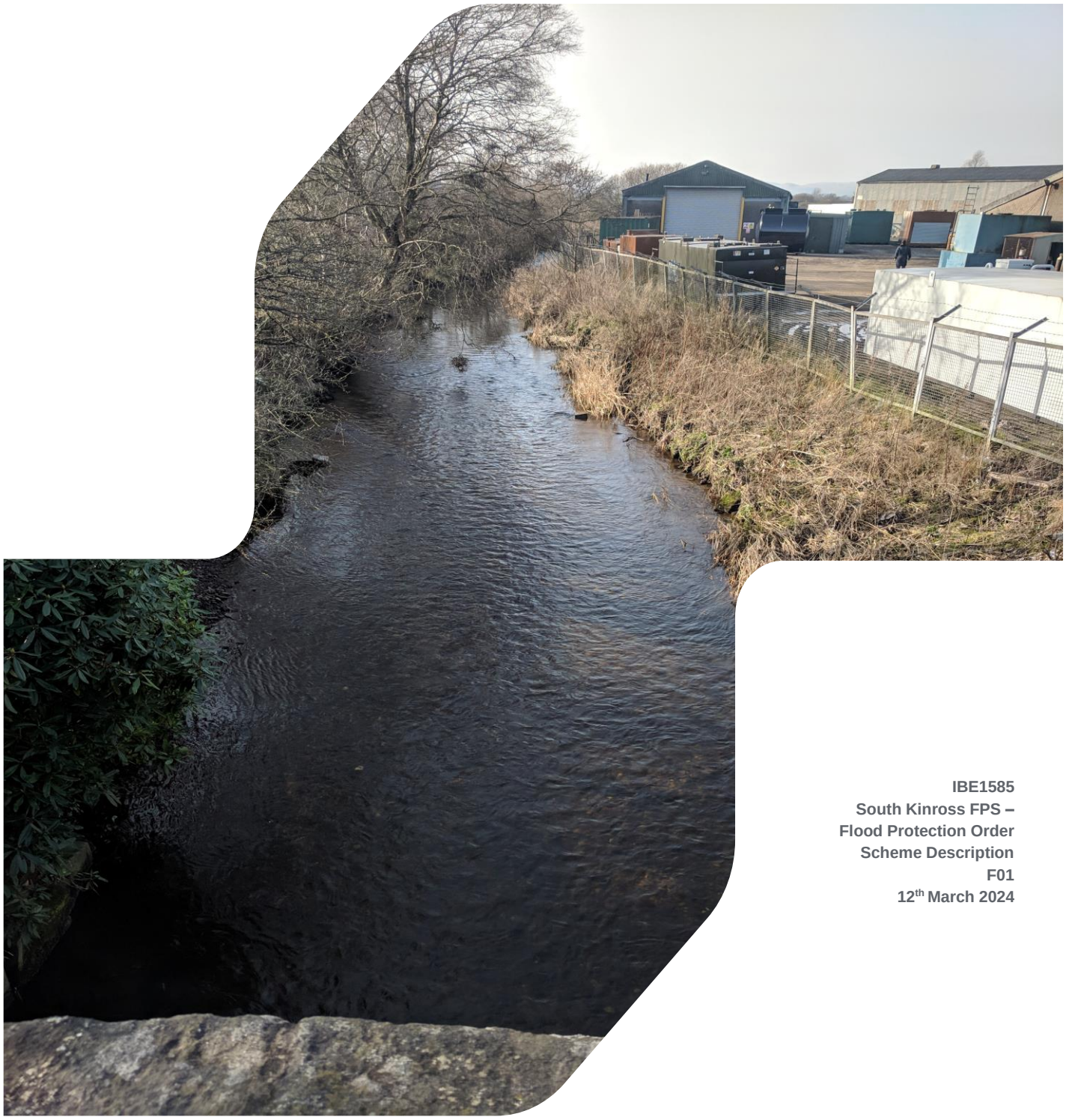
# FLOOD RISK MANAGEMENT ACT (SCOTLAND) 2009
# SOUTH KINROSS FLOOD PROTECTION SCHEME 2024
## Scheme Description



**IBE1585**
**South Kinross FPS –**
**Flood Protection Order**
**Scheme Description**
**F01**
**12th March 2024**

## Document status

| Version | Purpose of document | Authored by | Reviewed by | Approved by | Review date |
|---|---|---|---|---|---|
| D01 | Draft | AMcG | SP | AJ | 30/11/2023 |
| DF01 | Updated with PKC comment | AMcG | SP | AJ | 01/02/2024 |
| F01 | Final | AMcG | SP | AJ | 12/03/2024 |

## Approval for issue

Andrew Jackson 12 March 2024



Prepared by:

**RPS**

Aisling McGilloway
Associate – Water Environment and Flood Risk Management
Elmwood House
74 Boucher Road, Belfast
Co. Antrim BT12 6RZ
**T** +44 2890 667914
**E** aisling.mcgilloway@rpsgroup.com

Prepared for:

**Perth and Kinross Council**

Rory Stuart
Engineer (Flooding)

Pullar House
35 Kinnoull Street,
Perth PH1 5GD
**T** 01738 477277
**E** RIStuart@pkc.gov.uk

# Contents


**1 GENERAL ..... 1**

**2 TERMS OF THE SCHEME ..... 2**

**3 SITE OF THE FLOOD PROTECTION OPERATIONS ..... 3**

**4 DESCRIPTION OF THE OPERATIONS ..... 4**

Operations CB01: Clash Burn culvert at Hopefield Place ..... 5

Operations CB02: Clash Burn culvert from Bowton Place to The Myre ..... 5

Operations CB03: Clash Burn culvert from Smith Street to Nan Walker Wynd ..... 6

Operations GB01: Gelly Burn right bank from open space at Old Cleish Road to confluence of Gelly Burn and South Queich ..... 6

Operations SQ01: South Queich left bank from Bridgend Industrial Estate to upstream face of High Street Bridge ..... 7

Operations SQ02: South Queich left bank from downstream face of High Street Bridge to Scottish Water Pumping Station ..... 8

Operations SQ03: South Queich right bank from Queich Place to upstream face of High Street Bridge ..... 8

Operation SQ04: South Queich right bank from downstream face of High Street Bridge to Todd and Duncan Sewage Works ..... 9

Operations SQ05: Agricultural land north of Kinross Services, right bank of Ury Burn ..... 10

Operations LL01: Loch Leven ..... 10

Ancillary Operations ..... 11

**5 DIVERSION OF SERVICES ..... 12**

**6 POWERS ..... 17**

**7 ENVIRONMENTAL IMPACT ASSESSMENT ..... 18**

**8 BENEFITS AND COSTS OF THE OPERATIONS ..... 19**


## Tables


Table 5-1 Diversion of services ..... 12

# 1 GENERAL

In exercise of the powers conferred upon it by the Flood Risk Management (Scotland) Act 2009 (hereinafter “the Act”), Perth and Kinross Council (hereinafter “the Council”) hereby notifies the following Flood Protection Scheme (hereinafter “the Scheme”). The purpose of the Scheme is to reduce the risk of flooding to the town of Kinross from the South Queich, Gelly Burn and Clash Burn. The scheme may be cited as the South Kinross Flood Protection Scheme.

The Scheme is identified in the current Forth Estuary Flood Risk Management Plan as a measure to reduce flood risk within Kinross. In accordance with Section 60(2) (c) of the Act, the scheme contributes to the implementation of measures identified in the Forth Estuary LPD Flood Risk Management Plan.

# 2 TERMS OF THE SCHEME

The terms of the Scheme are detailed in Sections 3 to 8 hereunder.

If confirmed, the Scheme shall become operative 6 weeks after notice of confirmation of the Scheme is published, in accordance with requirements of Schedule 2 of the Act.

# 3 SITE OF THE FLOOD PROTECTION OPERATIONS

The site at which the flood protection operations (hereinafter referred to as “the Operations”) are to be carried out in terms of the Scheme are situated at Kinross and shown on the plan IBE1585_FO_2000; South Kinross Flood Protection Scheme Key Plan, annexed and executed as relative hereto.

The Scheme works are located at the southern end of the town of Kinross with locations at Bridgend Industrial Estate, industrial land south of High Street Bridge, Hopefield Place, The Myre, Smith Street, Sandport, Nan Walker Wynd, High Street and Old Cleish Road.

# 4 DESCRIPTION OF THE OPERATIONS

Descriptions of the Operations are split into the following[1]:

- Operation CB01: Clash Burn culvert at Hopefield Place
- Operation CB02: Clash Burn culvert from Bowton Place to The Myre
- Operation CB03: Clash Burn culvert from Smith Street to Nan Walker Wynd
- Operation GB01: Gelly Burn right bank from open space at Old Cleish Road to confluence of Gelly Burn and South Queich
- Operation SQ01: South Queich left bank from Bridgend Industrial Estate to upstream face of High Street Bridge
- Operation SQ02: South Queich left bank from downstream face of High Street Bridge to Scottish Water Pumping Station
- Operation SQ03: South Queich right bank from Queich Place to upstream face of High Street Bridge
- Operation SQ04: South Queich right bank from downstream face of High Street Bridge to Todd and Duncan Sewage Works
- Operation SQ05: Agricultural land north of Kinross Services, right bank of Ury Burn
- LL01: Loch Leven Frontage

The operations to be carried out and maintained are as shown on the plans marked, annexed and executed as relative hereto and are as follows:

| Drawing Number | Title |
|---|---|
| IBE1585_FO_2000 | Flood Protection Operations Scheme Key Plan |
| IBE1585_FO_2001 | Flood Protection Operations Gelly Burn Right Bank Plan (GB01) Plan & Longsection |
| IBE1585_FO_2002 | Flood Protection Operations South Queich Upstream of High Street Bridge (SQ01 & SQ03) Plan & Right Bank Longsection |
| IBE1585_FO_2003 | Flood Protection Operations South Queich & Clash Burn Embankments Plan & Sections (SQ04, CB02) |
| IBE1585_FO_2004 | Flood Protection Operations South Queich Downstream of High Street Bridge (SQ02 & SQ04) Plan & Left Bank Longsection |
| IBE1585_FO_2005 | Flood Protection Operations Upstream of Kinross Services Plan & Longsection (SQ05) |
| IBE1585_FO_2006 | Flood Protection Operations Clash Burn Culvert Hopefield Place (CB01) Plan, Longsections & Typical Details |
| IBE1585_FO_2007 | Flood Protection Operations Clash Burn Culvert Bowton Road to The Myre (CB02) Plan, Longsections & Typical Details |
| IBE1585_FO_2008 | Flood Protection Operations Clash Burn Culvert from Smith Street to Nan Walker Wynd (CB03) Plan, Longsections & Typical Details |

[1] River bank orientations “Left” and “Right”, are determined by the observer when facing the direction of flow; or downstream.

| Drawing Number | Title |
|---|---|
| IBE1585_FO_2009 | Flood Protection Operations Upstream of Kinross Services Control Structure Longsection & Typical Details (SQ05) |
| IBE1585_FO_2010 | Flood Protection Operations The Myre (CB02), Loch Leven (LL01) Plans and Gelly Burn Embankment Sections (GB01) |
| IBE1585_FO_2011 | Flood Protection Operations South Queich Flood Walls Cross-sections & Typical Detail SQ01 - SQ04 |

All areas, directions, distances, lengths, widths, depths and heights as stated in any below description of Operations or lands shall be construed as if the words “or thereby” were inserted after each such area, direction, distance, length, width, depth and height.

## Operations CB01: Clash Burn culvert at Hopefield Place

This part of the scheme will create increased capacity to store and convey flood flows in the Clash Burn downstream more efficiently during flood events.

- CB01-01 - Construction of 110m length of concrete culvert below ground, upsizing pipe diameter from 225mm dia. to 600mm dia. This will include infill of the open channel in parkland.
- CB01-02 - Construction of inlet headwall and trash screen to manage change from open channel to pipe section. The trash screen has been designed to ensure adequate debris capture with a catwalk for safe access for clearance.

These operations are shown on the drawings marked as follows:

| Drawing Number | Title |
|---|---|
| IBE1585_FO_2006 | Flood Protection Operations Clash Burn Culvert Hopefield Place (CB01) Plan, Longsections & Typical Details |

## Operations CB02: Clash Burn culvert from Bowton Place to The Myre

This part of the scheme will create increased capacity to store and convey flood flows in the Clash Burn downstream more efficiently during flood events. This new culvert will redirect the Clash Burn down the footpath to the west of Montgomery Way. This avoids upsizing of the existing culvert route through private properties at Montgomery Way. The existing culvert will be retained to maintain any existing residential or road drainage connections separately from the watercourse.

- CB02-01 - Construction of 400m length of concrete culvert below ground, realigning the existing culvert in a larger pipe diameter of 900mm dia.
- CB02-02 - Construction of an outlet headwall and erosion protection to manage change from pipe to open channel through the Myre.
- CB02-03 - Sealing of two existing manholes at Montgomery Road to prevent these from overflowing during high flow events.
- CB02-04 – Installation of two new trash screens on existing structures in the open section of the Clash Burn through the Myre to reduce risk of blockage at structures.

- CB02-05 – Construction of a 24m length of earth flood embankment with suitable seepage cut off below ground. The embankment will be finished in grass or wildflower planting. This will tie into the existing flood embankment located along the eastern boundary of the Myre Playing Fields as additional protection for exceedance flows in the Clash Burn.
- CB02-06 – Construction of surface water drainage system on dry side of defence along toe of embankment to include carrier pipe, filter trench, valve, manholes and outfall on the left bank of Clash Burn. Outfall locations are indicative and may vary +/-5m in any direction along the river bank.

These operations are shown on the drawings marked as follows:

| Drawing Number | Title |
|---|---|
| IBE1585_FO_2003 | Flood Protection Operations South Queich & Clash Burn Embankments Plan & Sections (SQ04 & CB02) |
| IBE1585_FO_2007 | Flood Protection Operations Clash Burn Culvert Bowton Road to The Myre (CB02) Plan, Longsections & Typical Details |
| IBE1585_FO_2010 | Flood Protection Operations The Myre (CB02), Loch Leven (LL01) Plans and Gelly Burn Embankment Sections (GB01) |

## Operations CB03: Clash Burn culvert from Smith Street to Nan Walker Wynd

As previous, this part of the scheme will create increased capacity to store and convey flood flows in the Clash Burn downstream more efficiently during flood events.

- CB03-01 - Construction of inlet to the new culvert on the left bank of the Clash Burn channel. This inlet will be set above regular water levels to route high flows around an existing property whilst also maintaining a regular flow of water through the open channel section in private property.
- CB03-02 - Construction of a 460m length of concrete culvert below ground, upsizing the existing culvert from 600mm diameter pipe to 900mm – 1050mm diameter pipe/box culvert.
- CB03-03 – Replacement of Boathouse Access Bridge with new box culvert (1.5m*0.6m). This will include infill of the open channel section of the culvert between Nan Walker Wynd and Boathouse Access Road
- CB03-04 - Construction of outlet headwall to manage change from pipe to open channel south of Sandport Gait.

These operations are shown on the drawings marked as follows:

| Drawing Number | Title |
|---|---|
| IBE1585_FO_2008 | Flood Protection Operations Clash Burn Culvert from Smith Street to Nan Walker Wynd (CB03) Plan, Longsections & Typical Details |

## Operations GB01: Gelly Burn right bank from open space at Old Cleish Road to confluence of Gelly Burn and South Queich

This part of the scheme will prevent overtopping from the Gelly Burn travelling overland across open space to properties at Queich Place. The embankment will allow flood water to be stored in the open space helping to reduce flood levels in the South Queich.

- GB01-01 - Construction of a 1.4m high, 220m length of earth flood embankment with suitable seepage cut off below ground. The embankment will be finished in grass or wildflower planting.
- GB01-02 – Construction of surface water drainage system on dry side of defence along toe of embankment to include carrier pipe, filter trench, valve, manholes and outfall on the right bank of Gelly Burn. Outfall locations are indicative and may vary +/-10m in any direction along the river bank.
- GB01-03 – Construction of replacement bridge crossing over Gelly Burn for permanent access
- GB01-04 - Construction of access ramp at Old Cleish Road for pedestrian and vehicular access including lockable gate and fencing
- GB01-05 - Construction of 220m long, 4m wide reinforced grass access track along base of embankment for future maintenance access

These operations are shown on the drawings marked as follows:

| Drawing Number | Title |
|---|---|
| IBE1585_FO_2001 | Flood Protection Operations Gelly Burn Right Bank Plan (GB01) Plan & Longsection |
| IBE1585_FO_2010 | Flood Protection Operations The Myre (CB02), Loch Leven (LL01) Plans and Gelly Burn Embankment Sections (GB01) |

## Operations SQ01: South Queich left bank from Bridgend Industrial Estate to upstream face of High Street Bridge

This part of the scheme will prevent overtopping from the left bank of the South Queich River by providing direct defence against high water levels in extreme events. The flood wall will be tied into the High Street Bridge to form a watertight seal.

- SQ01-01 - Construction of a 1.2m high, 230m length of sheet pile flood wall with suitable finish including below ground seepage cut off.
- SQ01-02 – Construction of access ramp at south west corner of Koronka Manufacturing yard to allow long term maintenance access. This will include suitable asphalt/grasscrete finish with associated lockable gate, railings and signage.
- SQ01-03 – Construction of surface water drainage system on dry side of defence along toe of embankment to include carrier pipe, filter trench, valve, manholes and outfall on the left bank of South Queich. Outfall locations are indicative and may vary +/-10m in any direction along the river bank.
- SQ01-04 – Construction of surface water drainage pumping station to manage surface water ponding on dry side of defence within Koronka Manufacturing. Location is indicative and will be located according to needs of the working yard.
- SQ01-05 – Construction of access stairs at south east corner of Koronka Manufacturing yard to allow long term maintenance access. This will include suitable concrete finish with associated lockable gate, railings and signage.
- SQ01-06 – strengthening and scour protection works to existing High Street Bridge.

These operations are shown on the drawings marked as follows:

| Drawing Number | Title |
|---|---|
| IBE1585_FO_2002 | Flood Protection Operations South Queich Upstream of High Stream Bridge (SQ01 & SQ03) Plan & Right Bank Longsection |
| IBE1585_FO_2011 | Flood Protection Operations South Queich Flood Walls Cross-sections & Typical Detail SQ01 - SQ04 |

## Operations SQ02: South Queich left bank from downstream face of High Street Bridge to Scottish Water Pumping Station

This part of the scheme will prevent overtopping from the left bank of the South Queich River by providing direct defence against high water levels in extreme events. The flood wall will be tied into the High Street Bridge to form a watertight seal.

- SQ02-01 - Construction of a 1.8m high, 342m length of sheet pile flood wall with suitable finish including below ground seepage cut off.
- SQ02-02 – Construction of 342m, 3.5m access track for use by future maintenance to include suitable asphalt/reinforced grass finish with associated lockable gate, railings and signage.
- SQ02-03 – Construction of surface water drainage system on dry side of defence along toe of embankment to include carrier pipe, filter trench, valve, manholes and outfall on the left bank of South Queich. Outfall locations are indicative and may vary +/-10m in any direction along the river bank.
- SQ02-04 – Construction of 342m of rock roll/coir matting erosion protection along banks of South Queich and ancillary works including soft landscaping/compensatory planting.
- SQ02-05 – Demolition of existing BCA building to facilitate construction access.

These operations are shown on the drawings marked as follows:

| Drawing Number | Title |
|---|---|
| IBE1585_FO_2004 | Flood Protection Operations South Queich Downstream of High Stream Bridge (SQ02 & SQ04) Plan & Left Bank Longsection |
| IBE1585_FO_2011 | Flood Protection Operations South Queich Flood Walls Cross-sections & Typical Detail SQ01 - SQ04 |

## Operations SQ03: South Queich right bank from Queich Place to upstream face of High Street Bridge

This part of the scheme will prevent overtopping from the right bank of the South Queich River by providing direct defence against high water levels in extreme events. The flood wall will be tied into the High Street Bridge to form a watertight seal.

- SQ03-01 - Construction of a 1.2m high, 230m length of sheet pile flood wall with suitable finish including below ground seepage cut off.
- SQ03-02 – Construction of access steps at Queich Place adjacent to upstream face of High Street Bridge to maintain permanent access to SEPA gauge. This will include suitable concrete finish with associated lockable gate, railings and signage.

- SQ03-03 – Construction of surface water drainage system on dry side of defence along toe of embankment to include carrier pipe, filter trench, valve, manholes and outfall on the right bank of South Queich. Outfall locations are indicative and may vary +/-10m in any direction along the river bank.

These operations are shown on the drawings marked as follows:

| Drawing Number | Title |
|---|---|
| IBE1585_FO_2002 | Flood Protection Operations South Queich Upstream of High Stream Bridge (SQ01 & SQ03) Plan & Right Bank Longsection |
| IBE1585_FO_2011 | Flood Protection Operations South Queich Flood Walls Cross-sections & Typical Detail SQ01 - SQ04 |

## Operation SQ04: South Queich right bank from downstream face of High Street Bridge to Todd and Duncan Sewage Works

This part of the scheme will prevent overtopping from the right bank of the South Queich River by providing direct defence against high water levels in extreme events. The flood wall will be tied into the High Street Bridge to form a watertight seal.

- SQ04-01 - Construction of a 2.7m high, 282m length of sheet pile flood wall with suitable finish including below ground seepage cut off.
- SQ04-02 – Construction of surface water drainage system on dry side of defence along toe of embankment to include carrier pipe, filter trench, valve, manholes and outfall on the right bank of South Queich. Outfall locations are indicative and may vary +/-10m in any direction along the river bank.
- SQ04-03 – Construction of access stairs at north-west corner of Todd and Duncan premises to include suitable concrete finish with associated lockable gate, railings and signage.
- SQ04-04 – Construction of 282m of rock roll/coir matting erosion protection along banks of South Queich and ancillary works including soft landscaping/compensatory planting.
- SQ04-05 – Construction of a 0.6m high, 122m length of earth flood embankment with suitable seepage cut off below ground. The embankment will be finished in grass or wildflower planting.
- SQ04-06 – Construction of 130m long, 3.5m wide reinforced grass access track with turning head along base of embankment for future maintenance access

These operations are shown on the drawings marked as follows:

| Drawing Number | Title |
|---|---|
| IBE1585_FO_2003 | Flood Protection Operations South Queich & Clash Burn Embankments Plan & Sections (SQ04 & CB02) |
| IBE1585_FO_2004 | Flood Protection Operations South Queich Downstream of High Stream Bridge (SQ02 & SQ04) Plan & Left Bank Longsection |
| IBE1585_FO_2011 | Flood Protection Operations South Queich Flood Walls Cross-sections & Typical Detail SQ01 - SQ04 |

# Operations SQ05: Agricultural land north of Kinross Services, right bank of Ury Burn

This part of the scheme will capture out of bank flow from the South Queich which travels overland from the north-east over agricultural land before flowing through Kinross Services, the M90 and towards the town of Kinross affecting residential properties. An embankment will force water to be stored temporarily in the agricultural land during extreme storm events. A culvert will then allow flow to be discharged to the Ury Burn at a controlled rate during storm events whilst allowing the area to empty once the storm has passed.

- SQ05-01 – Construction of a 1m high, 526m length of earth flood embankment with suitable seepage cut off below ground. The embankment will be finished in grass or wildflower planting.
- SQ05-02 – Construction of a 30m long, 450mm diameter concrete culvert passing through the embankment to throttle flows to a controlled discharge rate before release to the Ury Burn.
- SQ05-03 – Construction of inlet headwall and trash screen to manage head losses and debris as well as provide inspection access from the crest of the embankment.
- SQ05-04 – Construction of outlet headwall to manage change from pipe to open channel as well as manage debris and provide access for inspection.
- SQ03-05 – Construction of 536m long access track for use by future maintenance to include suitable asphalt/reinforced grass finish with associated lockable gate, railings and signage.
- SQ03-06 – Construction of surface water drainage system on dry side of defence along toe of embankment to include carrier pipe, filter trench, valve, manholes with drainage assumed to infiltrate to ground.

These operations are shown on the drawings marked as follows:

| Drawing Number | Title |
|---|---|
| IBE1585_FO_2005 | Flood Protection Operations Upstream of Kinross Services Plan & Longsection (SQ05) |
| IBE1585_FO_2009 | Flood Protection Operations Upstream of Kinross Services Control Structure Longsection & Typical Details (SQ05) |

# Operations LL01: Loch Leven

Property Flood Resilience (PFR) will be used to provide protection to some properties at the Loch Leven waterfront from residual overtopping from the South Queich and high water levels at Loch Leven. This option is proposed as an engineered solution to manage residual risk was not proven to be economically, environmentally or socially viable. Property surveys will be carried out to determine appropriate, bespoke flood mitigation measures for the 4 properties identified. The PFR element of the scheme will also be funded by the flood protection scheme where property owners wish to proceed with this measure. The funding will cover the installation and purchase cost of the required measures. The long-term ownership and maintenance of the measures will then be the responsibility of the property owner. This operation is shown on the drawings marked as follows:

| Drawing Number | Title |
|---|---|

# Ancillary Operations

The works in this section are not required for the proper functioning of the Scheme but are required to enable the works to be carried out, facilitate reinstatement of areas to a suitable standard or to avoid the Scheme impacting on flood risk elsewhere.

The Council may, within the limits of land affected by the operations, carry out and re-instate such other subsidiary works as may be necessary or expedient for the purposes of or in connection with or in consequence of the construction or maintenance of the Operations described above. As such the ancillary works identified below shall form part of the Operations:

- Works to relocate/dismantle, remove and re-instate – fencing, outbuildings, sheds, greenhouses and garden furniture and garden features.
- Works to alter the position of existing public utility apparatus including mains sewers, drains, pipe, conduits cables, electrical substations and electrical lines as described in Section 5.
- Works to regrade ground to encourage flow to return to river channel post flood event or pond in low risk areas.
- Reinstatement of working areas – soft and hard landscaping.
- Works to fell trees and remove planting.
- Works to reinstate or provide compensatory planting.
- Works to barrier off sections of ground to provide safe working areas for workers, plant and machinery.
- Works to provide temporary accesses for workers, plant and machinery.
- Works to provide temporary flood protection to homes and property.
- Works to provide dry working areas for works plant and machinery – including the provision of pimps, barrier etc.
- Existing surface water drainage connections will be reinstated through flood defences or connected to new culverts where required.
- Works to set-up maintain stores, offices and other buildings as required to facilitate temporary construction compounds.

Please note this is not an exhaustive list but are the likely ancillary works associated in some form with all operations identified at this stage of design. The Council may look to undertake additional works to those denoted as the design and construction of the Scheme develops.

# 5 DIVERSION OF SERVICES

The works in this section are not required for the proper functioning of the Scheme but are required to enable the works to be carried out.

All service locations will be identified in more detail at the detailed design stage. Services will be protected or diverted as appropriate; specifications and working methods will be agreed with the relevant undertakers prior to construction.

**Table 5-1 Diversion of services**

| Plan Reference Drawing No. | Operation Reference | Ancillary Operation Required |
|---|---|---|
| IBE1585_FO_2001 | GB01-01 | Underground Medium Pressure Gas (SGN) will be protected or diverted during operations |
| IBE1585_FO_2001 | GB01-01 | Overhead Telecommunication (BT) line will be protected or diverted during operations |
| IBE1585_FO_2001 | GB01-01 | Underground LV (SSE) power line will be protected or diverted during operations |
| IBE1585_FO_2001 | GB01-01 | Underground Medium Pressure Gas (SGN) protected or diverted during operations |
| IBE1585_FO_2002 | SQ01-01 | Underground 11kV power (SSE) line will be protected or diverted during operations |
| IBE1585_FO_2003 | SQ04-05 | Combined Sewer (SW) will be protected or diverted during operations |
| IBE1585_FO_2004 | SQ02-01 | Combined Sewer (SW) will be protected or diverted during operations with temporary pumping required during works |
| IBE1585_FO_2002 | SQ01-01 | Exposed watermain along High Street Bridge to be temporarily diverted and protected with permanent reinstatement post flood wall construction works |
| IBE1585_FO_2002 | SQ01-01 | Low Pressure Gas Line (SGN) running across High Street Bridge to be protected during construction works |

| Plan Reference Drawing No. | Operation Reference | Ancillary Operation Required |
|---|---|---|
| IBE1585_FO_2002 | SQ01-01 | Underground telecoms (BT) ducting passing across High Street Bridge to be protected or diverted during construction works |
| IBE1585_FO_2004 | SQ02-01 | 375 mm dia. Combined Sewer outfall to be diverted or protected during operations |
| IBE1585_FO_2004 | SQ02-01 | Underground power line (SSE LV) passing across High Street Bridge to be diverted or protected during operations |
| IBE1585_FO_2004 | SQ02-01 | Underground power line (SSE 11kV) passing across High Street Bridge to be diverted or protected during operations |
| IBE1585_FO_2008 | CB03-02 | Underground Low Voltage (SSE LV) to be diverted during operations |
| IBE1585_FO_2008 | CB03-02 | 4in watermain running to be diverted during operations |
| IBE1585_FO_2008 | CB03-02 | Combined Sewer running parallel to be diverted during operations |
| IBE1585_FO_2008 | CB03-02 | 75mm duct crossing proposed culvert at High Street during operations |
| IBE1585_FO_2008 | CB03-02 | New aerial connection to be installed from Smith Street to existing BT pole to rear of 164 High Street during operations |
| IBE1585_FO_2008 | CB03-02 | Underground Electric cable (SSE LV) power line to be diverted or protected during operations |
| IBE1585_FO_2008 | CB03-02 | Underground Low Pressure Gas (SGN) Line to be diverted or protected during operations |

| Plan Reference Drawing No. | Operation Reference | Ancillary Operation Required |
|---|---|---|
| IBE1585_FO_2008 | CB03-02 | Underground Low Voltage power line (SSE) to be diverted or protected during operations |
| IBE1585_FO_2008 | CB03-02 | Underground Street Lighting Cable to be diverted or protected during operations |
| IBE1585_FO_2008 | CB03-02 | Underground Medium Pressure (SGN) to be diverted or protected during operations |
| IBE1585_FO_2008 | CB03-02 | 4in UPVC watermain to be diverted or protected during operations |
| IBE1585_FO_2008 | CB03-02 | 200mm Dia. foul sewer to be diverted or protected during operations |
| IBE1585_FO_2008 | CB03-02 | 150mm dia. foul sewer to be diverted or protected during operations |
| IBE1585_FO_2008 | CB03-02 | 150mm dia. PVC storm sewer to be diverted into new culvert during operations |
| IBE1585_FO__2008 | CB03-02 | Telecomms (BT) cable to be diverted or protected during operations |
| IBE1585_FO_2008 | CB03-02 | Low Pressure gas main (Indigo Gas) to be diverted during operations |
| IBE1585_FO_2008 | CB03-02 | Underground electric cable (SSE) to be diverted or protected during operations |
| IBE1585_FO_2008 | CB03-02 | Underground electric cable (SSE 11kV) to be diverted or protected during operations |
| IBE1585_FO_2008 | CB03-02 | Underground electric service cable (SSE) to be diverted or protected during operations |

| Plan Reference Drawing No. | Operation Reference | Ancillary Operation Required |
|---|---|---|
| IBE1585_FO_2008 | CB03-02 | 4in UPVC watermain to be diverted or protected during operations |
| IBE1585_FO_2006 | CB01-01 | Watermain to be diverted or protected during operations |
| IBE1585_FO_2006 | CB01-01 | 150mm dia. UPVC foul sewer to be diverted or protected during operations |
| IBE1585_FO_2006 | CB01-01 | Underground Telecoms cable (BT) to be diverted or protected during operations |
| IBE1585_FO_2006 | CB02-01 | Underground LP gas main (Indigo Gas) to be diverted or protected during operations |
| IBE1585_FO_2007 | CB02-01 | Underground electric cable (SSE Service cable) to be diverted or protected during operations |
| IBE1585_FO_2007 | CB02-01 | Underground (SSE LV) electric cable to be diverted or protected during operations |
| IBE1585_FO_2007 | CB02-01 | Underground street lighting cable to be diverted or protected during operations |
| IBE1585_FO_2007 | CB02-01 | Underground MP gas main (SGN) running to be protected during operations |
| IBE1585_FO_2007 | CB02-01 | 150mm dia. UPVC sewer to be protected during operations |
| IBE1585_FO_2007 | CB02-01 | Underground electric cable (SSE LV) to be protected or diverted during operations |
| IBE1585_FO_2007 | CB02-01 | Underground electric cable (SSE 11Kv) to be protected or diverted during operations |

| Plan Reference Drawing No. | Operation Reference | Ancillary Operation Required |
|---|---|---|
| IBE1585_FO_2007 | CB02-01 | Underground street lighting cable to be protected or diverted during operations |
| IBE1585_FO_2007 | CB02-01 | Underground MP gas main running to be protected during operations |
| IBE1585_FO_2007 | CB02-01 | 125 dia. UPVC Foul Rising Main ide to be protected or diverted during operations |
| IBE1585_FO_2007 | CB02-01 | Watermain to be protected or diverted during operations |

Additional works to services to those identified may be required as the design and construction of the Scheme develops.

Consultation has been held with utility providers to approximately locate services and identify potential diversions to facilitate the scheme. This consultation will continue into the next stage of design and construction.

Any operations to existing watermains, stormwater drainage and combined/foul sewers will be carried out in association with Scottish Water and other organisations as appropriate.

Any operations to existing power cables will be carried out in association with SSE and other organisations as appropriate.

Any operations to existing gas mains will be carried out in association with SGN and Indigo Pipelines and other organisations as appropriate.

Any operations to existing telecoms will be carried out in association with BT OpenReach and other organisations as appropriate.

# 6 POWERS

The Scheme is made in accordance with Section 60 and Schedule 2 of the Flood Risk Management (Scotland) Act 2009 and the powers afforded thereunder.

# 7 ENVIRONMENTAL IMPACT ASSESSMENT

The Proposed Development falls under paragraph 10(h) of Schedule 2 of The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 and The Flood Risk Management (Flood Protection Schemes, Potentially Vulnerable Areas and Local Plan Districts) (Scotland) Amendment Regulations 2017. As such, an Environmental Impact Assessment has been carried out in support of the Flood Scheme Notification. The Environmental Impact Assessment Report (EIAR) is available to review alongside the scheme documents.

The EIAR has identified and documented impacts arising from the Proposed Development. These impacts have been assessed as to whether or not they are likely to result in significant effects. Where significant effects have been predicted, measures to avoid or mitigate these effects have been included so that, where possible, they are no longer significant.

With adherence to a Construction Environmental Management Plan and with implementation of the mitigation laid out in the EIAR, most negative effects from the Proposed Development will generally not be significant. However, some significant negative effects may potentially be experienced by receptors including Cultural Heritage & Archaeology (specifically archaeological potential), Landscape & Visual and Water Quality. However, mitigation measures proposed should reduce overall impact of the scheme to Minor.

The necessary registrations(s) licence(s) and permit(s) will be acquired prior to construction of the Scheme. The following works will also be carried out prior to construction:

- Ecological studies, including Protected Species Surveys, Fish Habitat Surveys and Phase 1 Extended Habitat Surveys.
- Site investigation works.
- Baseline noise surveys.
- Where necessary, structural surveys of properties in the vicinity of the works to assess their pre-construction condition.
- Development of a construction environmental management plan, to include:
    - Construction works methodology statement.
    - Construction management plan for noise and dust control.
    - Nuisance management and mitigation plan from noise and dust, and traffic.
    - Surface water management and control, with pollution prevention and control measures.
    - Site waste management procedures and controls.
    - Site environmental management and controls, with site rules.
    - Traffic management and control measures.
    - Duties of an ecological clerk of works (ECoW), where the requirement for an appropriate European Protected Species licence is identified.

# 8 BENEFITS AND COSTS OF THE OPERATIONS

The principal benefits of the Scheme are as follows:

- Approximately 177 residential and commercial properties across South Kinross will be protected from the effects of flooding up to and including the 0.5% AEP flood event (before the impacts of future climate change are taken into account) as a minimum standard from the Gelly Burn, Clash Burn, Loch Leven and South Queich.
- Reduced flooding of residential homes and business would have positive impact on owner's health and wellbeing.
- During and post flooding there would be loss of transport routes for the community – roads currently affected would be protected up to the 0.5% AEP event reducing disruption and improving connectivity.
- The M90 would be significantly disrupted from a 1% AEP event and this will be avoided as a result of the scheme.
- The community's way of life would be significantly improved through protection of properties, recreational sites and transport routes.
- The boathouse area is a key recreational asset and this will be made resilient through PFR which will reduce the amount of time this asset cannot be accessed during and post flood events.
- Key infrastructure assets which may previously have experienced a loss of service due to flooding such as an electricity substation on Clashburn Road, sewage works at Todd and Duncan and the South Sewage Pumping Station (SPS) on High Street will now be protected up to the 0.5% AEP event.

The estimated cost of the operations is fifteen million seventy-five thousand two hundred fifteen pounds (**£15,075,215**).

Made by Perth and Kinross Council on the day of 2024

Proper Officer of the Council

.....

Dated .....