

# Dowies Mill Weir - Preliminary Works Cramond, Edinburgh Order of Cost Estimate 1

December 2018



Contents

- 1.0 Executive Summary
- 2.0 Basis & Assumptions
- 3.0 Exclusions
- Appendix A - Order of Cost Estimate Build-Up
- Appendix B - Drawings Used

Report No.	Report Name	Path File	Issue Date	Parties Issued to	Prepared By	Checked By	Authorised By
1	Order of Cost Estimate	Edinburgh Cost Management / Dowies Mill Weir / Cost Estimates	11/12/2018	Design Team	RW	IR	DM

## 1.0 Executive Summary

- 1.1 This Order of Cost Estimate has been prepared for review/discussion with City of Edinburgh Council for the proposed reconstruction works situated at River Almond, Cramond, Edinburgh.
- 1.2 The overall total estimated order of cost for Options 1 - 5 are broken down as follows:

	Option 1	Option 2	Option 3	Option 4	Option 5
Construction Costs	£1,250,395	£398,950	£450,275	£602,805	£5,000,000
Preliminaries and OH&P (20%)	£250,079	£79,790	£90,055	£120,561	£1,000,000
Professional Fees (15%)	£225,071	£71,811	£81,050	£108,505	£900,000
Optimum Bias (60%)	£1,035,327	£330,331	£372,828	£499,123	£4,140,000
	<b>£2,760,871</b>	<b>£880,882</b>	<b>£994,207</b>	<b>£1,330,993</b>	<b>£11,040,000</b>
Inflation to start on site	Excluded	Excluded	Excluded	Excluded	Excluded
<b>TOTAL CONSTRUCTION COST (@ 4Q 2018)</b>	<b>£2,760,871</b>	<b>£880,882</b>	<b>£994,207</b>	<b>£1,330,993</b>	<b>£11,040,000</b>

- 1.3 A summary of the project costs for Options 1-4 are included in Appendix A.
- 1.4 This document has been prepared based upon drawings prepared by AECOM and other supplementary information listed in Section 2.0. On the basis of the above, the estimate is also based on our current benchmark information from recent similar projects.
- 1.5 Exclusions to the Order of Cost Estimate are listed in Section 3.0; this is a provisional list and is not exhaustive - further discussion required.
- 1.6 Professional Fees have been allowed for at 15%.
- 1.7 Optimum bias has been allowed for at 60%; due to design information being at such an early stage and in the absence of Site Investigations. This will be progressively reduced as the design develops through the RIBA stages.
- 1.8 A separate Client Contingency is not yet included; this is subject to further discussion with City of Edinburgh Council.
- 1.9 The Order of Cost Estimate has been prepared solely for the use of City of Edinburgh Council (CEC) and should not be relied upon by any third party.

## 2.0 Basis & Assumptions

### 2.1 Basis

The Order of Cost Estimate is based upon the following:

- 1 A site area of approximately 8,590m<sup>2</sup> has been assumed.
- 2 All costs are current day with no allowance for inflation.
- 3 The reconstruction of Cramond Brig (Option 5) has been based on benchmarked data for similar projects; however more information relating to the existing conditions and reconstruction method of the brig would be required in order to provide a more indicative cost.

### 2.2 Assumptions

The following assumptions have been made in preparing this report:

- 1 Works to be procured through a single stage competitive tender process.
- 2 Works to be executed during normal working hours, in one continuous phase.
- 3 Works to be executed in phases due to River Almond still flowing; as per drawings provided.
- 4 Ground conditions assumed to be inert and free of any contamination.
- 5 The length of Weir is assumed to be at a length of 75m as per drawing 60589461/SK/02.
- 6 Allowances for both the gas and sewer pipes to be reconstructed, if they were to be exposed.
- 7 It is assumed that the foundations of the existing bridge are at a depth of 3m. However a full investigation would need to be undertaken.
- 8 The pressure in the existing gas pipe is deemed as low (Further investigation required).
- 9 None of the existing rocks / boulder heaps are suitable for re-use as fill, this is to be confirmed by the Contractor.

## 3.0 Exclusions

- 3.1 The following are excluded but are known to have a cost impact and therefore if required need to be covered by separate budgets. This list is intended as a guide and cannot be relied on to be exhaustive.
- 1 Site acquisition and associated costs including SDLT, land, agents, legal fees, planning/building control.
  - 2 Local Authority charges, costs of planning approval.
  - 3 VAT if applicable.
  - 4 Capital allowances or other incentives/grants (i.e. benefits arising from).
  - 5 Client finance costs and insurances.
  - 6 Client Contingencies.
  - 7 Dilapidations at existing site.
  - 8 Client's internal project staff costs.
  - 9 Archaeological Surveys.
- 3.2 The following are excluded, but **may** result in additional cost and should therefore be covered by a Project Contingency/Risk Allowance held by the Client.
- 1 Out of hours working / NPO - assumed all works undertaken during normal working hours.
- 3.3 The following are excluded, on the basis that they are thought **not to be required for the completion** of the project.
- 1 Inflation beyond the current programme (i.e. contractor appointment during 1Q 2019).
  - 2 Sustainable construction strategies (wind turbines, grey water, boreholes, photovoltaic cells, ground cooling and the like).

## APPENDICES

## Appendix A - Order of Cost Estimate Build-Up



Order of Cost Estimate: Reconstruction of the Weir (including new fish pass)

Item	Description	Unit	Qty	Base Rate	Total
<b>Ground and Soil Works Generally</b>					<b>£723,544.70</b>
<b>Temporary Works</b>					<b>£299,125.00</b>
A	Temporary Site Works; including temporary access roads, site boundaries, security and demobilisation; as per Dowies Mill Weir Proposed Preliminary Works	m²	4,500	£50.00	£225,000.00
B	Temporary river diversion; murlac sheeting to be used, assumed to a depth of 0.6m, 75m in length; as per drawing 60589461/SK/02	m	75	£55.00	£4,125.00
C	Pumps and Settlement Tanks; 2nr including supply, operation and maintenance	nr	2	£35,000.00	£70,000.00
<b>Site Establishment</b>					<b>£73,082.20</b>
D	Allowance for general site clearance and removal of debris, prepare works areas generally; all rubbish / debris to be carefully disposed off site; complete	m²	8,590	£5.00	£42,950.00
E	Allowance for cutting back brambles and tree branches to allow vehicles to pass; as per drawing;	sum	6,000	£3.00	£18,000.00
F	Allowance for the removal of large boulders within / around the reservoir area; to be broken up and disposed off-site	nr	115	£50.00	£5,750.00
G	Removal of existing fish pass to clear way for new Weir	m²	120	£50.00	£6,000.00
H	Fill in existing souring undercutting / voids in areas of existing Weir;	m³	55	£7.00	£382.20
<b>Foundations</b>					<b>£351,337.50</b>
I	Excavation; to formation level, assumed to a depth of 1m, disposed	m³	338	£50.00	£16,875.00
J	Forming new foundation for precast concrete Weir; assumed to a depth of 1m; as per drawing 60589461/SK/02	m³	338	£175.00	£59,062.50
K	Cantilevered Sheet Piling; to a depth of 9m; assumed to be at a retained height of 3.0m; as per drawing 60589461/SK/02	m²	1,224	£225.00	£275,400.00
<b>New Weir Pre-cast Construction</b>					<b>£251,850.00</b>
<b>Specification TBC</b>					
L	Allowance for the construction of the new Weir; precast concrete construction, as per specification (yet to be determined); including rebar support between precast units	m	75	£2,750.00	£206,250.00
M	Fill in between new Weir structure wall and existing Weir with compacted Grade 3 concrete mixture	m³	1,200	£38.00	£45,600.00
<b>Fish Pass Construction</b>					<b>£225,000.00</b>
<b>Specification TBC; 1.9m width; situated in the centre of the Weir, to allow for salmon migration</b>					
N	Allowance for the construction of the new fish pass; 7.9m wide, 4 channels incorporating rest points for salmon migrating. Three channels to be later filled in and form part of the Weir structure, leaving the fish pass with a width of 1.9m. As per drawing number 60589461/SK/02	sum	1	£225,000.00	£225,000.00
<b>Maintenance</b>					<b>£50,000.00</b>
<b>Maintenance Schedule; assumed annual minor repair work on the Weir over a 20 year period</b>					
O	Allowance for maintenance of new weir; including vegetation with the potential to affect structural integrity removed, minor repairs carried out annually, filling voids, pointing masonry and repairing concrete patches; for an assumed duration of 20 years	sum	1	£50,000.00	£50,000.00
<b>TOTAL WORKS COST</b>					<b>£1,250,394.70</b>



Order of Cost Estimate: Reconstruction of Existing Sewer Pipe

Item	Description	Unit	Qty	Base Rate	Total
<b>Ground and Soil Works Generally</b>					<b>£147,850.00</b>
<b>Temporary Works</b>					
A	Temporary Site Works; including temporary access roads, site boundaries, security and demobilisation; as per Dowies Mill Weir Proposed Preliminary Works	m <sup>2</sup>	2,400	£50.00	£120,000.00
B	Temporary river diversion; murlac sheeting to be used, assumed to a depth of 0.6m, 40m in length; as per drawing 60589461/SK/02	m	40	£55.00	£2,200.00
C	Allowance for decommissioning of existing sewer pipe / temporary blockage and diversion	m	171	£150.00	£25,650.00
<b>Demolition of Existing Sewer Pipe</b>					<b>£199,800.00</b>
D	Allowance for the removal of large boulders within / around the reservoir area; to be broken up and disposed off-site	nr	115	£50.00	£5,750.00
E	Allowance for general site clearance and removal of debris, prepare works areas generally; all rubbish / debris to be carefully disposed off site; complete	m <sup>2</sup>	8,590	£5.00	£42,950.00
F	Allowance for making good embankment area which is exposed due to the water level lowering; as per drawing 2015s3628-S-D511	m <sup>2</sup>	3,022	£50.00	£151,100.00
<b>Reconstruction of the New Sewer Pipe</b>					<b>£51,300.00</b>
<b>Specification TBC</b>					
G	Allowance for the construction of the new Sewer pipe; precast concrete construction, as per specification (yet to be determined); all laid in trenches of 3m depth, backfilled with excavated material	m	171	£300.00	£51,300.00
<b>TOTAL WORKS COST</b>					<b>£398,950.00</b>

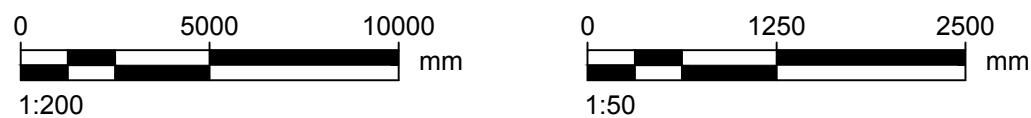
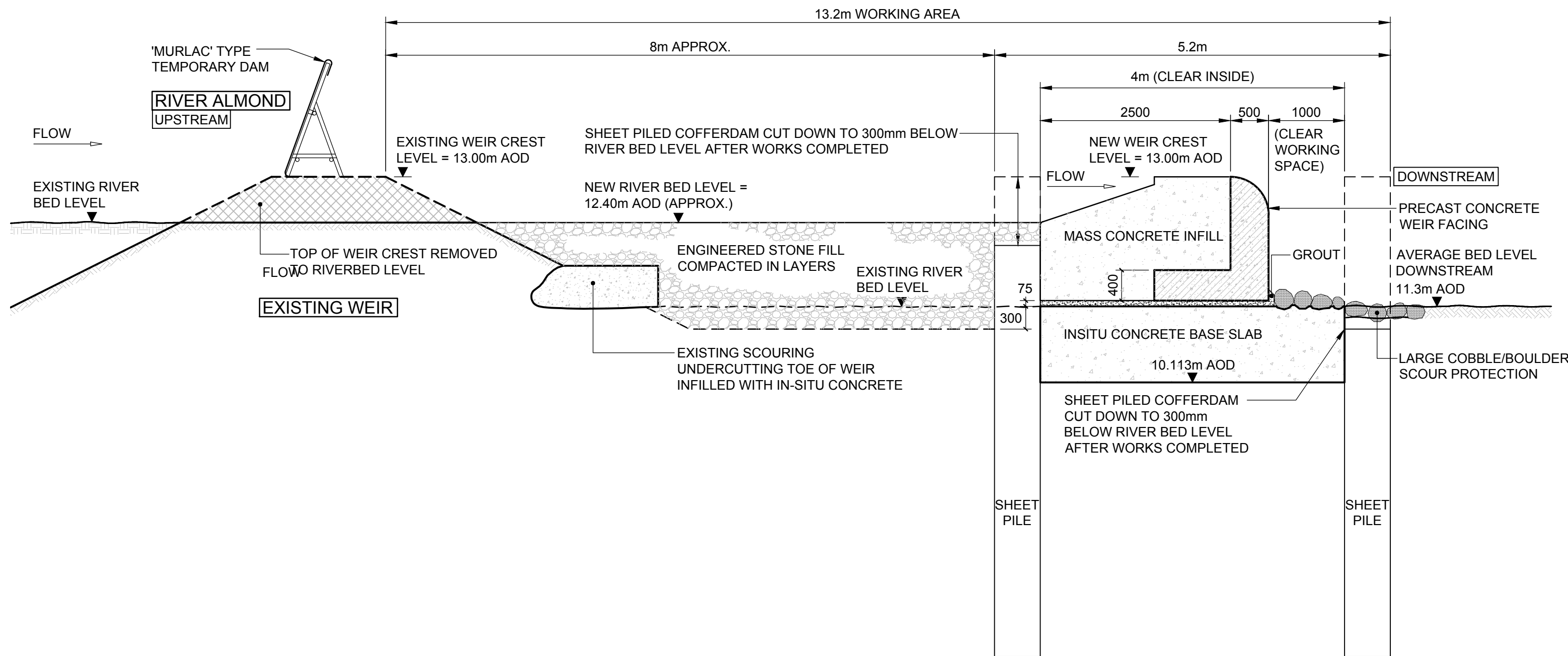
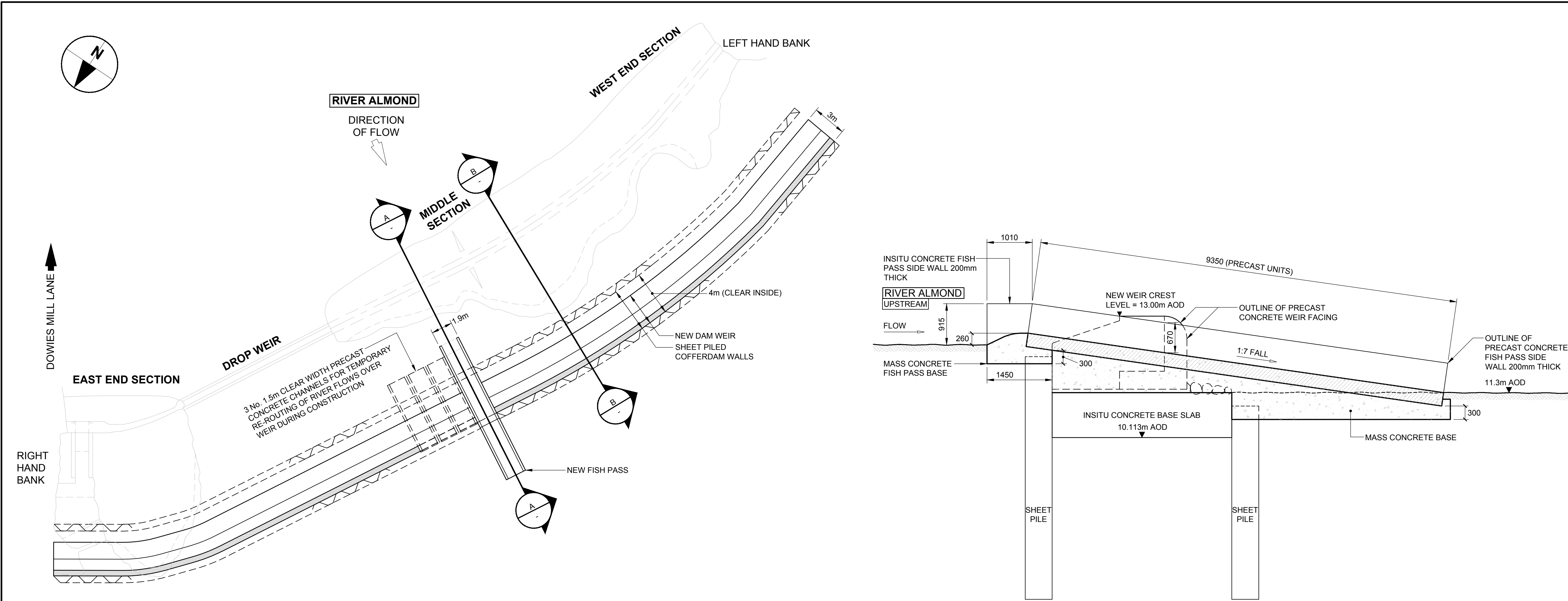
Order of Cost Estimate: Reconstruction of existing Gas Pipe

Item	Description	Unit	Qty	Base Rate	Total
<b>Ground and Soil Works Generally</b>					<b>£142,200.00</b>
<b>Temporary Works</b>					
A	Temporary Site Works; including temporary access roads, site boundaries, security and demobilisation; as per Dowies Mill Weir Proposed Preliminary Works	m <sup>2</sup>	2,400	£50.00	£120,000.00
B	Temporary Access Road	m <sup>2</sup>	inc	inc	inc
C	Temporary river diversion; murlac sheeting to be used, assumed to a depth of 0.6m, 40m in length; as per drawing 60589461/SK/02	m	40	£55.00	£2,200.00
D	Allowance for decommissioning of existing gas pipe / temporary blockage and diversion; assumed that of low pressure	m	80	£250.00	£20,000.00
<b>Demolition of Existing Gas Pipe</b>					<b>£198,075.00</b>
E	Allowance for the removal of large boulders within / around the reservoir area; to be broken up and disposed off-site	nr	115	£35.00	£4,025.00
F	Allowance for general site clearance and removal of debris, prepare works areas generally; all rubbish / debris to be carefully disposed off site; complete	m <sup>2</sup>	8,590	£5.00	£42,950.00
G	Allowance for making good embankment area which is exposed due to the water level lowering.	m <sup>2</sup>	3,022	£50.00	£151,100.00
<b>Reconstruction of the New Gas Pipe</b>					<b>£110,000.00</b>
<b>Specification TBC</b>					
H	Testing and liaison with SGN to determine the pressure of the existing gas pipe.	sum	1	£30,000.00	£30,000.00
I	Provisional allowance for the construction of the new Gas Pipe; all laid in trenches to a depth of 3m, and backfilling with excavated	m	80	£1,000.00	£80,000.00
<b>TOTAL WORKS COST</b>					<b>£450,275.00</b>

Order of Cost Estimate: Reconstruction of the Brig Foundations

Item	Description	Unit	Qty	Base Rate	Total
<b>Ground and Soil Works Generally</b>					<b>£283,225.00</b>
<b>Temporary Works</b>					<b>£227,475.00</b>
A	Temporary Site Works; including temporary access roads, site boundaries, security and demobilisation; as per Dowies Mill Weir Proposed Preliminary Works	m <sup>2</sup>	4,500	£50.00	£225,000.00
B	Temporary river diversion; murlac sheeting to be used, assumed to a depth of 0.6m; 45m in length; as per drawing 60589461/SK/02	m	45	£55.00	£2,475.00
<b>Site Establishment</b>					<b>£55,750.00</b>
C	Allowance for general site clearance and removal of debris, prepare works areas generally; all rubbish / debris to be carefully disposed off site; complete	sum	1	£50,000.00	£50,000.00
D	Allowance for the removal of large boulders within / around the reservoir area; to be broken up and disposed off-site; as per drawing 2015s3628-S-D511	nr	115	£50.00	£5,750.00
<b>Foundations of Brig</b>					<b>£107,560.00</b>
E	Allowance for making good existing foundation; 9m in length, 3m in width; assumed to a depth of 3m; including filling in concrete voids, repointing and waterproof wrapping. (Specification of foundation work TBC)	m <sup>2</sup>	85	£1,000.00	£85,000.00
F	Re-sectioning structured wall consisting of large boulders won in and around the embankment; including erosion resistant substrate over services to minimise bed movement; as per drawing 2015s3628-S-D513	m <sup>2</sup>	376	£60.00	£22,560.00
<b>Embankment</b>					<b>£105,770.00</b>
<b>Specification TBC</b>					
G	Allowance for making good exposed embankment around the river; as per drawing 2015s3628-S-D510	m <sup>2</sup>	3,022	£35.00	£105,770.00
<b>Footbridge Deck</b>					<b>£56,250.00</b>
<b>Specification TBC</b>					
H	Allowance for making good of existing footbridge; including removing all rubbish / debris	m <sup>2</sup>	225	£250.00	£56,250.00
<b>Maintenance</b>					<b>£50,000.00</b>
<b>Maintenance Schedule; assumed annual minor repair work on the Brig over a 20 year period</b>					
I	Allowance for maintenance of Brig foundations and deck; including filling in voids, upkeep of deck carried out annually, filling voids and repairing concrete patches; for the duration of 20 years	sum	1	£50,000.00	£50,000.00
<b>TOTAL WORKS COST</b>					<b>£602,805.00</b>

## Appendix B - Drawings Used



This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM or as required by law. AECOM accepts no responsibility and denies any liability whatsoever, to any party that uses or relies on this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from the stated dimensions.

**AECOM**

PROJECT

**DOWIE'S MILL  
WEIR INSPECTION**

CLIENT

**CITY OF EDINBURGH  
COUNCIL**

CONSULTANT

**AECOM Limited**

Edinburgh EH3 5DA  
0131.301.8600 tel 0131.301.8600 fax  
www.aecom.com

NOTES

- ALL DIMENSIONS IN MILLIMETRES ARE APPROXIMATE ONLY. DO NOT SCALE.
- ALL LEVELS IN METRES ARE APPROXIMATE ONLY AND REDUCED TO ORDNANCE DATUM UNLESS OTHERWISE NOTED.
- THE DESIGN SHOWN IS INDICATIVE IN NATURE AND IS INTENDED FOR BUDGET COSTING PURPOSES ONLY. THE DESIGN IS BASED UPON LIMITED INFORMATION - FOR FURTHER DETAILS SEE ACCOMPANYING REPORT DOWIE'S MILL WEIR COST ESTIMATES.
- THE POSITION & FORM OF THE FISH PASS SHOWN IS INDICATIVE ONLY AND THE FINAL FORM, RESTING FACILITIES, DIMENSIONS, POSITION etc SHOULD BE DETERMINED AS PART OF THE FINAL DESIGN.

LEGEND

ISSUE/REVISION

NO	DATE	DESCRIPTION
A	16/11/2018	DRAFT ISSUE
I/R	DATE	DESCRIPTION

KEY PLAN

PROJECT NUMBER

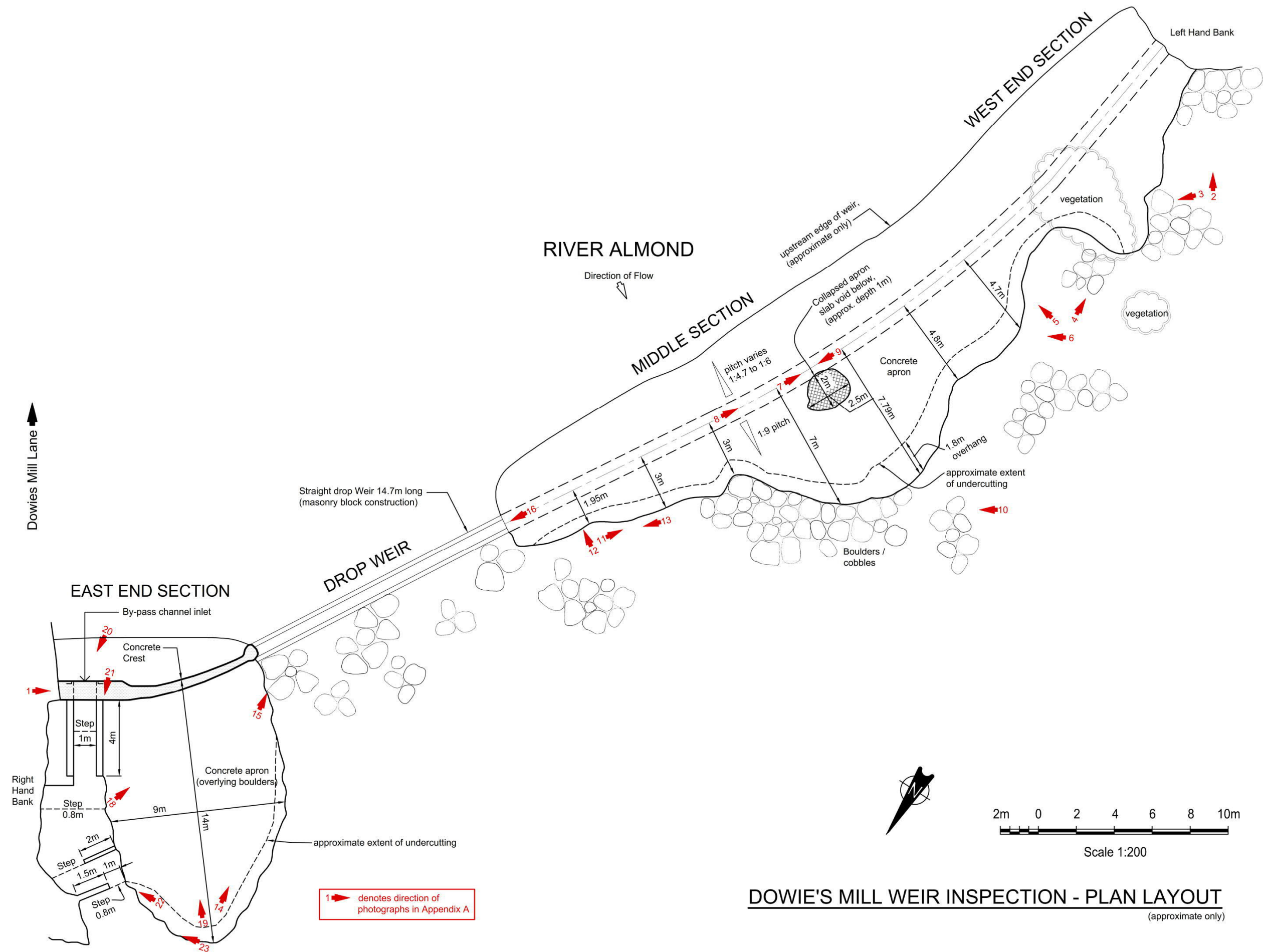
60589461

SHEET TITLE

**DOWIES MILL WEIR INSPECTION  
NEW DAM & FISH PASS  
CONCEPT DETAILS**

SHEET NUMBER

60589461/SK/02



**DOWIE'S MILL WEIR INSPECTION - PLAN LAYOUT**  
(approximate only)

Submitted by:-

AECOM  
1 Tanfield  
Edinburgh  
EH3 5DA