

LANGHOLM

Flood Protection Scheme

Option Review Meeting No.2
Preferred Option

January 23rd 2020



Previous Meeting

Discussed each action

Agreed which measures screened in or out

Identify Long List of Actions

Do Nothing

Natural Flood Management

Storage

Improve Conveyance

Direct Defences

Property Level Protection

Relocation

Flood Forecasting & Warning

Self Help

Emergency Plans & Traffic Management

Brought forward for
screening

Not considered
standalone actions

Previous Meeting

Discussed each action

Agreed which measures screened in or out

Produced Short List with Direct Defences as main solution

Short List

Option 1 - Direct Defences

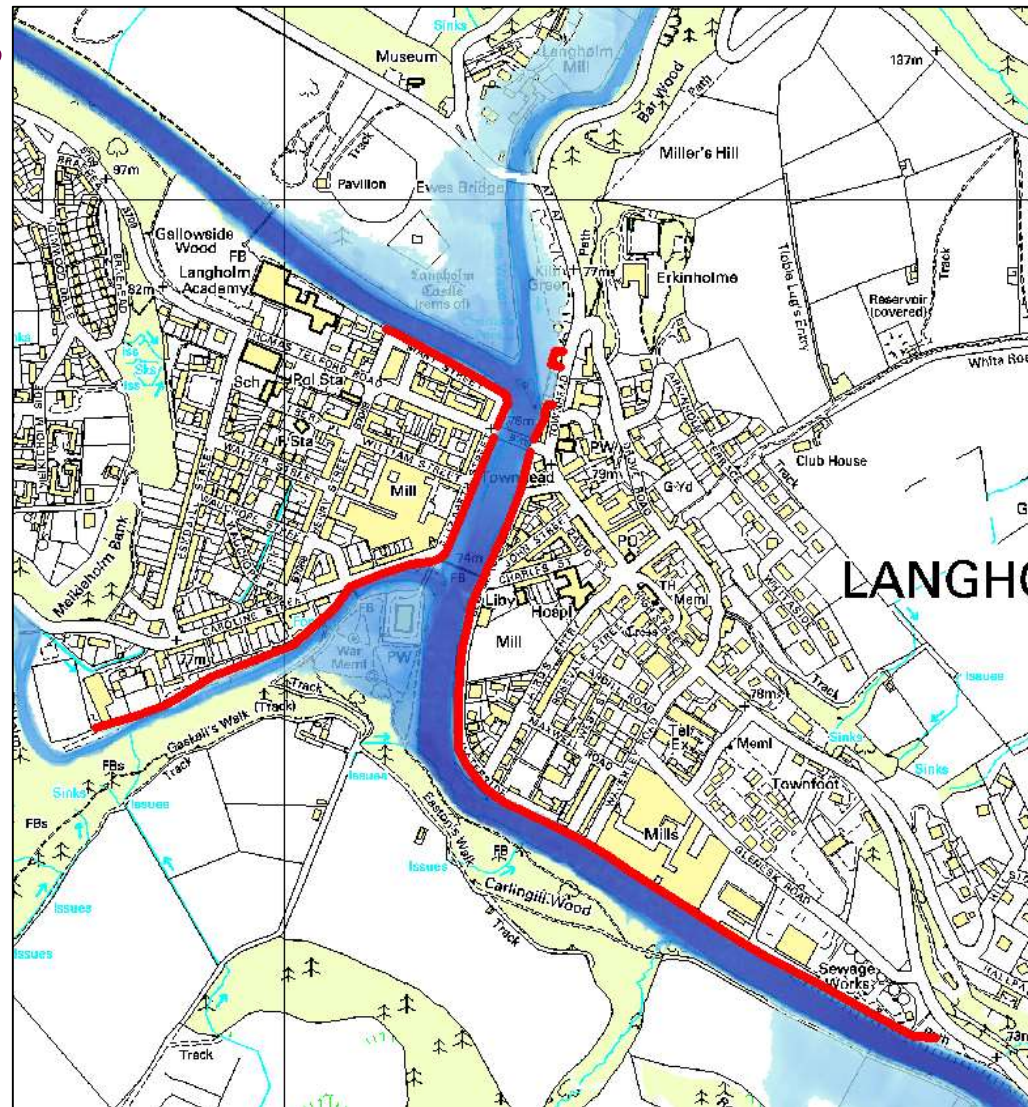
Option 2 - Direct Defences with Bypass Channel

Option 3 - Direct Defence with Wauchope Water Re-aligned

Option 1 - Direct Defences

- 931m embankment
- 701m concrete retaining wall
- 549m piled wall
- PLP, emergency planning

Alternative designs to minimise visual impact



Option 2 - Direct Defences with Bypass Channel

931m embankment

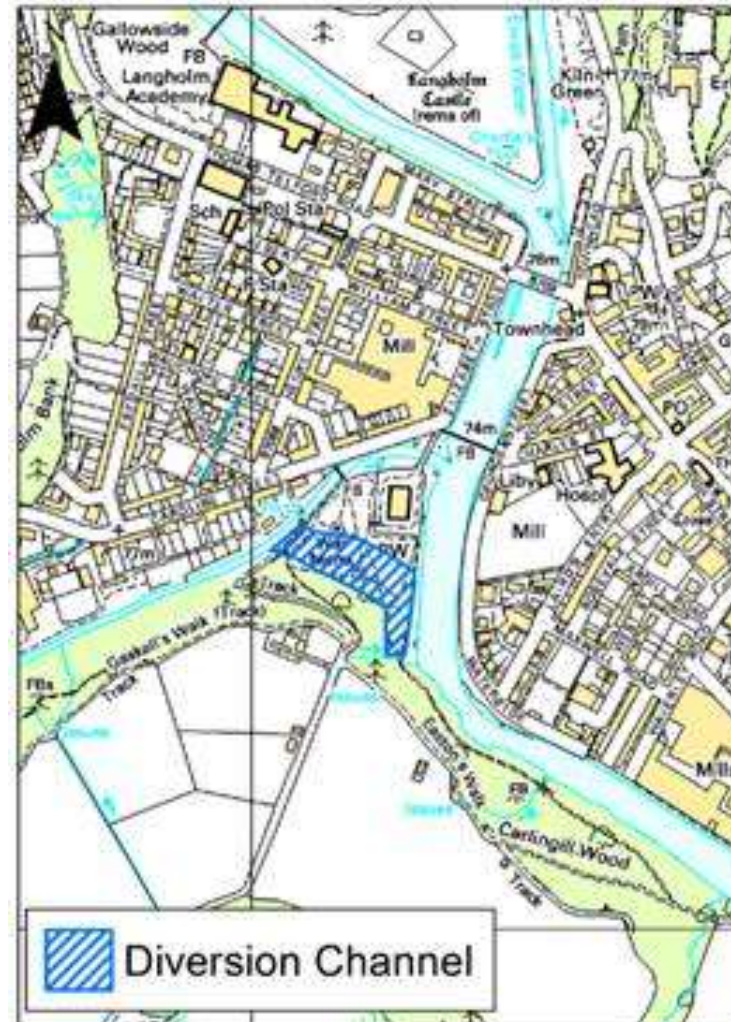
701m concrete retaining wall

549m piled wall

PLP, emergency planning

Buccleuch Park can be incorporated

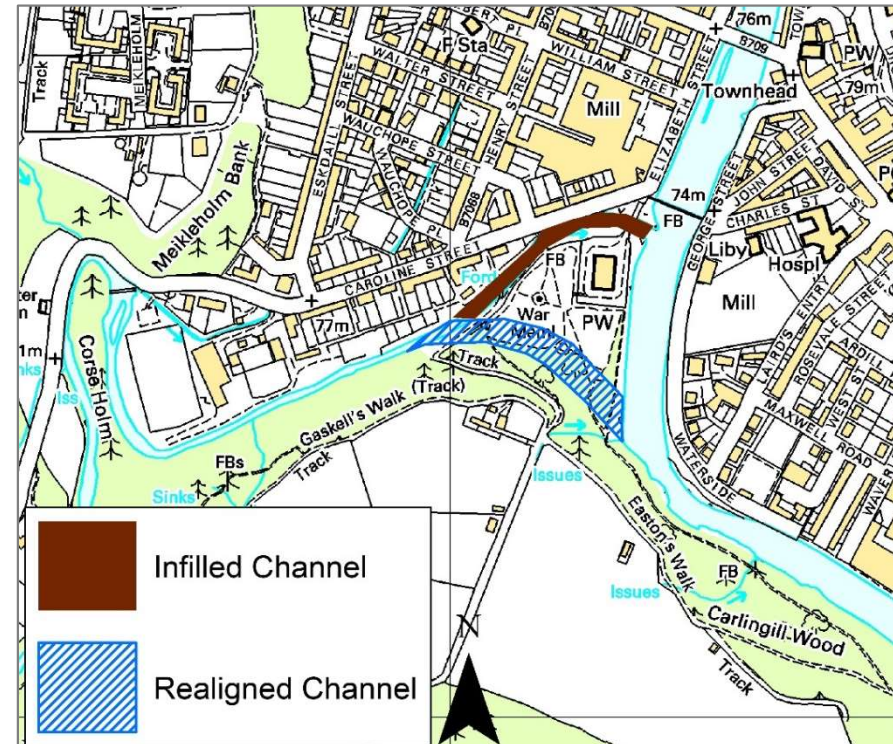
Slight decrease in water levels



Option 3 - Direct Defences with Re-aligned Channel

- 1101m embankment
- 483m concrete retaining wall
- 549m piled wall
- 190m re-aligned channel
- PLP, emergency planning

- Infill existing channel
- Slight decrease in water levels



Short List Scoring

	Order of performance (1 to 3)		
	Option 1	Option 2	Option 3
Meets objectives			
Value for money			
Impacts			
Uncertainty & robustness			
Total			

Does the Option Meet the Objectives?

Objective	Option 1	Option 2	Option 3
To provide a 1 in 200 year SoP	✓	✓	✓
Reduce flood risk	✓	✓	✓
Avoid increase in flood risk	x	✓	✓

Short List Scoring

	Order of performance (1 to 3)		
	Option 1	Option 2	Option 3
Meets objectives	2	3	3
Value for money			
Impacts			
Uncertainty & robustness			
Total			

Value for Money

Benefit:	£10,281,038
Costs:	£8,093,632 - £8,575,415
Benefit Cost Ratio:	1.20 – 1.27

Short List Scoring

	Order of performance (1 to 3)		
	Option 1	Option 2	Option 3
Meets objectives	2	3	3
Value for money	3	3	3
Impacts			
Uncertainty & robustness			
Total			

Impacts

Environmental impacts – during construction & long-term

Social impacts – of flooding and proposed defences

Short List Scoring

	Order of performance (1 to 3)		
	Option 1	Option 2	Option 3
Meets objectives	2	3	3
Value for money	3	3	3
Impacts	2	3	2
Uncertainty & robustness			
Total			

Uncertainties & robustness

Technical difficulties – access, space constraints

Uncertainties – utilities, ground conditions

New flow mechanisms

Short List Scoring

	Order of performance (1 to 3)		
	Option 1	Option 2	Option 3
Meets objectives	2	3	3
Value for money	3	3	3
Impacts	2	3	2
Uncertainty & robustness	3	2	1
Total	10	11	9

Option 2 - Direct Defences with Bypass Channel

Costs (feasibility):	£8,305,196
Benefit:	£10,123,273
Benefit Cost Ratio:	1.22

Meets the Objectives

Provide a 1 in 200 year Standard of Protection

Reduce flood risk

Avoid increase in flood risk

Outline Design of Preferred Option

Initial ground investigation

Utility survey

Structural design

Seepage analysis

WFD Assessment

Community Consultation No.2 - Feb 2020

Community Council Meeting
3 day Community Consultation

Refine Preferred Scheme - Mar 2020

Flood Order - Jun 2020

28 day consultation period

Confirmation of Scheme - Sep 2020

Objections / Representations