

APPENDIX A

List of Previous Documents Reviewed

List of documents reviewed by Mouchel

Report on Investigation of Flooding from River Almond, produced by Babbie Group on behalf of Tayside Regional Council Water Services Department, February 1994.

Benefits and Costs of Flood Defences Almondbank, produced by Ove Arup and Partners on behalf of PKC, March 1996.

Almond Valley Village Final Report on Flood Risk Assessment, produced by Babbie Group on behalf of Murdock Chartered Architects, February 1998.

Pow Burn / Mill Lade Flooding, produced by Babbie Group on behalf of PKC in December 1998.

Reappraisal of Flood Defences at Almondbank, produced by Babbie Group on behalf of PKC, March 2000.

Almondbank Site Flood Appraisal, produced by McLay Collier and Partners on behalf of the Ministry of Agriculture Fisheries and Food (MAFF), April 2000.

Almondbank Flood Prevention Scheme, Engineer's Report, produced by Royal Haskoning on behalf of PKC, March 2004.

Almondbank Flood Management Options Report, produced by Mouchel on behalf of PKC, March 2006.

Almond Valley Flood Risk Assessment, produced by URS Corporation Limited on behalf of PKC, March 2008.

Almondbank Flood Mitigation Scheme Public Consultation Report, undertaken by Mouchel on behalf of PKC, March 2008.

Geotechnical Factual Report, completed by Geotechnics on behalf of PKC, November 2010.

Feasibility Assessment Low's Work Weir Repairs, produced by Halcrow on behalf of PKC, February 2011.

Proposed Development Site at Almond Valley Village, Perth Flood Risk Assessment, produced by Kaya Consulting, May 2011.

APPENDIX B

SEPA Correspondence

Jenny Jones

To: Nicola Cooke
Subject: RE: Almond Bank Hydrology

From: MacConnachie, Malcolm [mailto:Malcolm.MacConnachie@sepa.org.uk]
Sent: 03 February 2011 16:33
To: Nicola Cooke
Subject: RE: Almond Bank Hydrology

Nicola,
 Thank you for this note of our discussions earlier this afternoon. I can confirm that your note is a satisfactory summary of the design flows and points agreed.
 Kind regards,
 Malcolm

A.Malcolm MacConnachie
 Senior Hydrologist
 Scottish Environment Protection Agency
 7 Whitefriars Crescent
 Perth

tel: 01738 627989
 fax: 01738 630997
 email: malcolm.macconnachie@sepa.org.uk

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From: Nicola Cooke [mailto:Nicola.Cooke@mouchel.com]
Sent: 03 February 2011 15:54
To: MacConnachie, Malcolm
Cc: Paul Lambert; Andrew Williamson; Peter Dickson
Subject: RE: Almond Bank Hydrology

Malcolm
 Many thanks for your time this afternoon to discuss the hydrological issues for the Almondbank Flood Mitigation Scheme.
 By way of recording and confirming our conversation, please find below the specific issues we discussed and the conclusions we came to:

- The flows for the River Almond remain unchanged as these are based on gauge data.
- Mouchel's recent assessment of the watercourses concluded that the critical storm duration for the East Pow Burn could be reduced from 17 to 15 hours, with the critical storm duration for the River Almond remaining at 17 hours.
- The input flows for the East Pow Burn have, to date, been those calculated using the Rainfall Runoff method (47.99m³/s) and these will now be replaced using the less conservative flows calculated using the Statistical Method (41.51m³/s).
- Taking account of the above changes to the scheme hydrology, the impacts of a range of return periods have been assessed to determine any reductions in those defence heights previously deemed unacceptable both in height and with reference to their impact on local residents. At this point in time, a scheme providing a 1 in 200 year return period is thought to provide acceptable defence heights in all areas apart from the short stretch of the East Pow Burn, immediately upstream of the confluence.
- The possibility of locally reducing levels of protection was discussed and deemed that this **may** be appropriate in order for a scheme to be viable.

In conclusion, the above methodology adopted by Mouchel is acceptable to SEPA and would not present any cause for objection to the proposed scheme at the time of formal submission.

Could you please confirm receipt of this email and forward any comments you may have in review of the above?

Regards
Nicola

- Nicola Cooke
Senior Engineer

Mouchel Ltd

Flooding, Coastal & Drainage

Engineering Division

Cunard Building, Water Street, Liverpool, L3 1ES

Tel: +44 (0151) 242 7777

Mobile +44 (0)7976 341637

Fax: +44 (0151) 242 7704

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From: Andrew Williamson
Sent: 31 January 2011 17:56
To: 'malcolm.macconnachie@sepa.org.uk'
Cc: Nicola Cooke; Paul Lambert
Subject: Almond Bank Hydrology
Importance: High

Malcolm,

In preparation for the telephone conference call between SEPA and Mouchel on Thursday 3rd February, I have attached a summary of the hydrological work that has been carried on the Almondbank Flood Mitigation Scheme and some hydraulic model simulation results.

Following on from your initial conversations with Peter Dickson on the 17th January 2011 regarding the Almondbank Hydraulic Modelling Report and scheme hydrology, Mouchel have carried out further work looking at the following;

- Concidence peaks of the two watercourses

- [Using Statistical flows along the East Pow Burn](#)

[Nicola Cooke with contact you on Thursday for the conference call.](#)
Kind regards,
Andrew

Andrew Williamson

Assistant Engineer

Flooding & Environmental Management - Liverpool team

Mouchel

+ Cunard Building, Liverpool L3 1ES

(0151 242 7777

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APPENDIX C

Geotechnical Risk Register

Project:		Almondbank Flood Mitigation Scheme					Assessor:		M Perkins				
Date Assessed:		March 2010					Revision:		A				
Reference	Hazard Description	Consequence	Prior to RCM					Risk Control Measures (RCM)	Residual Risk				
			Probability	Impact		Risk			Probability	Impact		Risk	
				Cost	Programme	Cost	Programme			Cost	Programme	Cost	Programme
1	Utilities – buried (gas, electric, telecoms, fibre optics etc)	Clashes or damage to services. Damage to plant and equipment. Injury to site staff.	4	4	4	16	16	<ul style="list-style-type: none"> Obtain detailed service plans from the client Undertake ground investigation and use inspection pits and CAT scans Design to account for service clashes Allow time for diverting services if necessary 	2	3	3	6	6
2	Clashes with existing structures (e.g. culverts)	Damage to structures. Delays associated with repair works.	4	4	3	16	12	<ul style="list-style-type: none"> Obtain detailed plans of underground structures from the client, Undertake ground investigation and use inspection pits and CAT scans Design to avoid underground structures 	1	4	3	4	3
3	Design changes following completion of GI	Structures designed on inadequate information and subsequently fail	4	4	4	16	16	<ul style="list-style-type: none"> Undertake comprehensive GI Minimise changes following GI Undertake additional GI if required 	3	4	4	12	12
4	Soft ground beneath proposed earth bunds	Subsidence and cracking of bunds due to failure of soft ground, difficulty placing earthworks materials	4	4	4	16	16	<ul style="list-style-type: none"> Undertake comprehensive GI Remove or treat soft material if required 	3	4	4	12	12
5	Deep seated slip surfaces below bund	Failure of bund side slopes	3	3	4	9	12	<ul style="list-style-type: none"> Undertake comprehensive GI Undertake slope stability analysis once suitable fill source is identified 	2	3	4	6	8
6	Thick layer of clay beneath proposed bund	Build up of excess pore pressures causing instability and failure of bund side slopes	3	3	4	9	12	<ul style="list-style-type: none"> Undertake comprehensive GI Undertake staged construction if required 	1	3	4	3	4
7	Erosion of slopes by rain or flood water	Destabilisation and failure of the bund	4	3	4	12	16	<ul style="list-style-type: none"> Use soil retention matting, rodent barriers and seed topsoil with grass seed 	1	3	4	3	4

Project:		Almondbank Flood Mitigation Scheme					Assessor:		M Perkins				
Date Assessed:		March 2010					Revision:		A				
Reference	Hazard Description	Consequence	Prior to RCM					Risk Control Measures (RCM)	Residual Risk				
			Probability	Impact		Risk			Probability	Impact		Risk	
				Cost	Programme	Cost	Programme			Cost	Programme	Cost	Programme
8	No suitable fill available locally for bund construction	Increased time and cost due to sourcing from further a field	3	4	4	12	12	<ul style="list-style-type: none"> Undertake a cost benefit analysis to determine requirement for earth bund 	1	4	4	4	4
9	Installation of steel sheet piles causes vibration	Vibration damage to adjacent buildings and services	4	4	4	16	16	<ul style="list-style-type: none"> Locate sheet piles away from residential areas and structure sensitive to vibration where possible Consider specialist measures to reduce piling vibrations Carry out property surveys before and after pile installation 	2	4	4	8	8
10	Hard material or obstructions	Sheet piles refuse at unacceptable depths	4	3	3	12	12	<ul style="list-style-type: none"> Undertake comprehensive GI Adopt a sheet pile section able to tolerate high driving stress Consider the need for pre-boring 	2	3	3	6	6
12	Elevated sulphate levels in the soils	Chemical attack of concrete	3	3	3	9	9	<ul style="list-style-type: none"> Undertake BRE SD1 analysis during GI Design new buried concrete to withstand likely sulphate levels 	1	3	3	3	3
13	Adverse weather conditions during earthworks season	Deterioration of otherwise acceptable materials. Decreased stability. Difficulty placing earthworks materials	4	3	4	12	16	<ul style="list-style-type: none"> Plan works for spring or summer if possible Limit earthworks in wet weather 	2	3	4	6	8

KEY TO GEOTECHNICAL RISK REGISTER

$$RISK (R) = PROBABILITY (P) \times IMPACT (I)$$

PROBABILITY

Factor	PROBABILITY (P)
5	Very Likely
4	Likely
3	Probable
2	Unlikely
1	Negligible

IMPACT

Factor	IMPACT (I)	Impact		
		Cost	Activity Duration	Contract Duration
5	Very High	>£1m	>4 week delay	>10week delay
4	High	£100k-£1m	1-4 week delay	>1 week delay
3	Medium	£10k-£100k	<1 week delay	<1 week delay
2	Low	£1k-£10k		None
1	Very Low	<£1k		None

RISK LEVEL

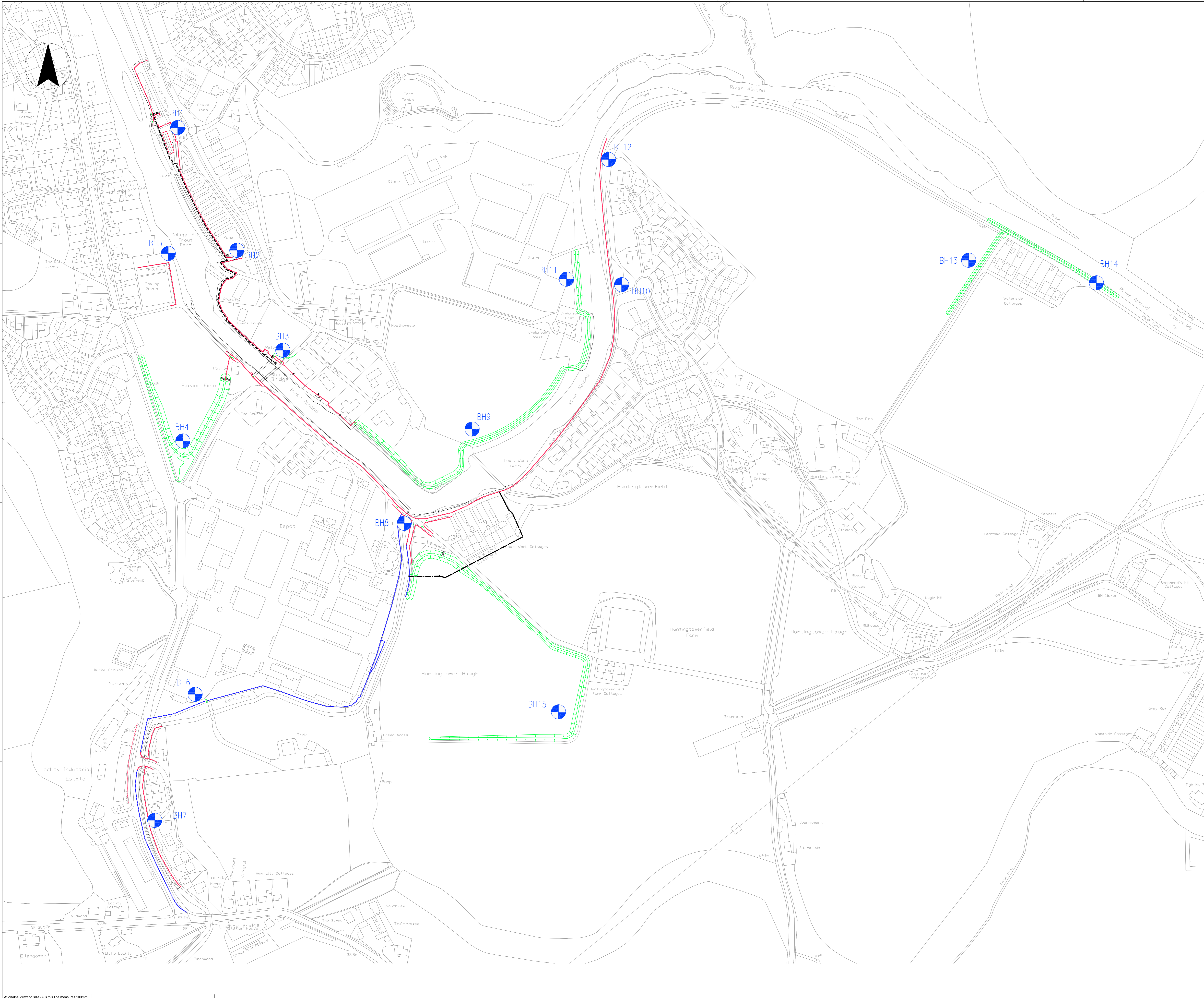
Risk Score <8 **Low Risk**

8< Risk Score <15 **Moderate Risk**

Risk Score >15 **High Risk**

APPENDIX D

Borehole Locations



LEGEND

	BH	BOREHOLE LOCATION
		REINFORCED CONCRETE FLOODWALL
		EMBANKMENT
		SHEET PILE WALLS WITH STONE FACING MASONRY
		DRAINAGE CULVERT FOR TROUT FARM HATCHERY
		CULVERT (OPTION 1&2) (LOW'S WORK COTTAGES)



A FOR INFORMATION		MC	DR	PL
Version	Amendment	23.02.10	25.02.10	25.02.10
Client	PERTH & KINROSS COUNCIL			
Project	ALMONDBANK FLOOD MITIGATION SCHEME			
Drawing Title	GEOTECHNICAL INVESTIGATION - PROPOSED BOREHOLE LOCATION PLAN			
Scale (at A0 size)		1:1500		
Purpose of Issue		FOR INFORMATION		
Office	Tel No	Drawing No	Version	
LIVERPOOL	0151 242 7777	1020063/GI/001	A	

At original drawing size (A0) this line measures 100mm

APPENDIX E

Services Schedule

Almondbank Flood Mitigation Scheme

Service Diversions



June 2012

Produced for
Perth and Kinross Council

Prepared by

mouchel 

Nicola Cooke
Mercury Court
Tithebarn Street
Liverpool
L2 2QL

T 0151 237 2020

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A	Info	A Williamson	24/10	P Lambert	28.11	N Cooke	5.12

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1 Introduction

The proposed Almondbank Flood Mitigation Scheme structures will interact with infrastructure services in the vicinity. Temporary and permanent diversions will be required for services including gas, electricity, telecommunications, water supply and sewerage.

The classification of the different types of diversions are as follows:

Temporary Diversions:

These are service diversions which must take place prior to the construction of the new flood alleviation structures but can be reinstated to their original location post construction.

Permanent Diversions:

These are service diversions which must take prior to the construction of the new flood mitigation scheme structures and cannot be reinstated in their original location post construction due to their proximity to the new structures.

Protection:

These are service diversions which must be protected against all operations involved in construction of the new flood mitigation scheme structures and cannot be reinstated in their original location post construction due to their proximity to the new structures.

This document is a live document and has been compiled using the best available information at this stage. Locations and details of services listed in this document may be subject to changes at detail design.

Further consultation and analysis is required to fully establish details of private services located on the Vector Aerospace and College Mill Trout Farm site in proximity of the proposed flood mitigation scheme structures. Services have been identified and recorded on these sites as part of this document.

2 Service Diversions Required

2.1 Diversions by plan reference

The locations of the services in conflict with the proposed flood mitigation scheme structures are noted on the scheme drawings with the Service Reference Number from the table below. Section 3 of this report identifies the data sources used to compile the following table.

Drawing Reference	Service Ref No.	Service Affected	Proposed Action
OPT/200	100	Gas main running across Main Street in close proximity to proposed surface water drainage system. (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
OPT/200	101	Gas main running parallel with Main Street intersecting the proposed surface water drainage system. (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
OPT/200	102	Combined sewer intersecting the proposed surface water drainage system running parallel with Main Street. (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
OPT/200	103	Water main intersecting the proposed surface water drainage system running parallel with Main Street. (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
OPT/200	104	Underground power line running parallel with Main Street intersecting proposed surface water drainage system. (Temporary Diversion)	Operations will be carried out to ensure the temporary diversion required is undertaken during the works. Seek guidance from the utility company.

OPT/200	105	Underground power line running parallel with Main Street intersecting proposed surface water drainage system. (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
OPT/200	106	Overhead Telecommunications running parallel with Main Street in close proximity to proposed surface water drainage system. (Protection)	Operations will be carried out to ensure the necessary protection requirement to the cable duct. Seek guidance from utility company.
716516/OPT/201		River Almond Left bank	
OPT/201	1	The inlet sluice gate to the Trout Farm Hatchery. (Permanent Diversion)	The current sluice gate to the Trout Farm Hatchery is to be raised to the height of the proposed flood defences.
OPT/201	2	The proposed outlet of the water to the Trout Farm Hatchery. (Permanent Diversion)	The proposed outlet of the water flowing through the trout farm is to have a permanent diversion underneath the proposed flood defence wall.
716516/OPT/202		River Almond Left bank	
OPT/202	3	The existing lade channel at the bottom of the Trout Farm Hatchery. (Protection)	The existing lade channel is to be protected with a proposed reinforced concrete flood wall.
OPT/202	4A, 4B, 4C, 4D	Overhead Telecommunications (BT) crossing from Pond 1 to College Mill Trout Farm. The BT line crosses the defences at a number of locations (Temporary Diversion)	Operations will be carried out to ensure the temporary diversion required is undertaken during the works. Seek guidance from the utility company.
OPT/202	5	The existing sluice gate at the bottom of the Trout Farm Hatchery.	The existing sluice gate is to be raised to the level of the proposed reinforced concrete flood wall prior to the works.

		(Protection)	Seek guidance from the Trout Farm owner.
OPT/202	6	The existing drainage system adjacent to the top pond of the Trout Farm. (Protected)	This outfall should be diverted prior to the works to ensure it does not conflict with the new flood defence wall. Seek guidance from the Trout Farm owner.
OPT/202	7	The existing sluice gate at the downstream end of the lower pond out-falling into the River Almond. (Permanent Diversion)	This sluice gate should be diverted prior to the works to ensure it does not conflict with the new flood defence wall. Seek guidance from the Trout Farm owner.
716516/OPT/203		River Almond Left Bank	
OPT/203	8	Overhead power line running west of proposed flood wall (Protection)	Operations will be carried out to ensure the necessary protection requirements to the power cable. Seek guidance from the utility company.
OPT/203	9	The existing Trout Farm drainage system is to tie in with the new flood wall. (Protection)	Operations will be carried out to ensure the necessary protection requirements to the existing drainage system. Seek guidance from the Trout Farm owner.
716516/OPT/204		River Almond Left Bank	
OPT/204	10	Underground power line across the River Almond intersecting the proposed flood wall at the downstream end of Trout Farm and property boundary of Rhencullew (Protection)	Operations will be carried out to ensure the necessary protection requirements to the cable duct. Seek guidance from the utility company.
OPT/204	11	Overhead power line at property boundary of Rhencullew in close proximity to raising ground levels at Trout Farm	Operations will be carried out to ensure the temporary diversion required is undertaken during the works. Seek guidance from the

		(Temporary Diversion)	utility company.
OPT/204	12	The existing drainage outfall at the downstream end of the Trout Farm. (Temporary Diversion)	Operations will be carried out to ensure the necessary protection requirements to the existing drainage outfall.
OPT/204	13	Existing 300mm Surface water outfall at disused weir location, running north of Rhencullew into River Almond. (Temporary Diversion)	Operations will be carried out to ensure the temporary diversion required is undertaken during the works. The outfall pipe will be incorporated into the flood wall.
OPT/204	14	Underground power line running South East from Rhourkton house across to Druids House land (Protection)	Operations will be carried out to ensure the necessary protection requirements to the cable duct. Seek guidance from the utility company.
OPT/204	15	Overhead Telecommunication (BT) line intersecting proposed flood wall at property boundary at Druids House (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
OPT/204	16	Overhead power line running across land South East of Druids House intersecting proposed flood wall, crossing River Almond u/s of proposed footbridge (Protection)	Operations will be carried out to ensure the necessary protection requirements to the power cable. Seek guidance from the utility company.
OPT/204	17	Overhead power line running across land South East of Druids House intersecting proposed flood wall, crossing river Almond (Protection)	Operations will be carried out to ensure the necessary protection requirements to the power cable. Seek guidance from the utility company.
716516/OPT/204		River Almond Right Bank	
OPT/204	18	Overhead power lines running parallel with Bowling Green	Operations will be carried out to ensure the necessary protection

		boundary. Intersecting the location of the proposed pavilion (Protection)	requirements to the power cable. Seek guidance from the utility company.
OPT/204 & 205	19	Combined Sewer intersecting proposed flood embankment and pavilion on Playing Field. (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
716516/OPT/205		River Almond Right Bank	
OPT/205	20	Overhead power lines running parallel with River Almond along existing footpath u/s of existing footbridge, intersects proposed flood wall at playing field pavilion (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
OPT/205	21	Gas main running parallel to Main Street in close proximity to the proposed surface water drainage system. (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
OPT/205	22	Water main in close proximity to proposed kerb drainage system at Main Street. (Protection)	Operations will be carried out to ensure the necessary protection requirements to the water main, taking guidance from the utility company.
OPT/205	23	Combined sewer in close proximity to proposed kerb drainage system at Main Street. (Protection)	Operations will be carried out to ensure the necessary protection requirements to the water main, taking guidance from the utility company.
OPT/205	24	Overhead power lines running in close proximity to proposed kerb drainage system at Main Street, crossing River Almond and at playing field pavilion	Operations will be carried out to ensure the necessary protection requirements to the power cable. Seek guidance from the utility company.

		(Protection)	
OPT/205	25	Underground power lines running in close proximity to proposed kerb drainage system at Main Street (Protection)	Operations will be carried out to ensure the necessary protection requirements to the cable duct. Seek guidance from the utility company.
OPT/205	26	Combined sewer intersecting proposed flood embankment on Playing Field crosses the proposed embankment in two locations. (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
OPT/205	27	Gas pipeline runs along Main Street parallel to the eastern flood embankment and runs through the proposed flood embankment on the western extent. (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
716516/OPT/206		River Almond Right Bank	
OPT/206	28	Overhead Telecommunication (BT) line runs along both the east and west sides of the playing field embankment (Protection)	Operations will be carried out to ensure the necessary protection requirement to the cable duct. Seek guidance from utility company.
OPT/206	29	Overhead power line in close proximity to proposed flood storage embankment (Protection)	Operations will be carried out to ensure the necessary protection requirements to the power cable. A check of the clearance between the flood embankment and the power cable is needed. Seek guidance from the utility company.
716516/OPT/207		River Almond Left Bank	
OPT/207	32	Overhead telecommunications lines running parallel with the approach footpath to proposed River Almond	Operations will be carried out to ensure the necessary protection requirement to the cable duct.

		footbridge (Protection)	Seek guidance from utility company.
OPT/207	33	Overhead Telecommunication (BT) line intersecting proposed flood wall and Almond footbridge access ramp (Temporary Diversion)	Operations will be carried out to ensure the temporary diversion required is undertaken during the works. Seek guidance from the utility company.
OPT/207	34	Overhead Telecommunication (BT) line intersecting proposed flood wall and Almond footbridge access ramp (Temporary Diversion)	Operations will be carried out to ensure the temporary diversion required is undertaken during the works. Seek guidance from the utility company.
OPT/207	35	Overhead power line at the boundary of No.1 Deer Park intersecting the proposed flood wall. (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
OPT/207	36	Underground power lines intersecting the proposed flood wall at the boundary of No.1 Deer Park. (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
OPT/207	37	Overhead power lines running across the River Almond intersecting the proposed flood wall and Almond footbridge access steps. (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
OPT/207	38	Gas pipeline running parallel with the approach footpath to proposed River Almond footbridge and intersecting the proposed flood wall at No.1 Deer Park property	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.

		boundary (Permanent Diversion)	
716516/OPT/207		River Almond Right Bank	
OPT/207	30	Overhead power line located in the playing field pavilion car park intersecting the proposed re-location of the Almond footbridge (Temporary Diversion)	Operations will be carried out to ensure the temporary diversion required is undertaken during the works. Seek guidance from the utility company.
OPT/207	31	Underground power line located in the playing field pavilion car park intersecting the proposed flood wall, bowling green access road and flood embankment (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
OPT/207	39	Overhead Telecommunication (BT) line intersecting the proposed flood wall and Almond footbridge access ramp. (Temporary Diversion)	Operations will be carried out to ensure the temporary diversion required is undertaken during the works. Seek guidance from the utility company.
OPT/207	40	Overhead power lines running parallel and crossing the proposed flood wall, behind the location of the current pavilion. (Temporary Diversion)	Operations will be carried out to ensure the temporary diversion required is undertaken during the works. Seek guidance from the utility company.
OPT/207	41	Overhead power lines crossing the proposed flood wall, behind the location of the current pavilion. (Temporary Diversion)	Operations will be carried out to ensure the temporary diversion required is undertaken during the works. Seek guidance from the utility company.
OPT/207	42	Overhead power lines running across the River Almond intersecting the proposed flood wall	Operations will be carried out to ensure the temporary diversion required is undertaken during the works. Seek guidance from the

		(Temporary Diversion)	utility company.
OPT/207	43	Overhead power lines running across the River Almond intersecting the proposed flood wall and Almond footbridge access steps. (Temporary Diversion)	Operations will be carried out to ensure the temporary diversion required is undertaken during the works. Seek guidance from the utility company.
OPT/207	44	Underground power lines intersecting the proposed flood wall at the boundary of No.1 Deer Park. (Temporary Diversion)	Operations will be carried out to ensure the temporary diversion required is undertaken during the works. Seek guidance from the utility company.
OPT/207	45	Gas pipeline running across the River Almond intersecting the proposed flood wall (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
OPT/207	46	Overhead Telecommunication (BT) line running across the River Almond intersecting the proposed Almond footbridge access ramp and flood wall. (Temporary Diversion)	Operations will be carried out to ensure the temporary diversion required is undertaken during the works. Seek guidance from the utility company.
OPT/207	47	Overhead power lines intersecting Vector Aerospace boundary intersecting proposed road alignment over the proposed flood storage area (Protection)	Operations will be carried out to ensure the necessary protection requirements to the power cable. Seek guidance from the utility company.
OPT/207	48	Underground power lines intersecting Vector Aerospace boundary intersecting proposed road alignment over the proposed flood storage area. (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.

OPT/207	49	<p>Combined Sewer running in parallel to Vector Aerospace boundary intersecting proposed flood wall and highway access ramp.</p> <p>(Permanent Diversion)</p>	<p>Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.</p>
OPT/207	50	<p>Water main running parallel with the River Almond intersecting the proposed drainage outfall from proposed vector Aerospace surface water drainage system.</p> <p>(Permanent Diversion)</p>	<p>Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.</p>
OPT/207	51	<p>Gas pipeline running parallel with Vector Aerospace boundary in close proximity to the proposed flood wall and highway access ramp.</p> <p>(Protection)</p>	<p>Operations will be carried out to ensure the necessary protection requirements to the gas pipe. Seek guidance from the utility company.</p>
OPT/207	52	<p>Overhead power lines running parallel with Vector Aerospace boundary intersecting proposed flood wall and highway access ramp.</p> <p>(Protection)</p>	<p>Operations will be carried out to ensure the necessary protection requirements to the power cable. Seek guidance from the utility company.</p>
OPT/207	53	<p>Overhead Telecommunication line (BT) running along Vector Aerospace boundary intersecting the proposed flood wall and ramp access</p> <p>(Temporary Diversion)</p>	<p>Operations will be carried out to ensure the temporary diversion required is undertaken during the works. Seek guidance from the utility company.</p>
716516/OPT/207 A		River Almond Right Bank	
OPT/207A	54	<p>Combined Sewer running parallel with the River Almond intersecting the proposed drainage outfall from the proposed Vector Aerospace</p>	<p>Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from</p>

		<p>surface water drainage system.</p> <p>(Permanent Diversion)</p>	the utility company.
OPT/207A	55	<p>Gas main running parallel with the River Almond intersecting the proposed drainage outfall from the proposed Vector Aerospace surface water drainage system.</p> <p>(Protection)</p>	<p>Operations will be carried out to ensure the necessary protection requirements to the gas pipe. Seek guidance from the utility company.</p>
OPT/207A	56	<p>Water main running parallel with the River Almond intersecting the proposed drainage outfall from the proposed Vector Aerospace surface water drainage system.</p> <p>(Protection)</p>	<p>Operations will be carried out to ensure the necessary protection requirements to the water main. Seek guidance from the utility company.</p>
OPT/207A	57	<p>Overhead Telecommunication line (BT) running parallel with the River Almond intersecting the proposed flood wall.</p> <p>(Temporary Diversion)</p>	<p>Operations will be carried out to ensure the temporary diversion required is undertaken during the works. Seek guidance from the utility company.</p>
OPT/207A	58	<p>Overhead power running parallel with the River Almond intersecting the proposed drainage outfall from the proposed Vector Aerospace surface water drainage system</p> <p>(Protection)</p>	<p>Operations will be carried out to ensure the necessary protection requirements to the power cable. Seek guidance from the utility company.</p>
716516/OPT/208		River Almond Right Bank	
OPT/208	59	<p>Overhead power running parallel with the River Almond intersecting the proposed Vector Aerospace surface water drainage system</p> <p>(Protection)</p>	<p>Operations will be carried out to ensure the necessary protection requirements to the power cable. Seek guidance from the utility company.</p>
OPT/208	60	<p>Overhead Telecommunication line (BT) running parallel with the River</p>	<p>Operations will be carried out to ensure the temporary diversion</p>

		Almond intersecting the proposed Vector Aerospace surface water drainage system. (Temporary Diversion)	required is undertaken during the works. Seek guidance from the utility company.
OPT/208	60A	Overhead Telecommunication line (BT) running parallel with the River Almond intersecting the proposed Vector Aerospace surface water drainage system (Temporary Diversion)	Operations will be carried out to ensure the temporary diversion required is undertaken during the works. Seek guidance from the utility company.
OPT/208	60B	Overhead power line running parallel with the River Almond intersecting the proposed Vector Aerospace surface water drainage system (Protection)	Operations will be carried out to ensure the necessary protection requirements to the power cable. Seek guidance from the utility company.
716516/OPT/212		River Almond Right Bank	
OPT/212	61	Gas main running parallel with River Almond intersecting proposed flood wall. (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company. Diversion to tie into proposed bridge across the East Pow Burn.
OPT/212	62	Foul water pipe running parallel with River Almond intersecting proposed flood wall. (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company. Diversion to tie into proposed bridge across the East Pow Burn.
OPT/212	63	Telecommunication (BT) line running parallel with the East Pow Burn intersecting the proposed sheet pile wall and flood embankment	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.

		(Permanent Diversion)	
OPT/212	64	Underground power line running parallel with the East Pow Burn intersecting the proposed sheet pile wall and flood embankment. (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.

716516/OPT/213		River Almond Right Bank	
OPT/213	65	Combined Sewer running across Vector Aerospace boundary intersecting the proposed flood wall and ramp access at the entrance to the Scottish Water Waste Water Treatment Plant (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
OPT/213	66	Overhead power line running parallel with the River Almond intersecting the proposed flood wall. (Protection)	Operations will be carried out to ensure the necessary protection requirements to the power cable. Seek guidance from the utility company.
OPT/213	67	Overhead Telecommunication (BT) line running parallel with the River Almond intersecting the proposed flood wall (Temporary Diversion)	Operations will be carried out to ensure the temporary diversion required is undertaken during the works. Seek guidance from the utility company.
OPT/213	68	Gas main running parallel with the River Almond intersecting the proposed highway bridge across the confluence of the East Pow Burn and River Almond (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
OPT/213	69	Foul water pipe running parallel with the River Almond intersecting	Operations will be carried out to ensure the permanent diversion

		<p>the proposed highway bridge across the confluence of the East Pow Burn and River Almond</p> <p>(Permanent Diversion)</p>	<p>required is undertaken prior to the works. Seek guidance from the utility company.</p>
OPT/213	70	<p>Overhead power line running parallel with the River Almond intersecting the proposed sheet pile wall.</p> <p>(Permanent Diversion)</p>	<p>Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.</p>
OPT/213	71	<p>Overhead Telecommunication (BT) line running parallel with the River Almond intersecting the proposed sheet pile wall</p> <p>(Permanent Diversion)</p>	<p>Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.</p>
OPT/213	72	<p>Underground power line running parallel with the East Pow Burn intersecting the proposed sheet pile wall</p> <p>(Permanent Diversion)</p>	<p>Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.</p>
OPT/213	73	<p>Underground power line running parallel with the River Almond intersecting the proposed sheet pile wall with cladding</p> <p>(Permanent Diversion)</p>	<p>Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.</p>
OPT/213	74	<p>Overhead Telecommunication (BT) line running parallel with the River Almond intersecting the proposed sheet pile wall with cladding</p> <p>(Temporary Diversion)</p>	<p>Operations will be carried out to ensure the temporary diversion required is undertaken during the works. Seek guidance from the utility company.</p>
OPT/213	75	<p>Overhead power line running parallel with the River Almond intersecting the proposed sheet pile wall with cladding</p>	<p>Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from</p>

		(Permanent Diversion)	the utility company.
OPT/213	76	Water main running parallel with the approach road to the East Pow Burn confluence road bridge intersecting the proposed retaining wall and road re-alignment for the proposed road bridge (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Services will run underneath the new road re-alignment. Seek guidance from the utility company.
OPT/213	77	Underground power line running parallel with the approach road to the East Pow Burn confluence road bridge intersecting the proposed retaining wall and road re-alignment for the proposed road bridge (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
OPT/213	78	Gas main running parallel with the approach road to the East Pow Burn confluence road bridge intersecting the proposed retaining wall and road re-alignment for the proposed road bridge (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
OPT/213	79	Overhead power line running parallel with the approach road to the East Pow Burn. The power line intersects the proposed retaining wall and road re-alignment. (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
OPT/213	80	Overhead Telecommunication (BT) line running parallel with the approach road to the East Pow Burn confluence road bridge intersecting the proposed retaining wall and road re-alignment for the proposed road bridge	Operations will be carried out to ensure the temporary diversion required is undertaken during the works. Seek guidance from the utility company.

		(Temporary Diversion)	
716516/OPT/214		East Pow Burn Right Bank	
OPT/214	81	Overhead Telecommunication (BT) line running parallel with the East Pow Burn intersecting the proposed embankment and sheet pile wall at Green Acres (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
OPT/214	82	Underground Electricity cable running parallel with the East Pow Burn. The cable intersects the proposed embankment and sheet pile wall at Green Acres (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
716516/OPT/215		East Pow Burn Left Bank	
OPT/215	82A	Telecommunications (BT) crossing the East Pow Burn intersecting the proposed sheet pile wall (Temporary Diversion)	Operations will be carried out to ensure the temporary diversion required is undertaken during the works. Seek guidance from the utility company.
OPT/215	83	Underground Telecommunications (BT) crossing the East Pow Burn intersecting the proposed sheet pile wall (Temporary Diversion)	Operations will be carried out to ensure the temporary diversion required is undertaken during the works. Seek guidance from the utility company.
OPT/215	84	Underground Electricity cable running parallel with the East Pow Burn bank intercepting proposed retaining wall and road alignment (Temporary Diversion)	Operations will be carried out to ensure the temporary diversion required is undertaken during the works. Seek guidance from the utility company.
OPT/215	85	Gas main running parallel with the East Pow Burn bank intercepting proposed retaining wall and road	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from

		alignment (Permanent Diversion)	the utility company.
OPT/215	86	Telecommunications (BT) running parallel with the East Pow Burn intersecting the proposed retaining wall and road re-alignment (Temporary Diversion)	Operations will be carried out to ensure the temporary diversion required is undertaken during the works. Seek guidance from the utility company.
OPT/215	87	Water main running parallel beneath Lochty Park bridge intersecting proposed new highway bridge and road re-alignment (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Services will run under the new Lochty Park Bridge. Seek guidance from the utility company.
OPT/215	88	Gas main running parallel beneath Lochty Park Bridge intersecting proposed new highway bridge and road re-alignment (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
OPT/215	92A	Gas main running parallel with the East Pow Burn bank intercepting proposed retaining wall and road alignment (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
OPT/215	92B	Telecommunications (BT) running parallel with the East Pow Burn intersecting the proposed retaining wall and road re-alignment (Temporary Diversion)	Operations will be carried out to ensure the temporary diversion required is undertaken during the works. Seek guidance from the utility company.
OPT/215	92C	Water main running parallel beneath Lochty Park bridge intersecting proposed new highway bridge and road re-alignment	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.

		(Permanent Diversion)	
716516/OPT/215		East Pow Burn Right Bank	
OPT/215	89	Underground electricity cable running parallel beneath Lochty Park bridge. The cable intersects the proposed new highway bridge and road re-alignment (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
OPT/215	90	Gas main running parallel beneath Lochty Park Bridge intersecting proposed new highway bridge and road re-alignment (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
OPT/215	91	Surface water system running parallel beneath Lochty Park bridge intersecting proposed new highway bridge and road re-alignment (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Services will run under the new Lochty Park Bridge. Seek guidance from the utility company.
OPT/215	92D	Underground electricity cable running parallel with the East Pow Burn bank in close proximity to proposed flood wall. The cable intercepts the proposed retaining wall and road re-alignment. (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
OPT/215	92E	Surface water system running parallel beneath Lochty Park bridge intersecting proposed new highway bridge, road re-alignment and flood wall (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Services will run under the new Lochty Park Bridge. Seek guidance from the utility company.
OPT/215	93	Underground electricity cable crossing the East Pow Burn into	Operations will be carried out to ensure the permanent diversion

		Vector Aerospace. The cable intercepts the proposed sheet pile wall (Permanent Diversion)	required is undertaken prior to the works. Seek guidance from the utility company.
OPT/215	94	Telecommunications (BT) crossing the East Pow Burn intersecting the proposed flood wall (Temporary Diversion)	Operations will be carried out to ensure the temporary diversion required is undertaken during the works. Seek guidance from the utility company.
716516/OPT/216		Right Bank	
OPT/216	95	Underground electricity cable running parallel with the East Pow Burn in close proximity to the proposed flood wall. (Protection)	Operations will be carried out to ensure the necessary protection requirements to the cable duct. Seek guidance from the utility company.
OPT/216	96	Gas main running parallel to the left bank of the East Pow Burn in close proximity to proposed flood wall (Protection)	Operations will be carried out to ensure the necessary protection requirements to the gas pipe. Seek guidance from the utility company.
OPT/216	97	Underground Electricity cable running parallel with the East Pow Burn bank intersecting proposed flood wall. (Permanent Diversion)	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.
OPT/216	98	Telecommunications (BT) running East of Lochty Park intersecting the proposed flood wall (Temporary Diversion)	Operations will be carried out to ensure the temporary diversion required is undertaken during the works. Seek guidance from the utility company.
OPT/216	99	Underground Electricity cable running parallel with the East Pow Burn bank intersecting proposed flood wall.	Operations will be carried out to ensure the permanent diversion required is undertaken prior to the works. Seek guidance from the utility company.

		(Permanent Diversion)	
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A number of locations have been identified where the proposed flood mitigation scheme crosses or directly affects existing services. In these locations the contractor should contact the respective utility company prior to commencement of works to check location and details of diversion required.

- Operations to existing water mains will be in association with Scottish Water or other organisation as appropriate.
- Operations to existing gas mains will be in association with Scotia Gas Networks PLC or other organisation as appropriate.
- Operations to existing telecoms will be in association with BT or other organisation as appropriate.
- Operations to existing power cables will be in association with Scottish and Southern Energy PLC or other organisation as appropriate.
- It has been reported that there is no virgin media telecommunications network in this locality.

2.2 Additional works

In addition to those temporary and permanent service diversions as detailed in section 2.1 there will likely be additional localised service diversions to individual properties which are not recorded formally.

These include:

- Water service / supply pipes
- Sewer tails
- Gas, electricity and telecommunications.
- Septic tanks

Please note that water mains are normally laid at a depth of 750mm to 1 metre cover from existing carriageway or footpath levels.

The details of existing street furniture have not been thoroughly investigated in this report and their locations will be required and investigated during the detailed design process.

3 References

BT, 29/10/2007, Plant Information Reply for Almondbank N00625, N00626, N00525, N00526, N00725, N00726

Scottish and Southern Energy plc, 10/02/2007, All Voltages, Almondbank, Perth, Grid Ref: 306490,726391 and Grid Ref: 306707, 725565

Scottish Water, 08/11/2007, Almondbank Flood Defence Study, Water & Waste water

Scottish Water, 25/11/2008, 25/11/2008, Water & Waste water

Scottish Water 07/007/2009. Almondbank Perth, Water & Waste water

Scotland Gas Networks, 19/11/2007, N00725, Grid Ref: 307338, 725725, N00626
Grid Ref: 306350, 726613, N00626, Grid Ref: 306883,726191

APPENDIX F

Responses from Statutory Undertakers

MOUCHEL

MERCURY COURT,
TITHEBARN STREET,
LIVERPOOL,
L2 2QP

FAO: NICOLA COOKE

23rd November

Our Ref: UN18618

Your Ref: 1020063

Dear Madam

**Almondbank Flood Mitigation
Various locations within Almondbank
NR&SWA Section 142**

Thank you for your Draft Scheme dated 31st October 2011 and copies of your drawings numbered . I enclose plans showing approximate positions of Openreach apparatus.

It would appear, from your proposals, that alterations to existing Openreach apparatus may be necessary.

A budget estimate of the possible cost of diverting / protecting Openreach apparatus is £112,171.09 including VAT.

Prior to any works involving Openreach apparatus, we must agree a Specification and provide a Detailed Estimate of costs to the Principal or Promoter of this project. The costs incurred in producing the Specification and Detailed Estimate are chargeable and for this scheme are estimated to be £2,904.00 including VAT. The charge applies whether or not your works proceed to execution. Your payment in advance, for the estimated cost of the design work, will be required before any works proceed on this scheme.

It is stressed that these figures are estimates, intended as a guide, and the actual amount could be significantly different. The actual costs incurred will be charged whether they are more or less than the estimate.

None of the materials required has a lead time of greater than 3 months and therefore advance ordering should not be required.

Repayments (Alterations)

PPGBTD
TELEPHONE HOUSE
21 WARD ROAD
DUNDEE
ANGUS
DD1 1BA

tel 01382 302433
fax 01382 302082
mob 07918 682225
Web www.openreach.co.uk/orpg/home/netw
email paul.barile@openreach.co.uk

British Telecommunications plc
Registered Office:
81 Newgate Street, London EC1A 7AJ
Registered in England and Wales no. 1800000

www.openreach.co.uk
rebuild

In order to avoid potential damage to our apparatus, we offer a free site visit service to locate and mark the position of Openreach apparatus within your work area. To arrange a site visit from a Plant Protection Officer call 0800 917 3993 Fax: 01332 578650 Email: dbyd@openreach.co.uk

Yours faithfully



PAUL BARILE
Repayment Project Engineer

Repayments (Alterations)

PPGBTD

TELEPHONE HOUSE

21 WARD ROAD

DUNDEE

ANGUS

DD1 1BA

tel 01382 302433

fax 01382 302082

mob 07918 682225

Web www.openreach.co.uk/orpg/home/netw

email paul.barile@openreach.co.uk

rebuild

Network Alterations Diversionary Works Payment Details

Please forward your order (free from contractual conditions) and the estimated sum of £2,904.00 (including VAT).

There are two ways to pay:

1. By Cheque

- This is our preferred method of payment
- Please make cheques payable to **British Telecommunications Plc**
- Send your cheque with your order / letter of authorisation to proceed with the works to the Project Engineer shown below (order not to contain contractual conditions)
- Write your cheque number here: _____
- Write the cheque amount here: £ _____

2. Using Bank Automated Clearing Services (BACS)

When your order / letter of authorisation to proceed with the works has been received an invoice for payment will be returned with the necessary BACS payment details.

Please quote the Openreach reference number / invoice number otherwise payment may not be allocated to your job.

N.B. For either method of payment please complete this form and return with your order / letter of authorisation to the Project Engineer, address below. Please remember, however you pay, the works will not commence until this form and your payment have been received.

Title/Location of Work	Almondbank Flood Mitigation, Various locations within Almondbank
Project Engineer Name	PAUL BARILE
Postal Address	PPGBTD, TELEPHONE HOUSE, 21 WARD ROAD, DUNDEE, ANGUS, DD1 1BA
Openreach Reference	UN18618
Company Name	MOUCHEL
Client Contact	NICOLA COOKE
Client Tel	0151 237 4061

For advice or assistance in completing this form please call Kath Clarke 0131 345 0099
Our VAT number is 245719348

Repayments (Alterations)

PPGBTD
TELEPHONE HOUSE
21 WARD ROAD
DUNDEE
ANGUS
DD1 1BA

tel 01382 302433
fax 01382 302082
mob 07918 682225
Web www.openreach.co.uk/orpg/home/netw
email paul.barile@openreach.co.uk

Mouchel Limited
Mercury Court
Tithebarn Street
Liverpool
L2 2QP

Tayside & Central Depot
P O Box 7425
PERTH
PH1 3XR

Direct Dial: 01738 453063
Fax: 01738 453027

FAO Nicola Cooke

Our reference : DUT562
Your reference:

29 February 2012

Dear Nicola

Guide Price for Diversion Works at Almondbank, Perth

Thank you for your enquiry with regards to the repositioning of SHEPD's High Voltage and Low Voltage cables due to the proposed flood mitigation scheme.

Without further details of your development, I am unable to provide you with accurate information or costs. However, the following comments, which by necessity are of a general nature only, are given to assist you with the evaluation of your proposals but do not constitute an offer of terms by us, and are provided for guidance only.

Existing Plant/Equipment/Cables and Lines

There are existing high/low voltage underground cables and overhead lines that cross the site/site access, which will require diverting, with an estimated budget cost in the range of £315,000 to £415,000, plus VAT at 20.0%.

Any budget cost detailed above is for indicative purposes only and does not constitute an offer of terms by Scottish and Southern Energy. Additionally, it may be possible to incorporate part of any diversion works within a scheme for providing supplies. I can provide the alteration costs, which will be in addition to any contribution required for supplying the development, once I have firm details of your proposals.

We hope to provide an accurate guide but physical, technical and wayleave difficulties may mean that these proposals are not practical. These problems may cause an alteration to costs and under exceptional circumstances the changes could be substantial.

I must emphasise that the figure quoted is for budgeting costs only and is for guidance only.

From: colin.webster@sgn.co.uk
Sent: 14 November 2011 15:34
To: Nicola Cooke
Cc: lindsay.taylor@sgn.co.uk
Subject: Almondbank Flood Mitigation - Gas Mains Diversions

Attachments: C11N0750250-5.JPG; C11N0750250-1.JPG; C11N0750250-2.JPG; C11N0750250-3.JPG; C11N0750250-4.JPG; ATT1105677.txt

Dear Sirs,

In relation to your proposed works at the above location I can confirm that diversionary works will be required at various locations as shown on the attached drawings.

My budget estimates for the five areas thought to be directly affected at this stage are:

- 1) Divert existing gas main at North side of river to accommodate the replacement Black Bridge = £11,548+VAT. The 6"ST river crossing has been located by an electronic pipe/cable locator but you will still have to confirm its exact position by hand excavated trial holes. We will require that a lateral clearance of 2 metres is maintained from this pipe to any foundations or part of the new bridge structure at both sides of the river..
- 2) Main St.(Crieff Rd. – Lochty Park), Lochty = £55,496+VAT
- 3) Brockhill/ East Pow Burn, Almondbank = £18,525+VAT
- 4) Main St.(MacKenzie Dr. - East Dr.), Almondbank = £17,276+VAT
- 5) Main St.(Lumsden Cresc. - College Mill Rd.), Almondbank = £24,900+VAT

The above budget estimates have been prepared taking into account all the relevant information that was reasonably possible to obtain before hand and our current mains records. You may wish to undertake hand excavated trial holes to confirm the exact location and depth of the various pipes that may be affected by your works to confirm whether diversion or protection is actually appropriate.

Other areas of conflict exist between your works and our plant but will probably only require protection slabs constructed by the successful contractor/s to a design approved by ourselves..

When you have your final proposals prepared please contact me again and I will be able to issue you with an official estimate the diversionary works and agree where protection slabs will be appropriate.

Should you wish to discuss our proposals further, or require additional information, please do not hesitate to contact me.

Yours faithfully,



20/03/2012



**Scottish
Water**

Always serving Scotland

For Attention of Nicola Cooke

Mouchel
Mercury Court
Tithebarn Street
Liverpool

L2 2QP

Dear Sir

NRSWA 3rd Party C3 Estimate
Almondbank Flood Mitigation Scheme
Scottish Water Apparatus – Water Mains

SCOTTISH WATER

419 Balmore Road
Glasgow
G22 6NU

T: 0141 565 4283

F: N/A

W: www.scottishwater.co.uk

E: ian.middleton2@scottishwater.co.uk

Our Ref:-IBM/SRT/4010820074

Your Ref:-1020063

I refer to your letter of 31st October 2011 requesting details of proposals to resolve conflicts resulting from the above Flood Mitigation Scheme, and apologise for the delay in responding.

I attach an estimate in the format of an NRSWA C3 proposal together with two drawings relating to the water main diversions. Please note that as this project is a flood defence scheme, the provisions of NRSWA do not apply to this project.

Enclosed:-
1) NRSWA C3 type estimate and drawing numbers:-
2) 401082-0074-02-DRG-9501
3) 401082-0072-20-DRG-9502

Please note that these are estimated costs and that your Client shall pay the actual costs of any works undertaken, whether greater or less than any estimate provided. This Estimate is valid for a period of six months. This Estimate is based on benchmark prices only and the actual cost of any diversions may vary considerably from the estimates provided.

Further detailed design work will be required once more details of your proposals are known, and more fully developed.

The estimate for sewer diversions that are deemed necessary will follow shortly, under separate cover.

If you require any further assistance please do not hesitate to contact me.

Yours faithfully,

Colin Baillie
Team Leader
Service Relocation Team
service.relocation@scottishwater.co.uk



Almondbank Flood Mitigation Scheme - Diversion of Water Mains

C3 Water Project ID 4010820074

NRSWA Appendix C3:- Draft Schemes and Budget Estimates

Date: 19 March 2012

Our Ref: SRT/IBM/C3/4010820074	Client Ref: N/A	Agent Ref: 1020063
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Contact: Colin Baillie T:0141 355 5590 F:0141 355 5015	Contact: N/A T:-N/A F:-N/A	Contact: Nicola Cook T:- 0151 242 7777 F:- N/A
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Our Address: Scottish Water Service Relocation Team 419 Balmore Road Glasgow G22 6NU	Clients Address: Perth & Kinross Council	Agent Address: Mouchel Mercury Court Tithebarn Street Liverpool L2 2QP
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Location: Almondbank, Perth & Kinross	Details of existing apparatus: Various	Clients Drawings which estimate based upon: 716516/OPT/200 to 209 and 716516/OPT/212 to 216, all Rev B
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Description of Diversions (Necessary Measures): Approximately 367 metres of existing water main requires to be diverted.
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Details of proposed apparatus: Approximately 262 metres of 125mm diameter HPPE water main to bank of East Pow, approximately 57 metres of 110mm temporary and permanent water mains at confluence of River Almond and East Pow, and approximately 30 metres of 63mm temporary and permanent water mains at the access to Lochty Place.
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Applicable legislation: New Roads & Street Works Act 1991	Cost Sharing Percentage (0%, 7.5%, 18%): 18% at eligible locations
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Lead in Time (months): TBA	Construction Time: Temporary: TBA Permanent: TBA
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Total length of existing apparatus to be diverted: Approximately 367 metres of water main require to be diverted.

Prepared By: Ian Middleton	Signed off by: Colin Baillie	Project Manager: TBA
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Almondbank Flood Mitigation Scheme - Diversion of Water Mains
C3 Water Project ID 4010820074
NRSWA Appendix C3:- Draft Schemes and Budget Estimates
401082-0074 List of Conflicts Almondbank Flood Alleviation Scheme
Summary Sheet

SW Conflict ID (Mouchel ID in brackets)	Proposed Works	Size of Main affected	Proposed Diversion	Est. Cost
SWW1 (102 & 103)	New drainage kerb	100mm DI	No details about drainage kerb (depth, foundation etc.) available at present. Assumed no diversion.	£0.00
SWW2 (22 & 23)	New drainage kerb	4"CI	No details about drainage kerb (depth, foundation etc.) available at present. Foundations to be laid and wall built such that SW retains clear access to its apparatus. Assumed no diversion is necessary.	£0.00
SWW3 (30)	Access ramp for new bridge	4" AC	Cut back main and install terminal hydrant	£6,568.00
SWW4 (50 & 51)	New Floodwall and flood defence ramp	4" AC	No details about floodwall foundations (depth, spread etc.) available at present. Foundations to be laid and wall built such that SW retains clear access to its apparatus. Assumed no diversion is necessary.	£0.00
SWW5 (T)	Temporary Supply while bridge is reconstructed	4"AC	Temporary 110mm HPPE main tied to temporary scaffolding pipe bridge (Insulated if required over winter months) and protected against vandalism or other interference.	£15,300.00
SWW5 (75)	New Floodwall, flood defence ramp and bridge to be constructed	4"AC	No details about floodwall foundations (depth, spread etc.) or new bridge available at present. Foundations to be laid and wall built such that SW retains clear access to its apparatus. 110mm HPPE Main wrapped in 75mm insulation and diverted through 300mm ID duct in new bridge.	£25,352.00
SWW6 (92)	Piling along bank of East Pow	125mm MDPE	New 125mm HPPE main laid on west side of Main St. clear of works	£96,286.00
SWW7 (T) (90)	Temporary Supply while bridge is reconstructed	63mm MDPE	Temporary 63mm HPPE main tied to temporary scaffolding pipe bridge (Insulated if required over winter months) and protected against vandalism or other interference.	£11,434.00
SWW7 (90)	New Floodwall, flood defence ramp and bridge to be constructed	63mm MDPE	No details about floodwall foundations (depth, spread etc.) or new bridge available at present. Foundations to be laid and wall built such that SW retains clear access to its apparatus. 63mm HPPE Main wrapped in 75mm insulation and diverted through 250mm ID duct in new bridge.	£18,760.00
TOTAL				£173,700.00

NB: Estimate provided with the best information available.

There are no bridge details, long sections, details of foundations, drainage gullies or other details normally required for a more exact estimate.

No exceptional items have been taken into consideration i.e. night working, complicated & prolonged traffic management, more than one site visit etc.

No costs have been included for ducts in bridges or temporary scaffolding.

Almondbank Flood Mitigation Scheme - Diversion of Water Mains

C3 Water Project ID 4010820074

NRSWA Appendix C3:- Draft Schemes and Budget Estimates

Cost Summary

<u>Sub Total</u>	£ 154,100
Add 9.97% Capital Investment & Delivery (CID) Overhead	£ 15,364
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<u>Sub Total</u>	£ 169,464
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Add 2.5% SW Corporate Overhead	£ 4,237
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<u>Total</u>	£ 173,700
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Allowance for Deferment of Renewal

(calculated using Bacon and Woodrow Formula, see Appendix E2 of CoP)

Item	Existing Length (m)	Existing Dia & Mat	Age (Expired life) of existing Apparatus	Notional full Life of Apparatus	Factor	Cost of Diversion
SWW1	N/A	N/A	NRSWA Deferment & Advance Payment Discount N/A			£ -
SWW2	N/A	N/A	NRSWA Deferment & Advance Payment Discount N/A			£ -
SWW3	18	4" AC	NRSWA Deferment & Advance Payment Discount N/A			£ 6,568
SWW4	N/A	N/A	NRSWA Deferment & Advance Payment Discount N/A			£ -
SWW5 (Temporary)	57	4" AC	NRSWA Deferment & Advance Payment Discount N/A			£ 15,300
SWW5 (Permanent)	57	4" AC	NRSWA Deferment & Advance Payment Discount N/A			£ 25,352
SWW6	262	125mm MDPE	NRSWA Deferment & Advance Payment Discount N/A			£ 96,286
SWW7 (Temporary)	30	63mm MDPE	NRSWA Deferment & Advance Payment Discount N/A			£ 11,434
SWW7 (Permanent)	30	63mm MDPE	NRSWA Deferment & Advance Payment Discount N/A			£ 18,760

Total Allowance for Deferment of Renewal nil

Estimated Rechargeable Cost (Exc VAT) £ 173,700

Terms and Conditions

Ref	Section A: Scope of Works	Applicable
	Note:- In these conditions "Authority" includes a Roads, Transport or Bridge Authority within the meaning of the New Roads and Street Works Act (NRSWA) and also the promoter of road, transport or bridge infrastructure who has not yet obtained the necessary powers to carry out such works.	Yes
1	This C3 estimate is prepared in accordance with Appendix C3 of the HAUC Code of Practice 'Measures Necessary where Apparatus is Affected by Major Works (Diversionary Works)', under the 'New Roads and Street Works Act 1991.	Yes
2	This estimate is intended to fulfil any obligations, which may arise for Scottish Water to provide a C3 (draft) estimate under the New Roads and Street Works Act 1991.	Yes
3	No allowances have been made for night or weekend working, lack of continuous (end to end) work, traffic management and contaminated or other unusual ground conditions, for temporary road diversions, exceptional obstructions or other services or for secondary diversions thus necessitated.	Yes
4	The Final Detailed Scheme and Detailed Estimates (Appendix C4 of the CoP) will commence one advance payment has been deposited.	No
5	The nominal depth of cover to Scottish Water's water mains is 0.9 metres but may be variable. Please note that records are not kept of the position of communication pipes but some of the larger ones may be shown. Normally, communication pipes and fire supply connections are laid with 0.75 metres cover but this cannot be guaranteed.	Yes
6	There has been no charge for the provision of this estimate. However a charge will apply should you wish to proceed to C4 "Detailed Scheme and Detailed Estimates". An 18% discount will apply if up-front payment is received.	No
7	The HAUC Code of Practice for "Diversion Works" provides a recommendation for progressing utility diversions between a undertaker and a authority. These estimate Terms and Conditions are provided to supplement those recommendations and encourage a partnership approach between the parties.	Yes
8	No allowances are included in the estimates for special requirements of the Authority or of third parties. These parties include those with an interest in, but not limited to, other diversionary works, traffic management (including road closures), special protection measures, etc. The authority should make appropriate provision to cover any such costs.	Yes
9	All works are assumed to be undertaken during normal working hours and no allowance has been made for any special noise or nuisance abatement measures.	Yes
10	All works are assumed to be undertaken in a single visit unless otherwise stated. (i.e. continuous working).	Yes
11	No allowances for dealing with exceptional ground or surface water including specialist dewatering are included unless stated otherwise.	Yes
12	No allowances are included for diversions of other utility services. It is assumed that other utilities' apparatus does not obstruct works.	Yes
13	No specific allowances have been made for the removal and disposal of contaminated materials, asbestos cement pipes etc unless specifically stated.	Yes
14	No costs have been included for accommodating any archaeological watches or investigations.	Yes
15	Unless otherwise noted, this estimate is based on the type, size and position of apparatus shown on the public sewer and water main records. The accuracy of such records cannot be guaranteed and Scottish Water reserve the right to change the C3 proposals in the light of additional information being available. Any costs associated with those changes shall be an allowable cost.	Yes
16	The scope of works identified to provide this estimate is based on the information made available to Scottish Water. The Authority will need to satisfy themselves that the necessary measures can be constructed in the position and manner proposed. This applies particularly where water mains or sewers are constructed on road structures e.g. bridges.	Yes
17	As a consequence of detailed information from any source, Scottish Water may be required to amend the scope of works to fulfil their obligations under the Scheme and maintain Statutory and regulatory demands. An amended C3 estimate will be provided if required by the Authority but costs associated with this will be considered to be "allowable" costs.	Yes
Section B: C3 Finance		
18	A charge will apply to the Authority for the preparation of a C4 Estimate. An 18% or 7.5% discount will apply if up-front payment is received. No discount shall be permitted if payment is not received in advance of the design work proceeding.	No
19	Scottish Water will only give a discount on one C4 estimate. If additional and/or revised C3 or C4 estimates are required then the full costs of that C3 or C4 will be chargeable to the Roads Authority by Scottish Water.	Yes
20	The Authority's attention is drawn to the choice of contract, particularly if the Authority adopts a Design and Build Contract. In this situation, the Final C3 design and estimate will not be deemed available until the road contractor's final design has been completed and submitted to the Undertaker. Interim C3's or C4's can be issued at the request of the Authority but these shall be 'Qualified' in that they are not produced in response to the the Final Detailed Roads Scheme, and the full costs of that C3 or C4 shall apply.	Yes
21	It is essential that the Roads Authority agrees in writing, and in advance of the works, to the undertaker that they will be liable for the actual costs of the diversionary works, whether greater or less than the estimate, all in accordance with the NRSWA Code of Practice.	Yes
22	This C3 estimate is referenced to a baseline period and subject to a validity period of 180 days. Scottish Water reserves the right to amend any estimate if the validity period is exceeded.	Yes
23	The estimate is exclusive of VAT unless specifically stated otherwise.	Yes
Section C: Qualifications to C3		
24	This C3 is qualified and will remain qualified by Scottish Water until Scottish Water receives the final detailed roads scheme from the Roads Authority or from his agent. Hence Scottish Water reserves the right to change the C3 in any way that may be deemed necessary as more information becomes available. Any costs incurred through having to change or amend the C3 will be deemed an allowable cost under NRSWA.	Yes
25	The C3 estimate assumes that apparatus on site is found to be as described in this estimate. This can not be guaranteed.	Yes
26	The diversion works are admeasureable and the authority shall be liable for the actual costs of any diversionary works as allowed in the New Roads and Street Works Act Code of Practice.	Yes
27	Scottish Water shall issue a final account on completion of the works to the Authority, all in accordance with the NRSWA.	Yes
Section D: Project Specific issues		
28	The provisions of the New Roads and Streetworks Act 1991 and the Highway Authorities & Utilities Committee (HAUC) do not apply to these diversion proposals, as the conflicts arise from a Flood Prevention Scheme. Therefore, no Deferment of Renewal, or Advance Payment Discounts will be allowed. Additionally, the actual design fees and costs incurred for C3 type or C4 type proposals and estimates will be recoverable in full from the Client by Scottish Water.	Yes
29	Design solution fees and costs to resolve conflicts arising from the Flood Prevention Scheme shall be payable by the Client, although the design solution proposals are in the form of NRSWA C3 or NRSWA C4.	Yes
30	The Estimates and proposals are provided with the best information available to date.	Yes
31	There are no bridge details, long sections, details of foundations, drainage gullies or other details normally required for a more exact estimate.	Yes
32	No exceptional items have been taken into consideration i.e. night working, complicated & prolonged traffic management, more than one site visit etc.	Yes
33	No costs have been included for ducts in bridges or temporary scaffolding.	Yes