Olive Bank Bridge retained at current level - no measures proposed

SEPA gauging station to be relocated - details to be confirmed

Flood defence wall ties into Olive Bank Bridge

Ivanhoe (Cotton Mills) Footbridge retained at current level - possible flood gate if Scenario A adopted

New flood defence wall along right hand bank of the River Esk, wall alignment up to 1 metre from edge of Station Road kerb or footpath as appropriate

Proposed flood gate at the location where the Station Road footpath enters the riverside footpath

Potential surface water pumping station located within paved area - location and volumetric discharge of pumping station to be confirmed following outline design

Inveresk Estate properties - options include property level protection (PLP), set-back direct defences or replacement of existing boundary wall with flood wall. Note that only formal engineered upstream storage will provide sufficient reduction in flood levels at Inveresk.

New flood defence wall along right hand bank of the River Esk, footpath on wet side of wall

Existing Mill Lade overflow - new outfall/headwall and non-return flap valve to be fitted

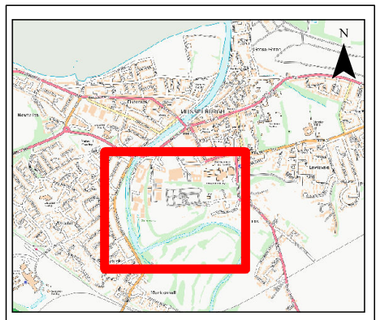
Modification to Mill Lade inlet to allow a controlled flow to be maintained

Flood defence ties into high ground via shortest route through hogweed field

Eskmills Weir - maintenance work required as part of the scheme to bring structure up to acceptable design standard and ensure continued operation during scheme design life. Monitoring and maintenance scheme to be implemented by ELC as part of the scheme.

Proposed staged debris trap upstream of A1 road bridge to reduce potential downstream blockage - exact location to be determined

Metres 0 25 50 100



## Key:

- Proposed Flood Defence Wall
- Pumping Station

SCALE 1:3000

| REV | SUIT | DATE | DESCRIPTION | BY | APP |
|---|---|---|---|---|---|
| 01 | | 24/10/19 | | EM | |

JACOBS

East Lothian Council

MUSSELBURGH FLOOD PROTECTION SCHEME
PREFERRED SCHEME PLAN 1 OF 5
ESKMILLS WEIR TO OLIVE BANK BRIDGE

| DESIGN: | DRAWN: | CHK: | APP: |
|---|---|---|---|
| EH | EM | EH | SV |

DATE: 24/10/2019

PROJ: 701909CH

REVISION: 01

Document Path: I:\gla\ppl\Projects\Wales\701909 - Musselburgh FPS\3_Working Folders\1_Calculations\00_GIS\00_MXDs\Preferred Scheme Plans\Preferred Scheme Plan 1_4.mxd

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right. All rights reserved.

Electric Bridge/Goose Green Footbridge:
Scenario A - bridges retained, flood gates/ strengthening works
Scenario B - bridge retained, flood gates/ strengthening works
Scenario C - new bridges at flood defence level, ramp/stairs required

New flood defence wall along Eskside East and West - alignment of wall to be such that it minimises impact on buried services

Shorthope Street Footbridge:
Scenario A - bridge retained, flood gate required
Scenario B - bridge retained, flood gate required
Scenario C - new bridge at reduced flood defence level, ramp/stairs required

Potential surface water pumping station located within low-lying bank adjacent to Eskside West - location and volumetric discharge of pumping station to be confirmed following outline design

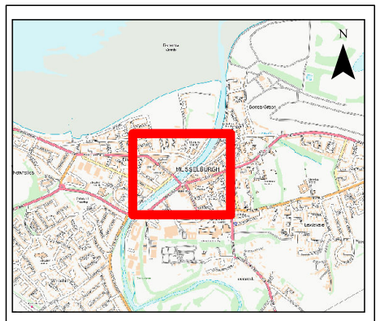
New (Rennie) Bridge:
Scenario A - flood gate/major bridge strengthening works
Scenario B - no works to bridge but reduced freeboard allowance
Scenario C - no works to bridge and full freeboard allowance

New flood defence wall along edge of footpath, Eskside West, tying in to New (Rennie) Bridge

New flood defence wall along edge of Olive Bank Road - alignment of wall to be such that it minimises impact on buried services

New flood defence wall along edge of river to protect Mall Avenue public car park

Potential surface water pumping station located with paved parking area - location and volumetric discharge of pumping station to be confirmed following outline design



## Key:

- Proposed Flood Defence Wall
- Potential Pumping Station Location

SCALE 1:2200

| REV | SUIT | DATE | DESCRIPTION | BY | APP |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| 01 | | 24/10/19 | | EM | |

JACOBS

East Lothian Council

MUSSELBURGH FLOOD PROTECTION SCHEME
PREFERRED SCHEME PLAN 2 OF 5
TOWN CENTRE, GOOSE GREEN AND FISHERROW (U/S)

| DESIGN: | DRAWN: | CHK: | APP: |
|---|---|---|---|
| EH | EM | EH | SV |

DATE: 24/10/2019

PROJ: 701909CH

REVISION: 01

Metres 0 12.5 25 50

Document Path: \\gldsppfil\Projects2\Wilson\701909 - Musselburgh FPS\2_Working Folders\1_Calculations\05_CB\05_ArcGIS\Preferred Scheme Plans\Preferred Scheme Plan 2_v4.mxd

N

New coastal flood defence embankment, maximum height above existing ground level 1.4m. Embankment to incorporate wave return wall to reduce overtopping risk

Potential surface water pumping station located within road at end of Goose Green Crescent - location and volumetric discharge of pumping station to be confirmed following outline design

Potential wave overtopping pumping station located within grassed area adjacent to coastal footpath - location and volumetric discharge of pumping station to be confirmed following outline design

Coastal flood defence embankment ties into River Esk flood defence wall

New flood defence wall along right hand bank of the River Esk, defences to be a minimum of 2 metres in front of existing dilapidated quay walls

New coastal flood defence wall, maximum height above existing ground level 1.4m

Potential surface water pumping station located within low-lying grassed area at end of New Street - location and volumentric discharge of pumping station to be confirmed following outline design

Potential surface water pumping station located within Eskside West - location and volumetric discharge of pumping station to be confirmed following outline design

Fisherrow Sands
Sand and Shingle
Fisherrow Links
Playing Field
Pitch and Putt Course
Recreation Ground
Goose Green
Musselburgh Racecourse
FISHERROW
River Esk
ELECTRIC BRIDGE
Loretto School
Millhill
New Street
Goose Green Crescent
Goose Green Place
Goose Green Court
Goose Green Avenue
Old Course Gate
Balcarres Road
Mountjoy Terrace
Mountjoy Court
Beach Lane
Links Avenue
Links View
Prestonpans Road (A198)
James Street
Eskdale Mews
Dowcot Lane
Lady Road

2:1
2
1.9
1.8
1.7
1.6
1.5

0 25 50 100 Metres

SCALE 1:3500

## Key:

- Proposed Flood Defence Wall
- Proposed Flood Defence Embankment
- Potential Pumping Station Location

| REV | SUIT | DATE | DESCRIPTION | BY | APP |
|---|---|---|---|---|---|
| 01 | | 24/10/19 | | EM | |

JACOBS

East Lothian Council

MUSSELBURGH FLOOD PROTECTION SCHEME
PREFERRED SCHEME PLAN 3 OF 5
TOWN CENTRE, GOOSE GREEN AND FISHERROW (D/S)

| DESIGN: | DRAWN: | CHK: | APP: |
|---|---|---|---|
| EH | EM | EH | SV |

DATE: 24/10/2019

PROJ: 701909CH

REVISION: 01

Document Path: \\glafpp01\Projects2\Water\701909 - Musselburgh FPS\3_Working Folders\1_Calculations\GIS\GIS_MXDs\Preferred Scheme Plan 2\DS)_v4.mxd

Level of protection to Edinburgh Road properties directly east of Brunstane Burn to be confirmed - further consultation required

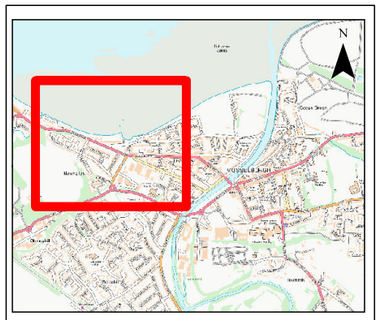
Proposed reduced height flood defence wall or demountable (flip-up) wall at Fisherrow Harbour to maintain access, approx. 0.6m above existing level. Existing harbour breakwaters to be inspected - potential maintenace works

New coastal flood defence wall along Fisherrow Promenade, maximum height above existing ground level 1.4m

Potential wave overtopping pumping station located within grassed/landscaped area off Edinburgh Road - location and volumetric discharge to be confirmed following outline design

New coastal flood defence wall from harbour to Brunstane Burn, maximum height above existing ground level 1.4m

Potential wave overtopping pumping station located within paved parking area along Fisherrow Promenade - location and volumetric discharge to be confirmed following outline design



## Key:

- Proposed Flood Defence Wall
- Potential Pumping Station Location

SCALE 1:3000

| REV | SUIT | DATE | DESCRIPTION | BY | APP |
|---|---|---|---|---|---|
| 01 | | 24/10/19 | | EM | |

JACOBS

East Lothian Council

**MUSSELBURGH FLOOD PROTECTION SCHEME**
**PREFERRED SCHEME PLAN 4 OF 5**
**FISHERROW PROMENADE AND HARBOUR**

| DESIGN: | DRAWN: | CHK: | APP: |
|---|---|---|---|
| EH | EM | EH | SV |

DATE: 24/10/2019

PROJ: 701909CH

REVISION: 01

Document Path: \\gb\gbp\n\Projects\Water\701909 - Musselburgh FPS\2_Working Folders\1_Calculations\05_GIS\04_MXD\d\Preferred Scheme Plans\Preferred Scheme Plan 4_4.mxd

Pinkie Burn outlet - to be passed through flood defence wall and fitted with non-return flap valve

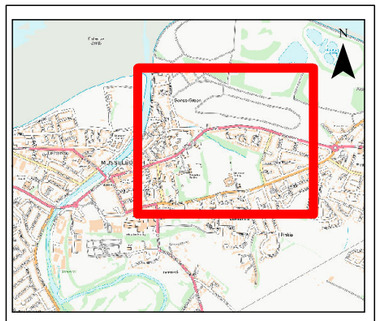
Probable requirement for bolt down watertight manholes on Pinkie Burn culvert

Pinkie Burn culvert - detailed survey and potential remedial works required to bring to an acceptable standard as part of the scheme

Potential low height (approx. 0.5m above existing ground level) flood defence bund/land regrading within school sports grounds

Mill Lade - potential improvement works, full survey required to determine extent

Pinkie St. Peter's Primary School and sports grounds



## Key:

- Proposed Flood Defence Wall
- Proposed Flood Defence Embankment

SCALE 1:4000

| REV | SUIT | DATE | DESCRIPTION | BY | APP |
|---|---|---|---|---|---|
| 01 | | 24/10/19 | | EM | |

JACOBS

East Lothian Council

**MUSSELBURGH FLOOD PROTECTION SCHEME**
**PREFERRED SCHEME PLAN 5 OF 5**
**PINKIE BURN**

| DESIGN: | DRAWN: | CHK: | APP: |
|---|---|---|---|
| EH | EM | EH | SV |

DATE: 24/10/2019

PROJ: 701909CH

| | REVISION: | |
|---|---|---|
| . | 01 | . |

Document Path: I:\gis\pdf\Projects\Wave\701909 - Musselburgh FPS\2_Working Folders\1_Calculations\05_GIS\05_MXD\Preferred Scheme Plans\Preferred Scheme Plan 4_v2.mxd