

## How is flood risk managed by the Scottish Borders Council?

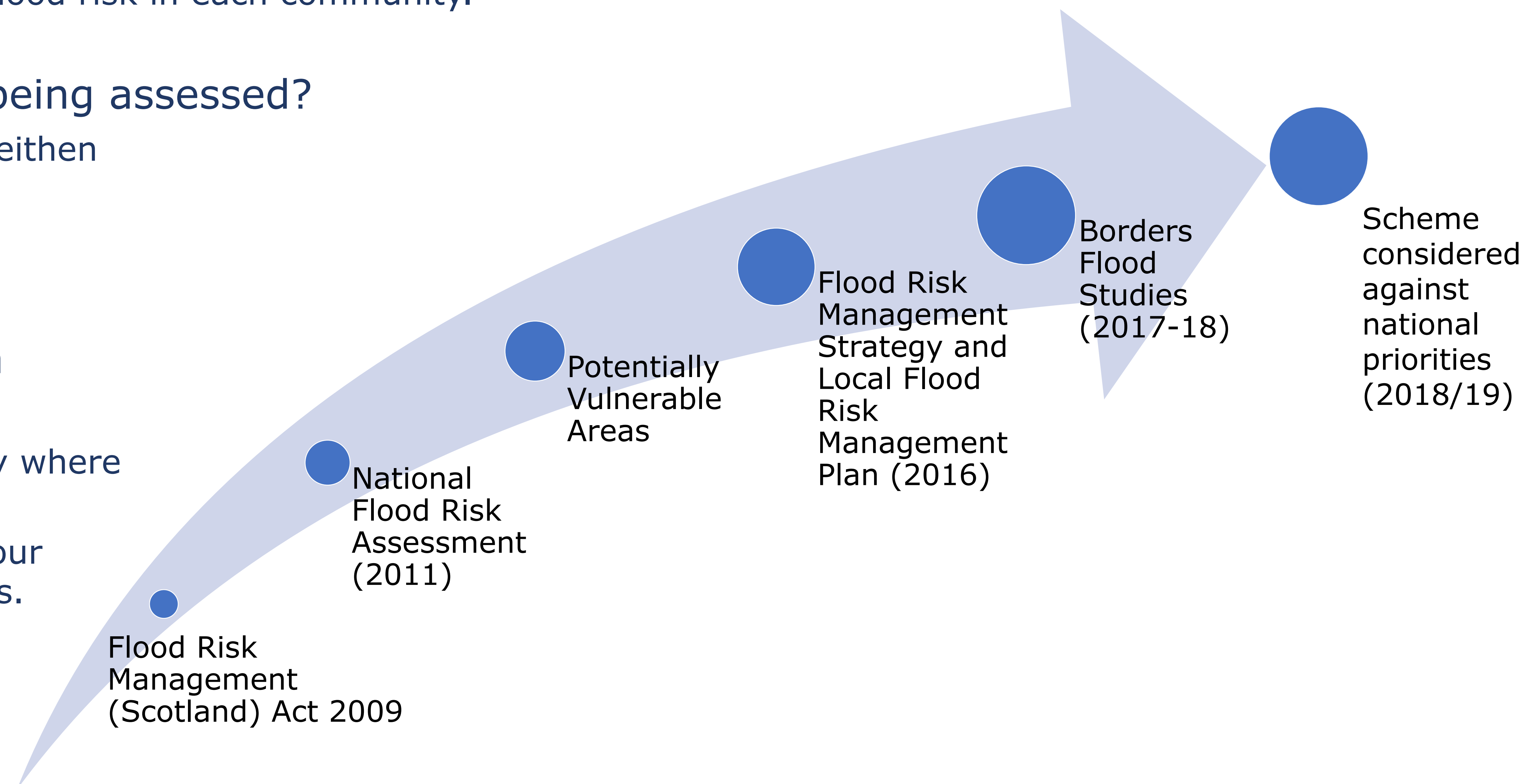
- The Flood Risk Management (Scotland) Act 2009 aims to prioritise flood mitigation across Scotland using a proactive and risk based process for assessing flood risk.
- This approach led to the preparation of SEPA's Flood Risk Management Strategies by SEPA and the Solway Local Flood Risk Management Plan developed by Dumfries and Galloway Council with input from Scottish Borders Council relating directly to Newcastleton.
- These plans identified specific communities as being at risk and in need of a detailed flood study to help inform the management of flood risk in each community.

## Which communities are being assessed?

- Broughton, Peebles & Innerleithen
- **Newcastleton**
- Earlston

## How will Flood Protection Schemes be prioritised?

- SEPA will prioritise nationally where funding should be allocated.
- The reports and findings of our study will inform this process.

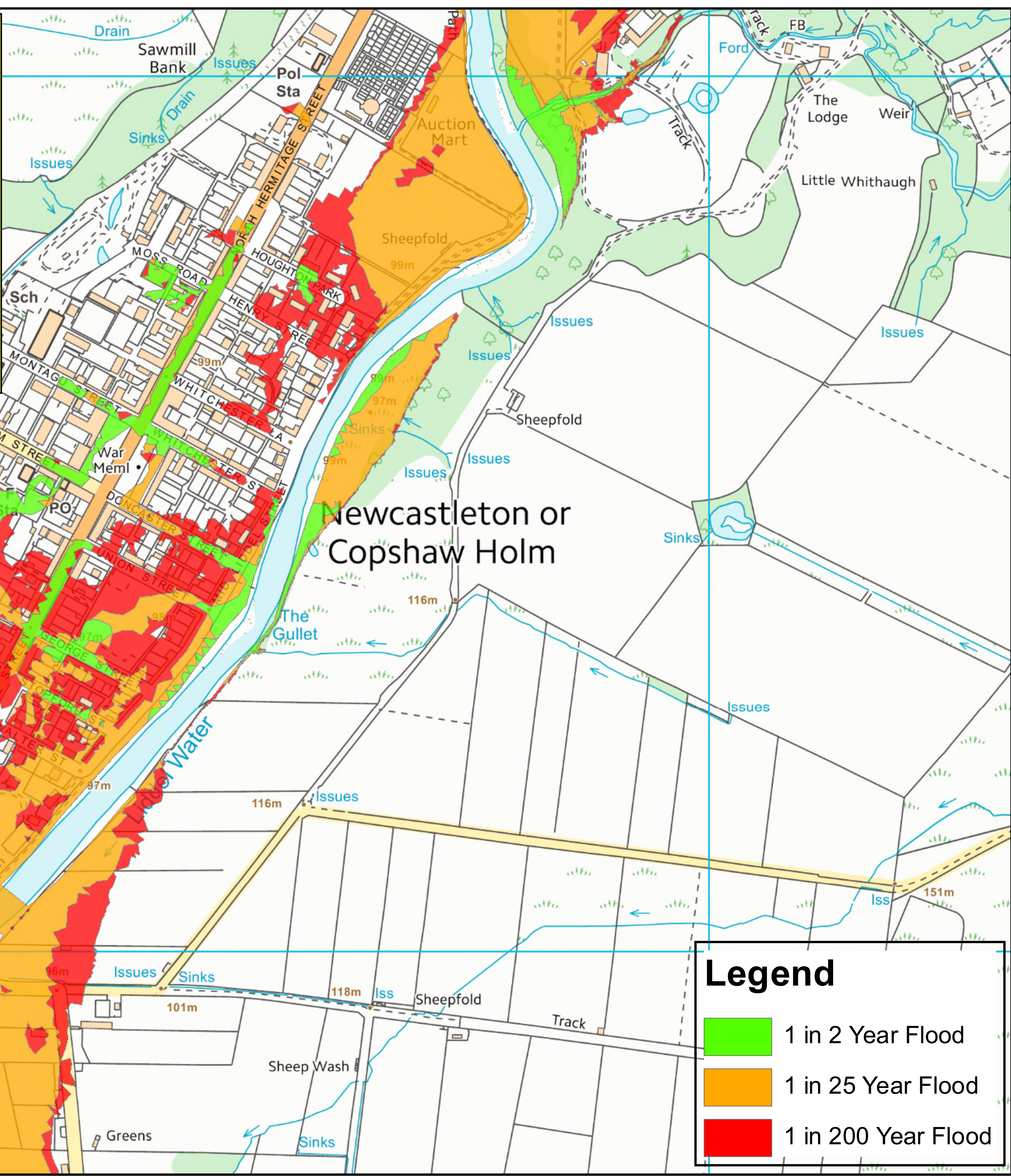




**Green Flood Envelope**  
 1 in 1 year - 1 in 2 year event, similar to Saturday 13th Oct 2018

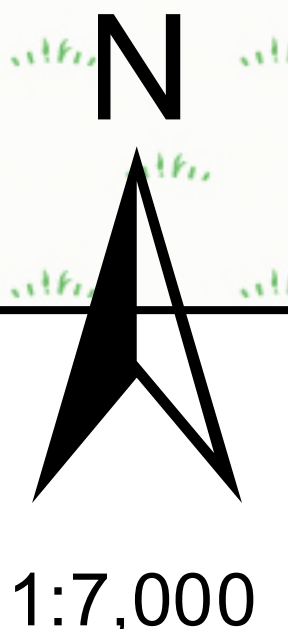
**Orange Flood Envelope**  
 1 in 15 year - 1 in 25 year event  
 (12th October 2005 event 1:15 year flood)

**Red Flood Envelope**  
 1 in 200 year event. What a proposed Flood Protection Scheme for Newcastleton would protect against.



**Legend**

- 1 in 2 Year Flood
- 1 in 25 Year Flood
- 1 in 200 Year Flood



**Newcastleton Flood Study 1 in 2, 25 and 200 Year Flood Mapping**

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RP (yrs)	No. of Residential properties	No. of Commercial properties	Total No. of properties
2	0	0	0
5	0	0	0
10	1	2	3
25	21	7	28
30	29	7	36
50	55	10	65
75	74	11	85
100	84	11	95
200	166	15	181
500	298	22	320
1000	366	23	389

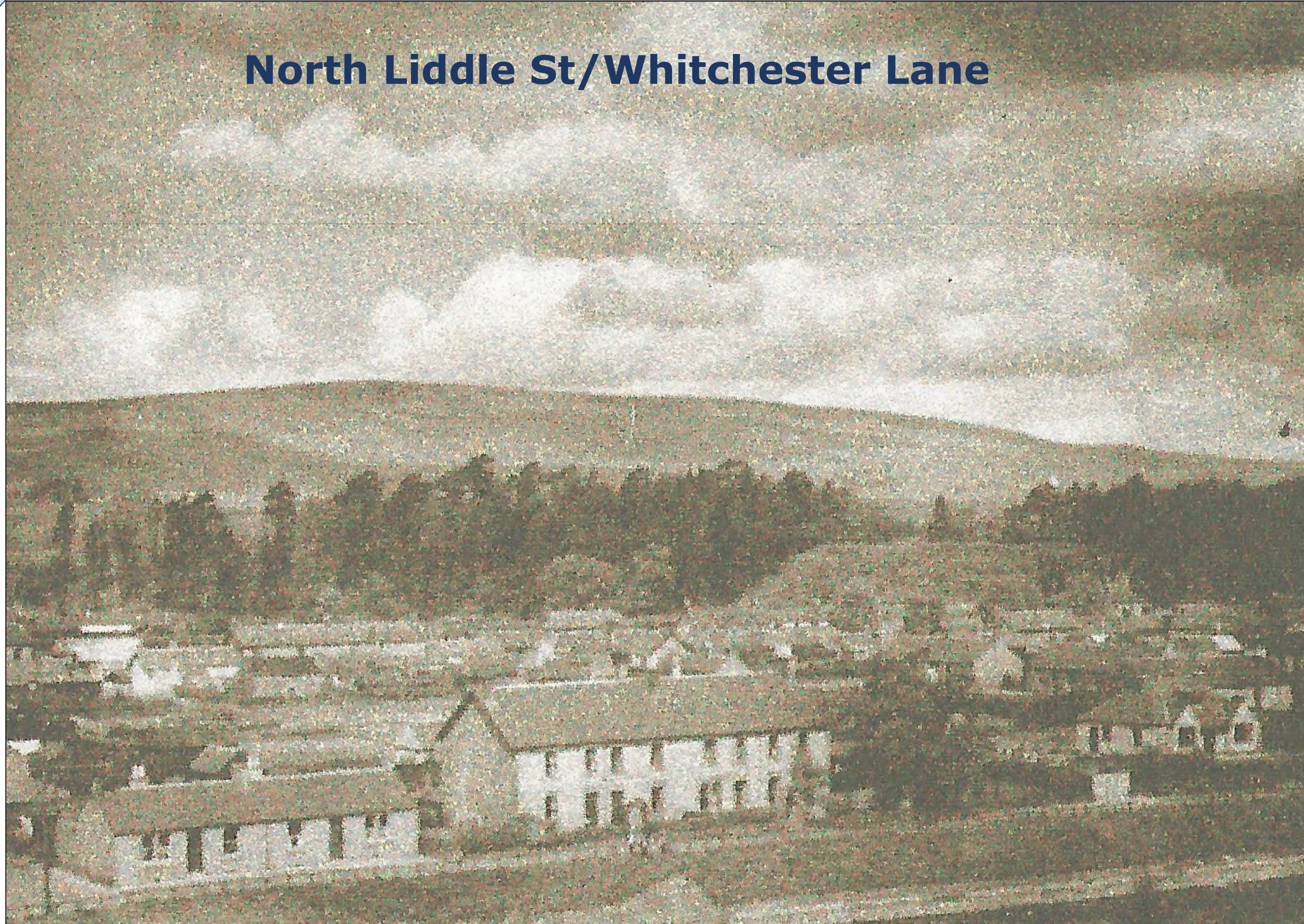
## Climate Change

The 1 in 200 RP (years) event was also assessed with a 33% allowance for climate change added to the flow. This resulted in a total of **319** properties being at risk in Newcastleton.



# Pre 1960's - Liddel Water River Bank Walled Allotments and Fencing

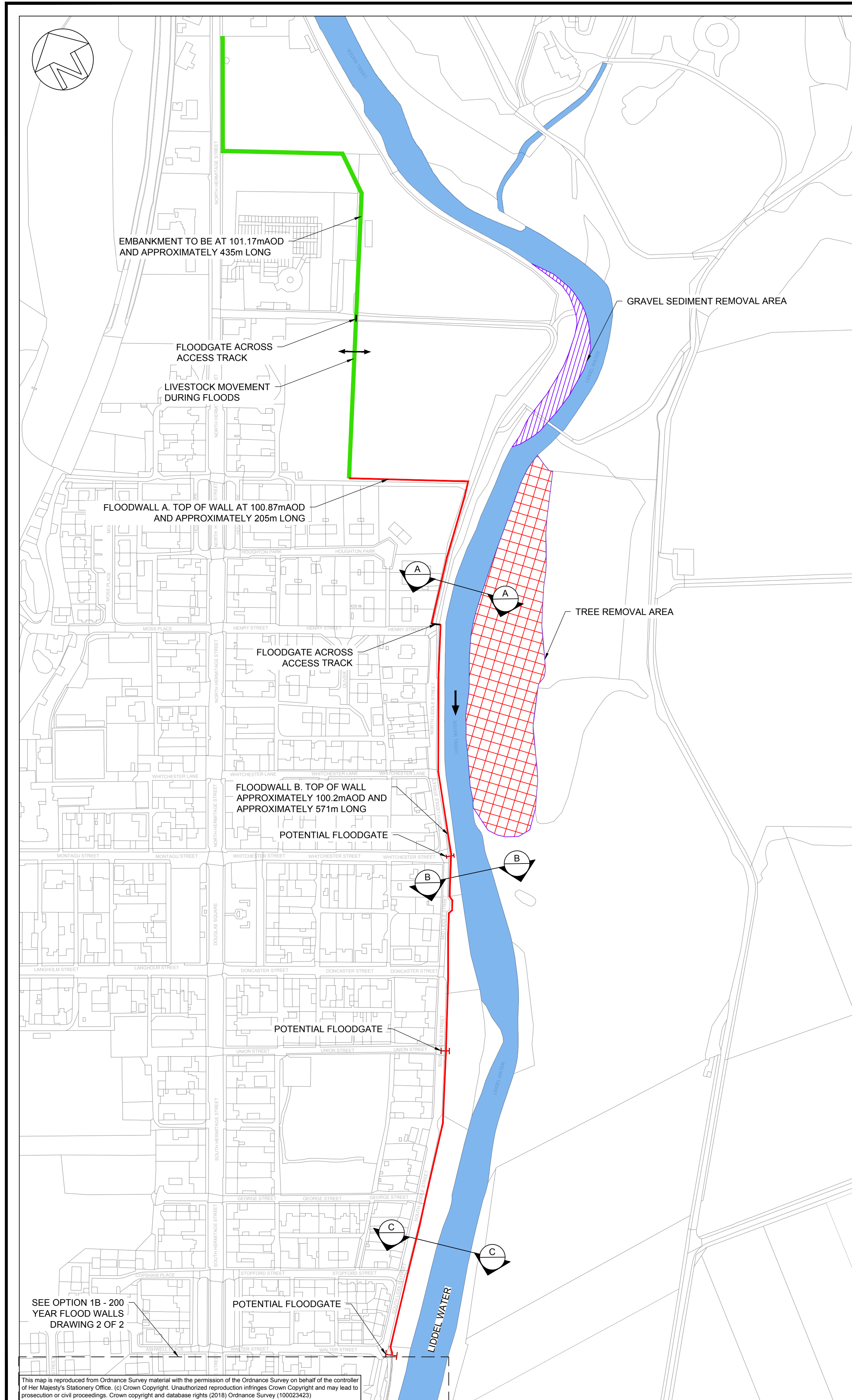
North Liddle St/Whitchester Lane



South Liddle St/Doncaster Street





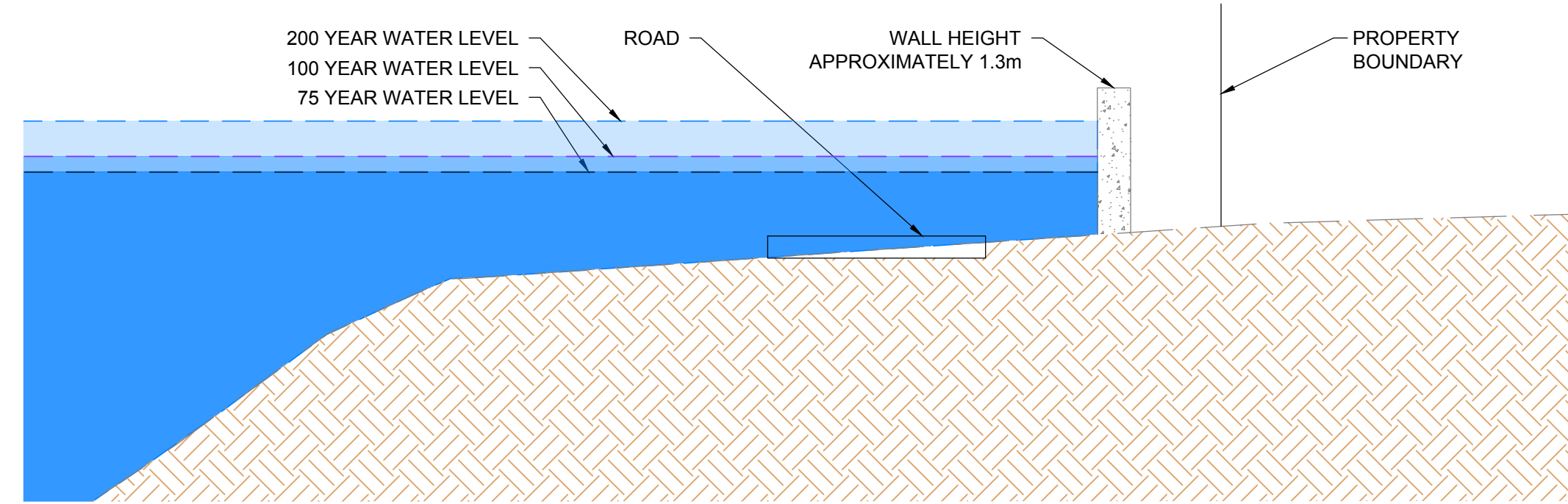


PLAN  
1:2000

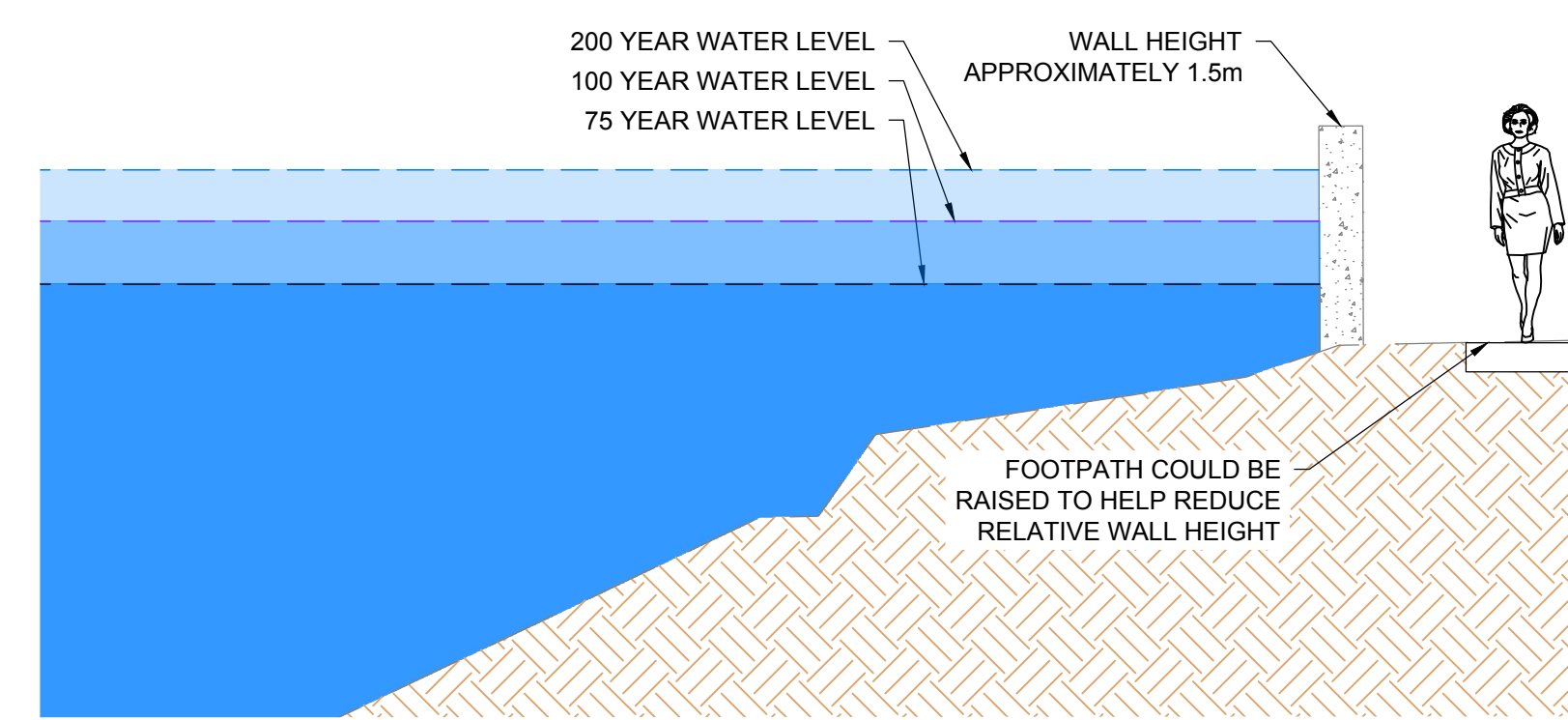
# Newcastleton

## Option 1B: Liddel Water

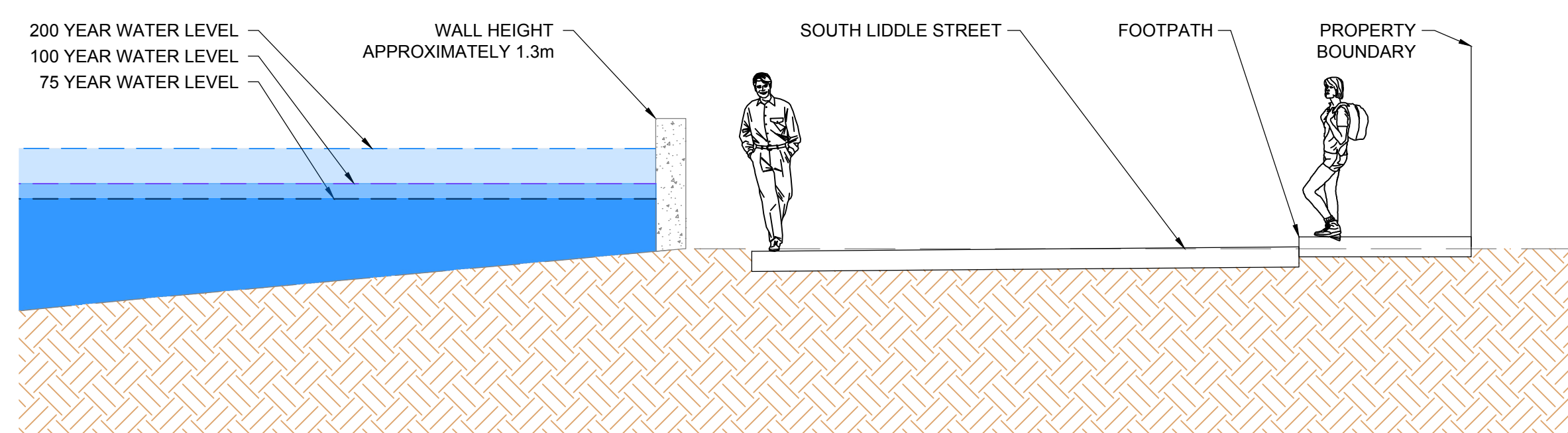
### New suite of flood defences with diversion channel to provide up to a 200 year Standard of Protection. Drawing 1 of 2



SECTION A-A



SECTION B-B



SECTION C-C

**OPTION 1B SUMMARY.** This option aims to provide a high standard of protection through the installation of a number of flood walls, earth embankment and flood gates as well as the removal of riparian sediment and vegetation. Where space allowed an earth embankment has been used in place of a flood wall.

The proposed work is displayed over two drawings, drawing AEM-JBAU-NC-CS-IM-C-1403 and AEM-JBAU-NC-CS-IM-C-1404. A summary of the proposed work which provide a 200 year standard of protection, inclusive of a 300mm freeboard on all walls, is as follows:

- AEM-JBAU-NC-CS-IM-C-1403**
- Construct earth embankment from the residential property north of the mart, along North Hermitage Street, along the boundary of the mart and south to the rear boundary of properties of Houghton Park. Approximate embankment length of 435m with approximate height of 1.6m to a maximum level of 101.17m AOD.
- Construct floodwall (FLOODWALL A) along rear boundaries of properties along Houghton Park for a distance of Approximately 205m to Henry Street, to a maximum level of 100.87m AOD (maximum height of 1.3m).
- Installation of two or more flood gates to provide access through flood defences.
- Construct floodwall (FLOODWALL B) along North Liddle Street to South Liddle Street. Approximate wall length 571m to a maximum level of 100.2m AOD (maximum height of 1.5m).
- AEM-JBAU-NC-CS-IM-C-1404**
- Construct floodwall (FLOODWALL C) from the flood gate at Walter Street to the basketball court along the inside edge of the green, along South Hermitage Street and following the road edge to tie into the abutment of the stone arch bridge. approximate wall length 565m, 97.55m AOD (maximum height of 1.3m).
- Construct floodwall (FLOODWALL D) from stone arch bridge south along Liddel Water's west bank for approximately 226m, to a maximum level of 96.92m AOD (maximum height of 2m).
- Charlie Sike meandered with floodplain restoration. A new diversion channel is to be created to convey flow from both the Charlie Sike and Short Sike. The new diversion channel will confluence with the Liddel Water downstream of the stone arch bridge. Details are provided in Option 3.

The above wall and embankment heights are to protect to a 200 year standard of protection, a lower standard of protection would reduce wall heights. The cross sections indicate the 200 year, 100 year and 75 year peak water level.

Drawing to be read in conjunction with the following:-  
AEM-JBAU-NC-LW-IM-C-1404

Comments					
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Client Approval					
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B - Approved with Revisions					
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Purpose of Issue				Status	
Suitable for Coordination				S1	

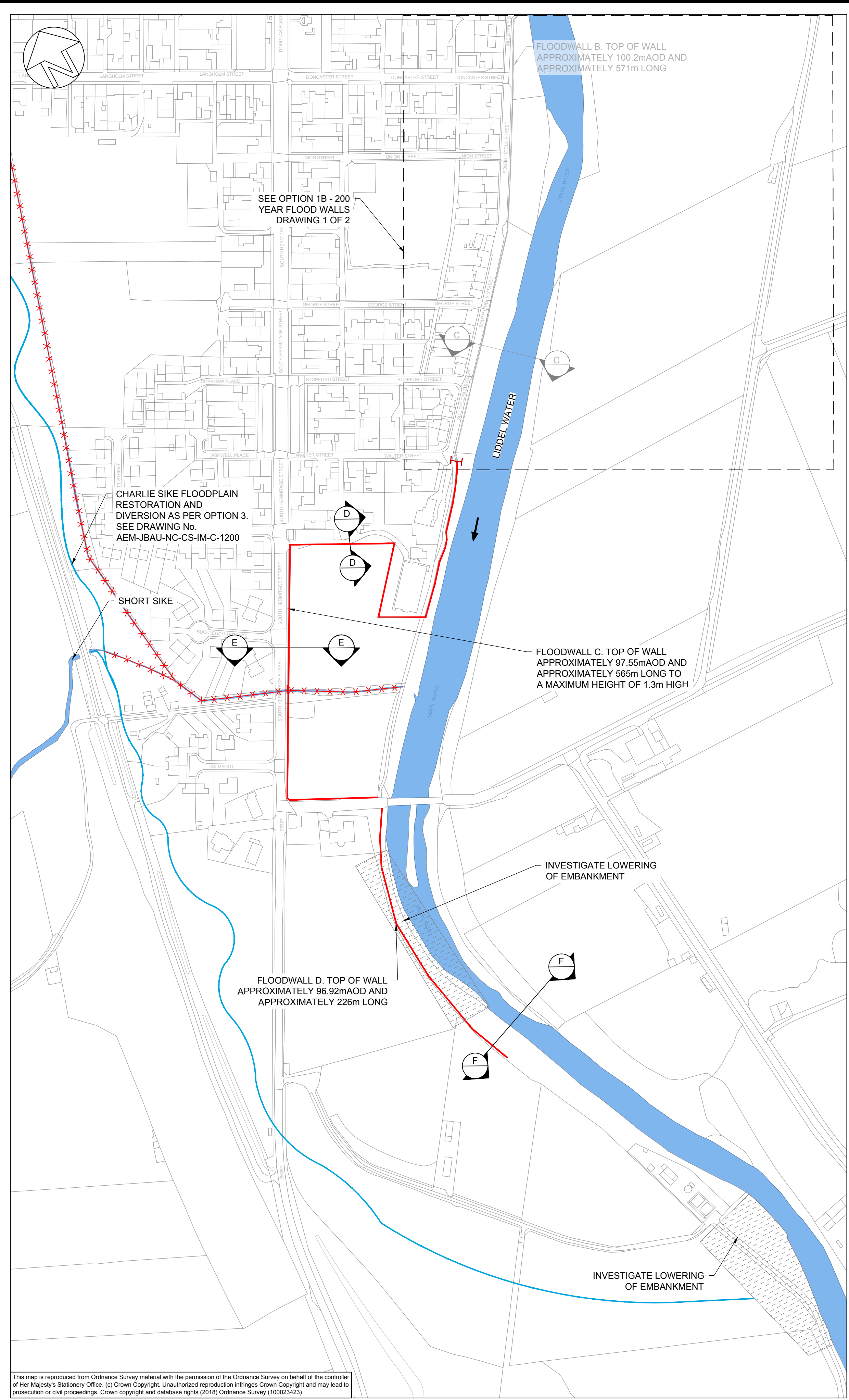
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Project		<b>Borders Flood Studies</b>	
Title		Newcastleton Liddel Water: Option 1B New Suite of Direct Defences with a Diversion Channel	
Client			
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		Approved:	A. Pettit 13/09/18
Project Number:	2017s5526		
Drawing Number	AEM-JBAU-NC-CS-IM-C-1403	Revision	P04

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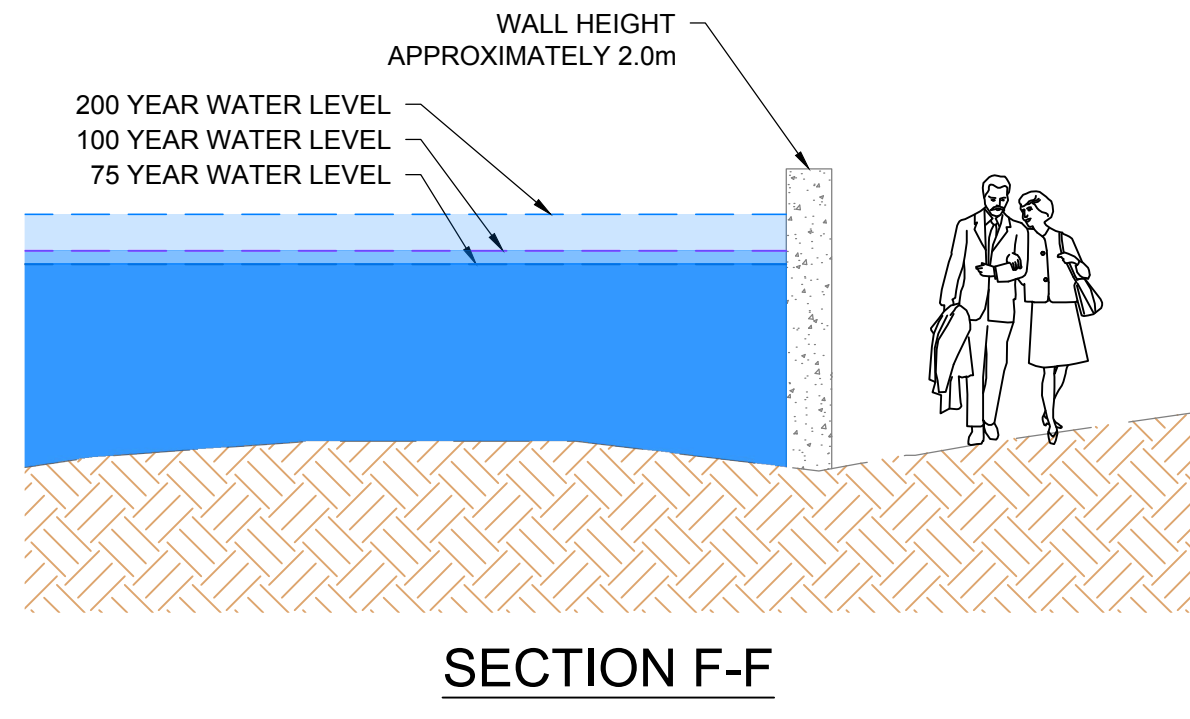
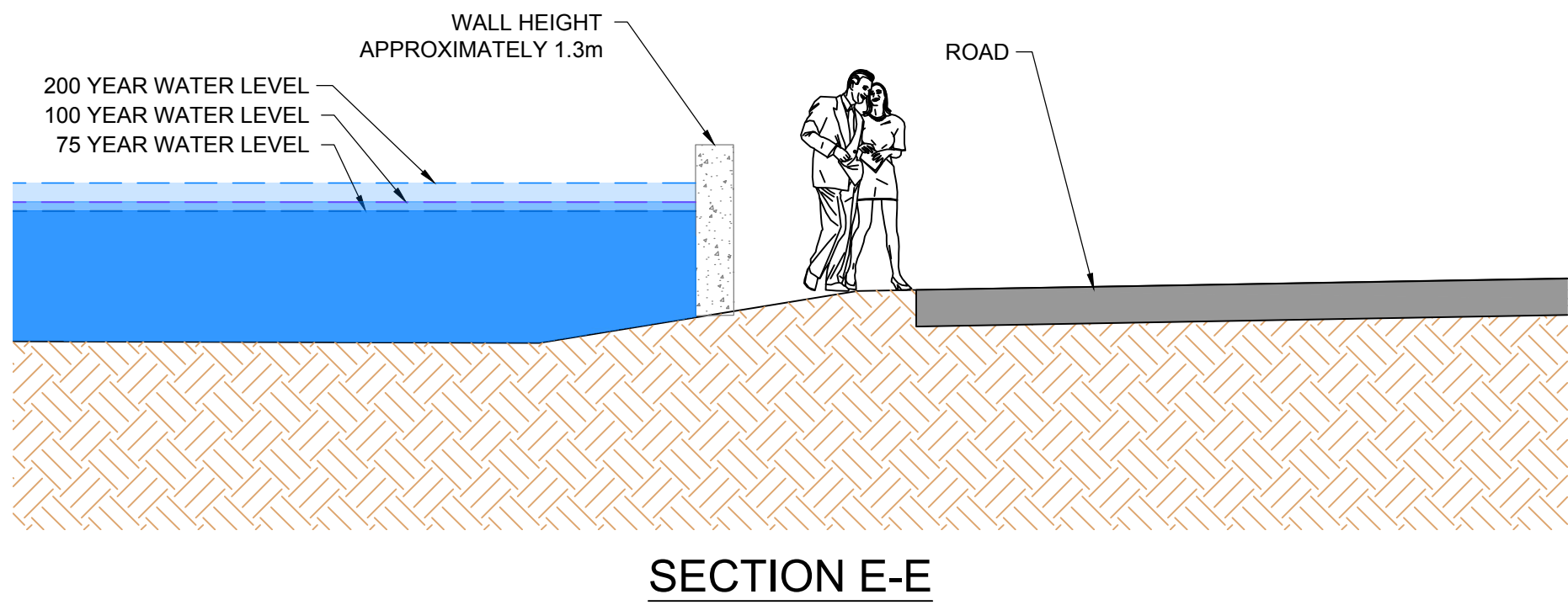
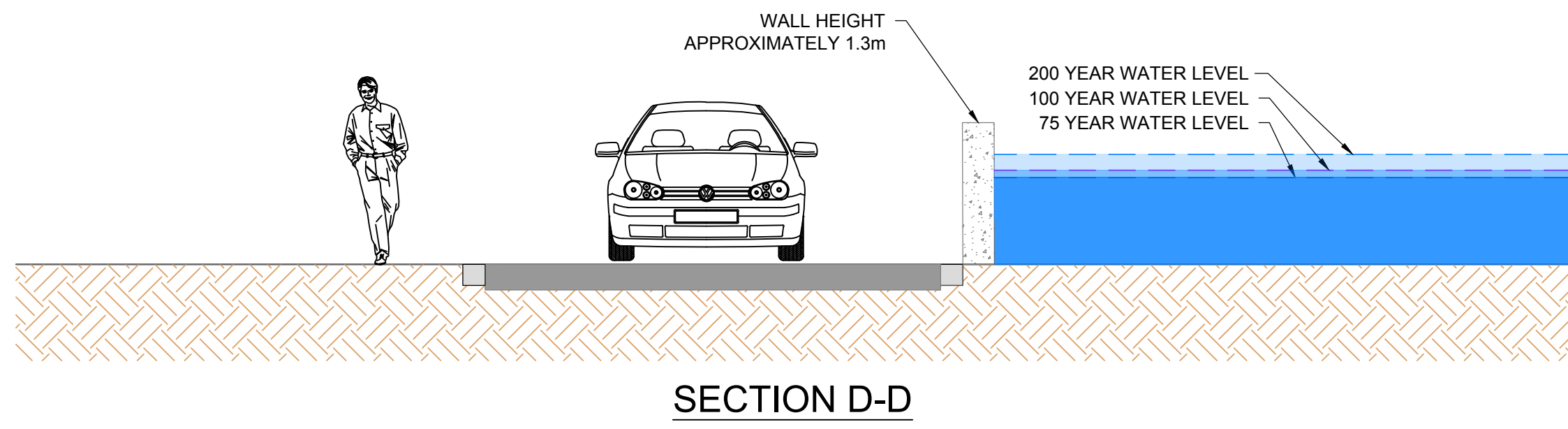
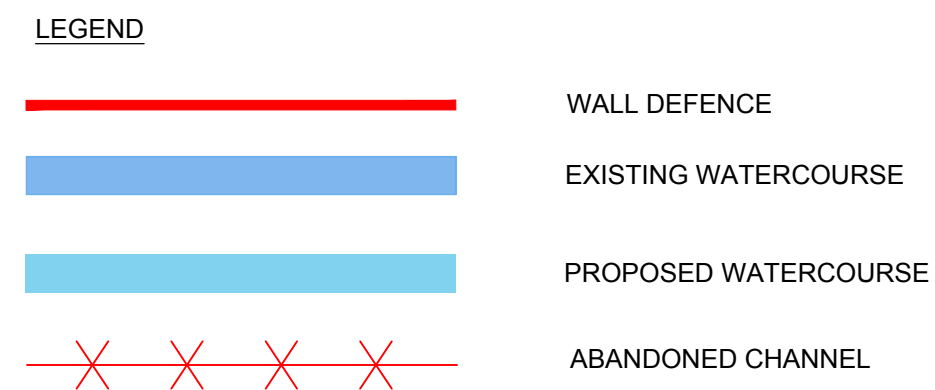




# Newcastleton

## Option 1B: Liddel Water

### New suite of flood defences with diversion channel to provide up to a 200 year Standard of Protection. Drawing 2 of 2



**OPTION 1B SUMMARY.** This option aims to provide a high standard of protection through the installation of a number of flood walls, earth embankment and flood gates as well as the removal of riparian sediment and vegetation. Where space allowed an earth embankment has been used in place of a flood wall.

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					S1

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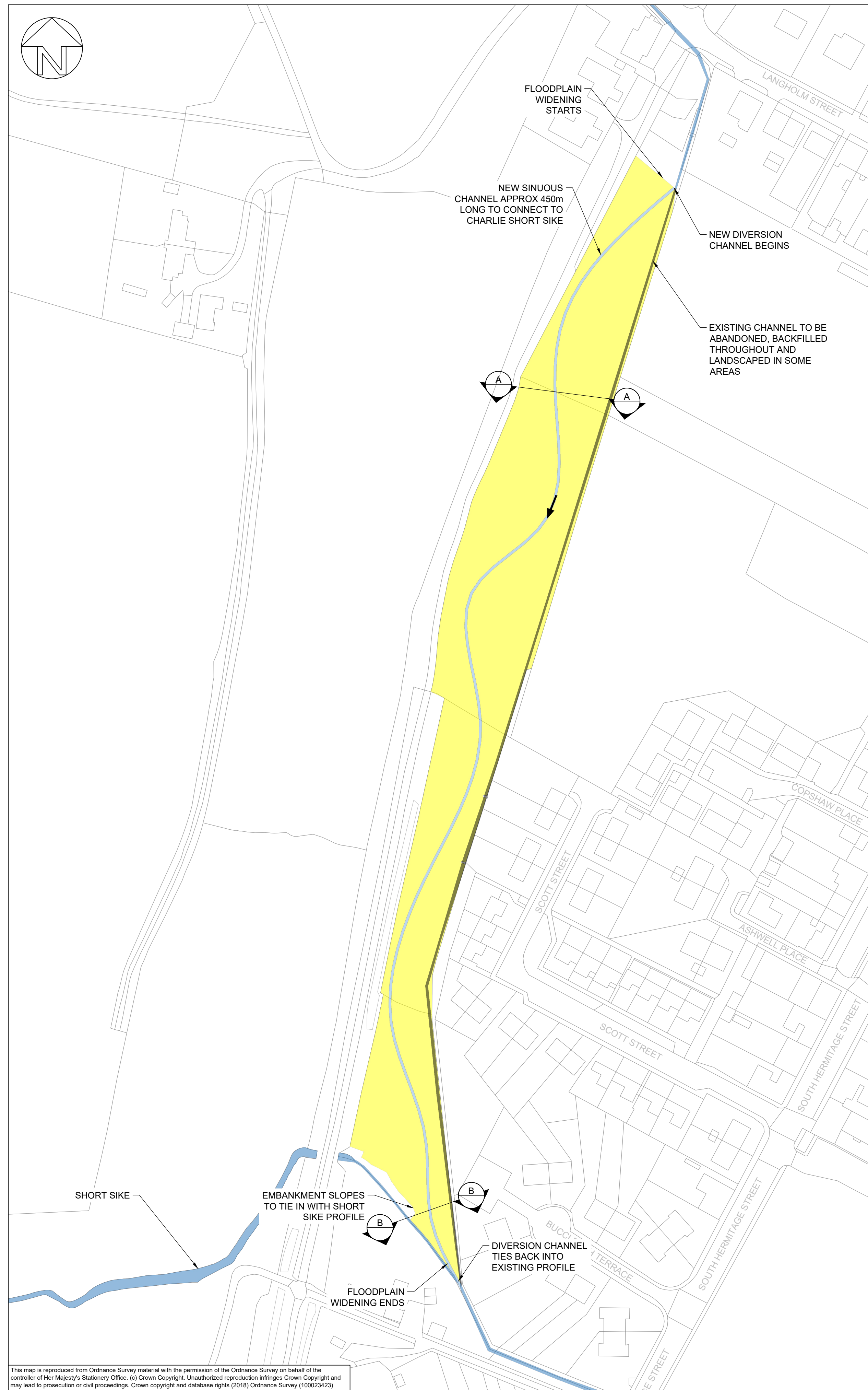
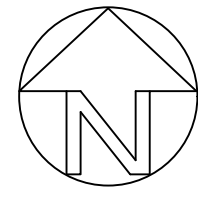
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		Revision	P04

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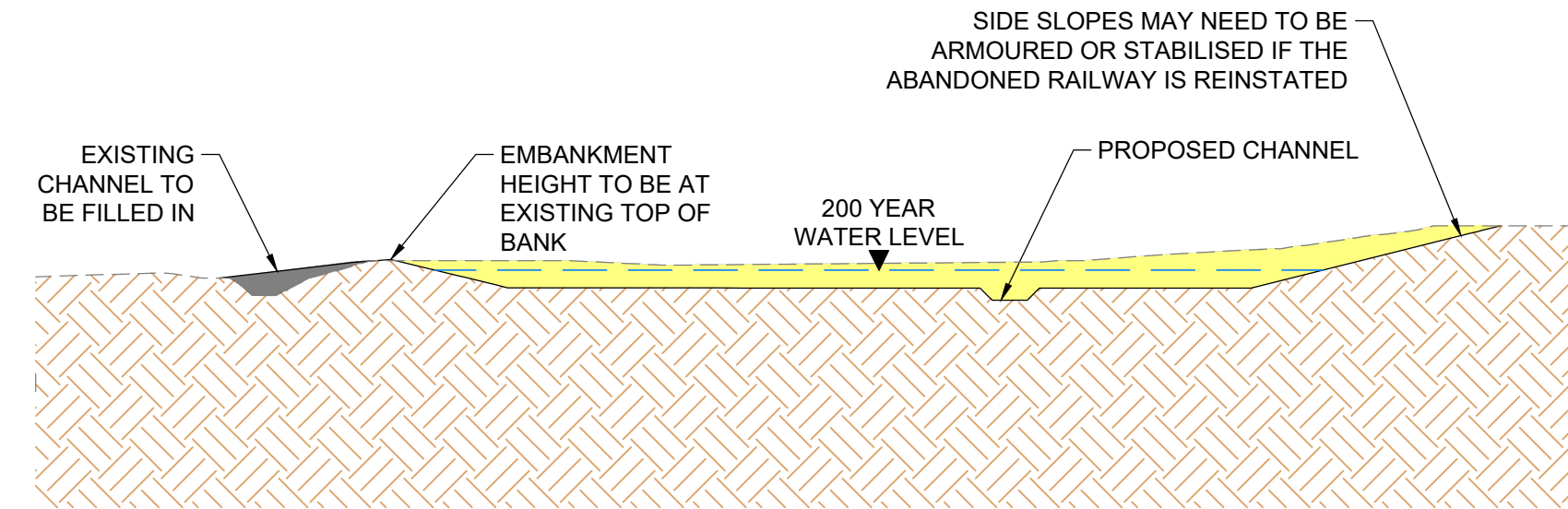
PLAN  
1:1000

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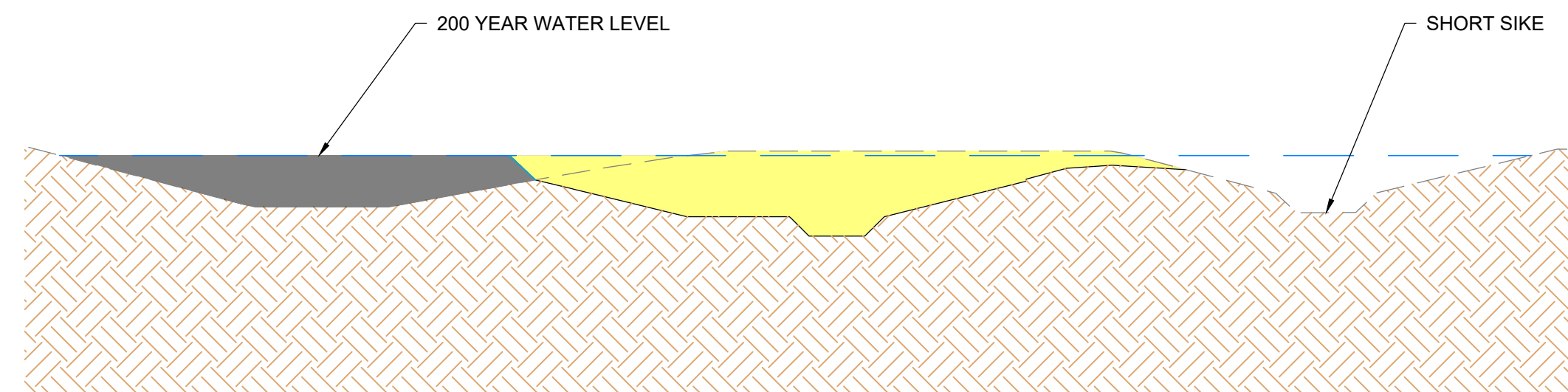
# Newcastleton

## Option 3: Charlies Sike Restoration

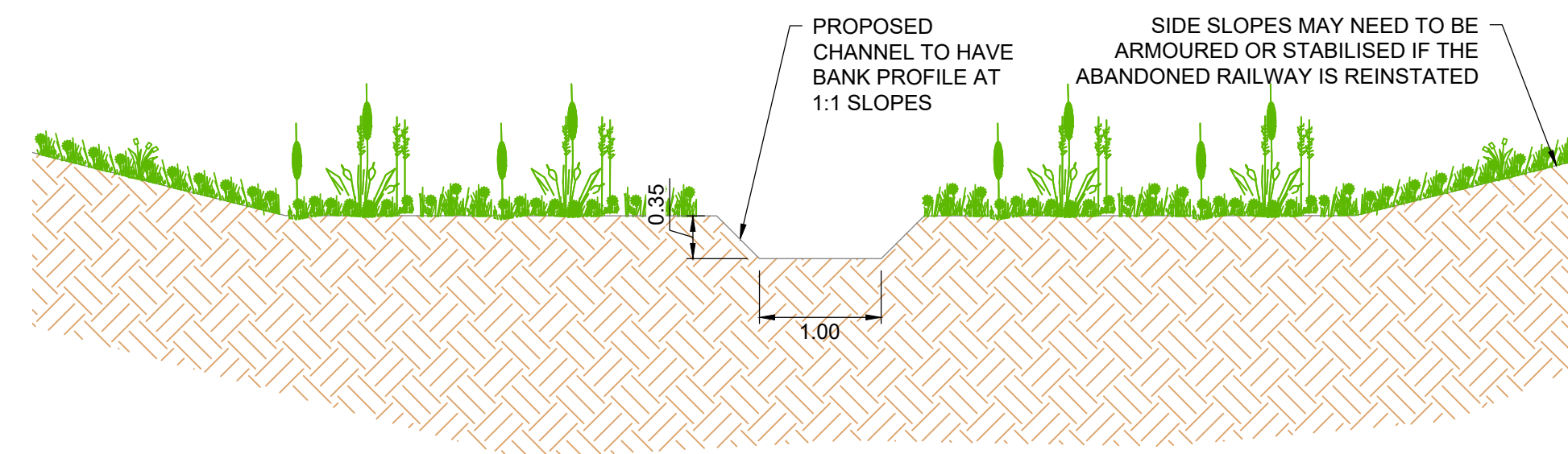
### New Open Channel & Floodplain to provide 200 year SOP



SECTION A-A  
1:200



SECTION B-B  
1:100



TYPICAL CROSS-SECTION THROUGH NEW CHANNEL  
1:50

OPTION 3 SUMMARY. The option would consist of re-sectioning of the channel of Charlies Sike and the green space along its bank to re-naturalise the channel. In the past the river bed was artificially constructed to align to a straight narrow ditch to coincide with the property boundaries. Naturalisation aims to restore rivers to a state closer to their original course by removing hard engineering and other restrictive structures. In this case, meandering straightened sections and re-grading of banks is proposed to incorporate floodplain volume for flood storage within the banks to reduce flood risk on properties.

LEGEND

- EXCAVATED CHANNEL
- EXISTING WATERCOURSE
- PROPOSED WATERCOURSE
- ABANDONED WATERCOURSE
- EXISTING GROUND
- PROPOSED GROUND
- 200 YEAR WATER LEVEL

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Suitable for Coordination					S1

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Project: **Borders Flood Studies**

Title: **Newcastleton  
Charlie Sike: Option 3  
New Open Channel & Floodplain**

Client: **MOTT MACDONALD** for **Scottish Borders COUNCIL**

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Project Number: 2017s5526	
Drawing Number: AEM-JBAU-NC-CS-IM-C-1200	Revision: P01



The preferred scheme option is to provide a 1 in 200 year level of protection (no climate change allowance) to Newcastleton from both the Liddel Water and the Lakes.

## Liddel Water Option 1

### Direct Defences

- Embankment in show field approx. 435 long
- Flood Wall from North Liddel Street down to playing fields, protecting polysport, routing around boundary of football pitch to tie into road bridge, incorporating flood gates.
- Flood Wall continuing downstream on right bank from road bridge for a distance of 226m.

**(Note** - If the re-routing of the Sike option below is not feasible, additional flood walls will be required along the Sikes to mitigate the flood risk from the Liddel Water backing up.)

## Charlie Sike/Short Sike

### Natural Flood Management Option

- Charlie Sike - abandon existing channel and create new channel and restore flood plain, creation of amenity area.
- Short Sike – Abandon Short Sike channel after coming under old railway and re-route along with Charlies Sike south through fields and under road, discharging into Liddel Water downstream of waste water treatment works. (**Note** this option was highlighted by the community and requires further investigation going forward)

**ESTIMATED SCHEME COST - £12m**



# Resident ideas/concerns for consideration

- Localised dry gravel removal;
- Lowering of embankments - reconnecting floodplains
- Impacts of newly planted trees on left bank opposite North Liddle Street;
- Flood gate locations for access to river;
- Glass panels in flood scheme walls;
- Reconfigure alignment of North-Mid-South Liddle Street to wet side of wall.
- Consideration of Lakes Amenity Area.





- **June 2019 – Sept 2019** - Community Consultation including public display of flood scheme plans
- **August 2019** - Plans will be on display until August in Buccleuch House
- The Community will be encouraged to complete feedback forms for comment
- **13<sup>th</sup> August Community Council Meeting** - Online/paper survey will be made available
- **September 2019** - Outcome of public survey announced
- **October 2019 - November 2019** - If a favourable outcome is received SBC will report to Council its desire to proceed with a flood scheme for Newcastleton to National Prioritisation.
- **December 2019 – June 2020** – SEPA National Prioritisation Exercise
- Establish Community Liaison Working Group to work with SBC
- Liaise with other communities who have been through flood scheme development to seek insight and feedback
- Visit communities who have had flood schemes recently constructed.