Miscellaneous Drainage LB	1	Sum	€50,000	€50,000
37	Wall improvement to building with low floor level close to Mick DoYLES	16	m	€1,433	€22,302
38	Wall 13 - Retaining wall, Urban (with stone cladding), <100m in length, 1.2-2m in height	18	m	€2,866	€51,591
39	Wall 11 - Retaining wall, Urban (with stone cladding), <100m in length, 1.2-2m in height	14	m	€2,866	€40,126
40	Wall 13 tie in on RB - Retaining wall, Urban (with stone cladding), <100m in length, 1.2-2m in height	3	m	€2,866	€8,599
41	Wall Improvement at RB at Fox's	16	m	€1,433	€23,345
42	Duiske Debris Trap - Well Lane	1	Sum	€35,000	€35,000
					€5,061,015
	<b>Sub-Total</b>				€759,152
	Preliminary & General Items		15%		€1,012,203
	Unmeasured Items/Risk		20%		€6,832,371
	<b>Construction Works (CW) Sub-Total</b>				€6,832,371
	Regional Multiplier		1.00		€6,832,371
	<b>Construction Works (CW) Total</b>				€6,832,371

# Preliminary Cost Estimates

Date: 17/10/2022  
By: RP  
Checked: SH

Graiguenamanagh FRS

	Option 1: Raised Defences Only	Option 2: Raised Defences and River Duiske Flow Diversion	Option 3: Raised Defences and River Duiske Storage	Option 4: Raised Defences and River Duiske Storage and Diversion	Option 5: Raised Defences & River Duiske Culvert
<b>Capital Cost</b>					
Construction Cost Estimate(Incl. for unmeasured & Prelims)	€6,338,441	€9,251,858	€6,280,495	€9,463,270	€6,832,371
Archaeology <sup>+</sup> (7.5-15%)	€950,766	€693,889	€628,050	€709,745	€1,024,856
Environmental Monitoring/Mitigation (5%)	€316,922	€462,593	€314,025	€473,164	€341,619
<b>Sub-total for Construction Cost</b>	<b>€7,606,129</b>	<b>€10,408,341</b>	<b>€7,222,570</b>	<b>€10,646,179</b>	<b>€8,198,845</b>
<b>Other Related Costs</b>					
Fees and Supervision (10%)	€760,613	€1,040,834	€722,257	€1,064,618	€819,884
Land Acquisition*	€75,000	€100,000	€450,000	€475,000	€75,000
Art (1% up to €125k)	€76,061	€104,083	€72,226	€106,462	€81,988
Surveys	€100,000	€100,000	€100,000	€100,000	€100,000
Site investigation	€306,940	€356,328	€356,328	€356,328	€306,940
<b>Sub-total</b>	<b>€8,924,743</b>	<b>€12,109,587</b>	<b>€8,923,381</b>	<b>€12,748,587</b>	<b>€9,582,658</b>
Optimism Bias (20%)	€1,521,226	€2,081,668	€1,444,514	€2,129,236	€1,639,769
Maintenance Costs (incl 20% Optimism Bias)	€1,633,963	€2,385,002	€1,619,025	€2,439,501	€1,761,291
<b>Total Project Cost</b>	<b>€12,079,932</b>	<b>€16,576,256</b>	<b>€11,986,920</b>	<b>€17,317,323</b>	<b>€12,983,718</b>

\* Estimated individually based on anticipated landtake/cost of access, rounded up to nearest €25,000

<sup>+</sup> 15 percent as standard, 10% where work on at River Duiske is reduced, 7.5% where it is avoided at Turf Market