

Update for April's Executive Decision Session

This is an update of the progress made over the last three months on the flood alleviation work in York, as well as providing information on the programme and expected timelines for delivering the remaining work. In this update we have provided:

1. Summary of activities per flood cell
2. Engagement highlights
3. Our response to storms Dudley, Eunice and Franklin
4. Programme information tables
5. Map of the York Five Year Plan flood cell outlines

1. Summary of activities per flood cell

Clementhorpe (B8)

Since our last update in December we have completed the Deep Soil Mixing along Terry Avenue and removed the equipment. We have completed the flood walls at Postern Close, Dukes Wharf and behind the Caravan Park.

Clifton and Rawcliffe (B10)

The compound set up has been completed along with the diverted Sustrans route. Necessary tree felling started but had to be paused due to the recent flooding which saw the Ings being operated and filled as designed. Tree felling is due to resume week commencing 14th March. There are plans in place to replant up to 250 trees within the area once works are complete.

A public drop-in is being planned in Clifton Ings for Wednesday 16th March.

Coppins Farm to Scarborough Bridge (B11)

All glass panels have been re-fitted and tested. Some outstanding work is ongoing at the transition wall between the embankment and Almere Terrace.

Scarborough Bridge to Lendal Bridge (B12)

All glass panels have been fitted and tested. The embankment within Museum Gardens has been seeded but this will be revisited following the recent floods with more topsoil expected to be added to the embankment. Our compound within Marygate carpark has been significantly reduced and the car parking spaces returned to CYC. We are in the process of completing works to Marygate gate itself and the railings near Scarborough Bridge.

Bishopthorpe (C1)

The Bishopthorpe scheme is almost complete. The flood gate at the bottom of Chantry Lane has been fitted and tested and the flood wall built. We have resurfaced the road and fitted fencing and coping stones and are demobilising the compound.

Foss Storage Area (F8, F10 and F11)

The base of the compound was established before Christmas with work since on pause over the Winter period. In preparation for earth works to start in the Spring we are conducting environmental surveys. The first of which was the Water Vole survey which took place in February.

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Foss Barrier

The compound area within St Georges carpark has been demobilised and the spaces returned to CYC. We are in the process of applying for Advertisement Consent from CYC to erect Interpretation Boards to inform passers-by of the function of the structure and raise awareness of flood risk throughout the City.

Work to fully refurbish and upgrade the Foss Barrier is complete. There are some outstanding activities mainly concerning training and handover which is ongoing. An opening ceremony is being planned for March 2022.

PFR

South Bank (B8)

Agreements have been secured from all homeowners wishing to proceed with receiving PFR measurers in the South Bank area. Over 60% of installations are complete with the remaining properties being delivered through March and April.

Lendal Hill, Skeldergate, Naburn, Government House Rd, Kings Staith, Bishopthorpe, Acaster Malbis and Huntington Rd. (B12, B7, C3, B11, B15, C1, C2 and F8)

We have sent letters containing a link to an online questionnaire to all properties at flood risk and potentially eligible for PFR in these areas. We are planning to reengage with property owners over the coming weeks to ensure everyone has had the relevant information and opportunity to get in touch. Contract arrangements for carrying out the work are being finalised.

Tree Planting

To date we have planted 18 trees at St Peters School with plans for a further 8-10 trees to be planted in the next planting season. Weather and ground conditions permitting we are planning on tree planting at both Derwenthorpe and Lord Deramore's sites this month.

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2. Engagement highlights

In February, members of our team visited Clifton With Rawcliffe Primary school to lead a session with eighty seven Year 5 students, discussing the work we are doing as part of our Clifton Ings scheme. This was very well received, with great interest shown by the students, who were left with a good understanding of the how the Ings work, why we are making improvements, and what we are doing to benefit the wildlife in the area. This session is to be followed up in the coming weeks with a visit to site, in conjunction with colleagues from BAM Nuttall.

We are also shortly running a similar session with Year 5s at St Peters School, and also have plans to visit Scarcroft Primary school in the Summer term. Our engagement team is working on plans to build our education outreach further across the city to continue promoting the work we are doing to better protect properties against flooding.

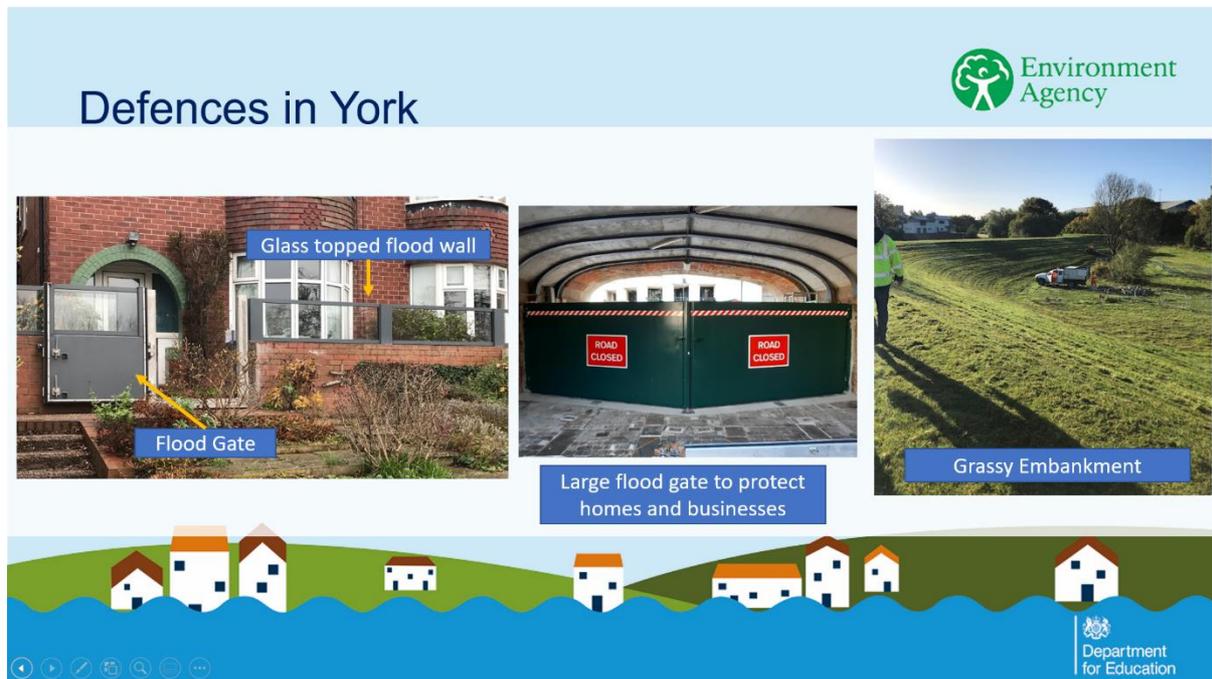


Figure 1: one of the slides used in our presentation to show different flood defences.

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3. Our response to storms Dudley, Eunice and Franklin

With three severe storms hitting Yorkshire in quick succession in the last week of February, our existing flood schemes proved effective at reducing the impacts of flooding. Yorkshire is recognised nationally as an area requiring continued investment and this is reflected in the money that has been invested in the flood defences across the county. Over 1,600 homes in Yorkshire were protected from flooding last week. A total of 127 Flood Warnings and 39 Flood Alerts were issued across Yorkshire including coastal warnings for high tides.

Across Yorkshire, over half a billion pounds has been invested in flood schemes since 2015, protecting more than 66,000 properties. In York alone, since 2015 over £70 million has been invested with over 1800 properties benefiting from better flood protection.

The River Ouse peaked at 4.6 metres at the Viking Recorder in York City Centre. Our newly raised defences were tested accordingly.

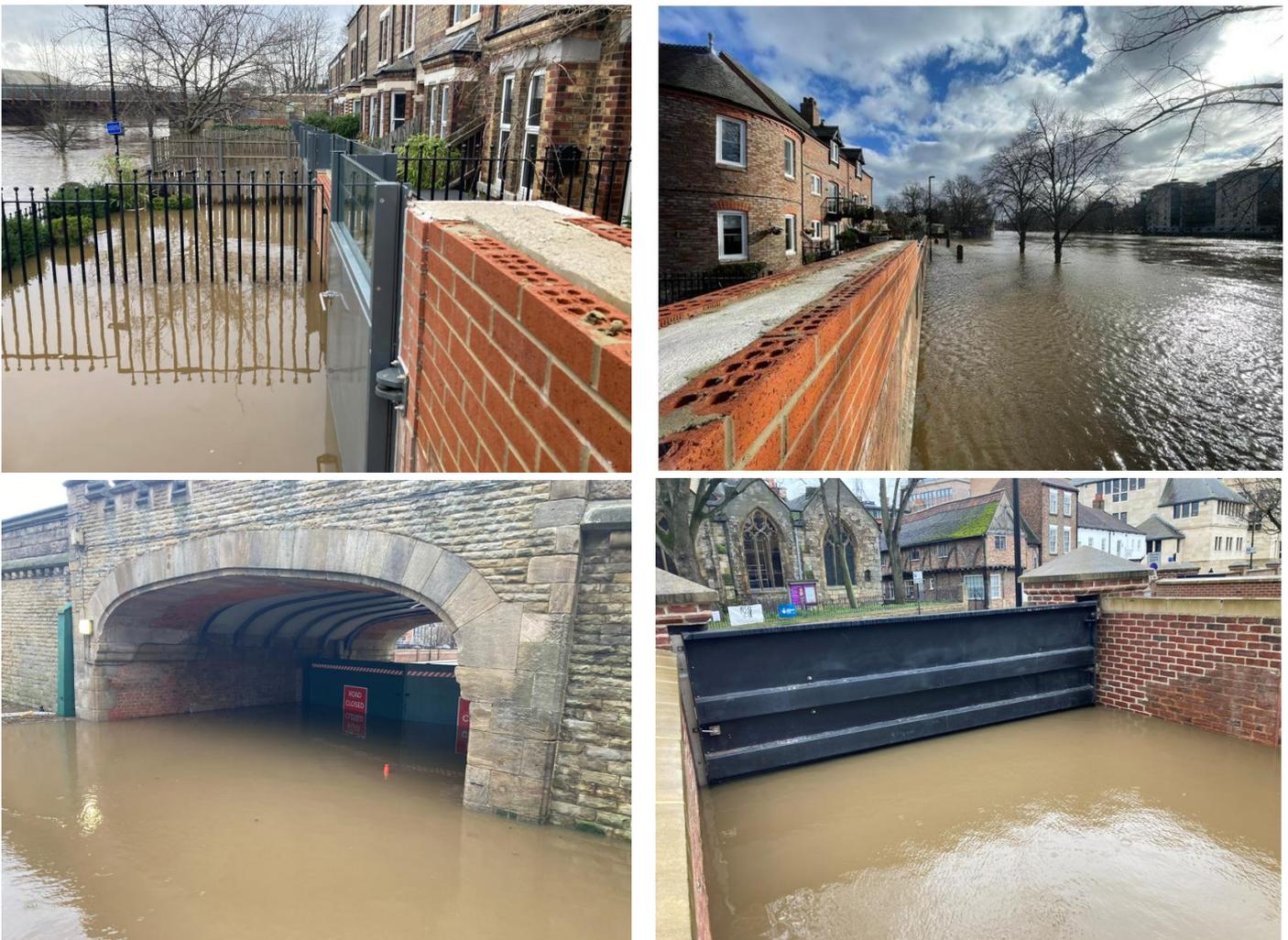


Figure 2: Clockwise from top left. Almerly Terrace, Esplanade Close, North Street, Lendal Arch.

Some of our work was impacted by the flooding. Tree felling in Clifton Ings was paused due to inaccessibility, this is planned to resume week commencing 14th March once the ground conditions are suitable. Work was also temporarily paused in Museum Gardens, Foss Flood Storage Area site and at our PFR installations whilst the flood water was at its peak. In Clementhorpe all plant and equipment in the working areas which were at risk of flooding were moved to higher ground. The site and compound areas have now been cleared of silt and debris deposited by the flood water and work on the defences resumed.

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4. Programme Information Table

Capital Schemes being delivered

| Flood Cell / Scheme | Estimated total cost (£k) | No. of properties better protected (approx.) | Brief description | Expected completion |
|---|---------------------------|--|--|---------------------|
| B4 - Scarborough to Ouse Bridge (Right Bank) | 2,555 | 39 | A new flood wall along Leeman Rd from Westgate Apartments to a new embankment in the grounds of York City Rowing Club, with demountable flood barriers across the main and second entrance to the Memorial Gardens. A new, larger flood gate under Lendal Bridge. Raised height to existing flood wall along North St with replaced flood gates, including increased width to northernmost gate to improve pedestrian flow. | Complete |
| B8 - Clementhorpe | 7,717 | 135 | A new flood wall in front of Waterfront House. Raised steps between Waterfront House and Dukes Wharf and raised road beside Dukes Wharf. A new flood wall and flood gate at Rowntree Park Caravan Site. Raised height of existing flood wall at Roomzzz Hotel. A new flood wall at the top of the steps between Postern Close and Postern House and raised wall corners at these properties. A new bi-fold floodgate on Clementhorpe Road and a 240m long, up to 6m deep underground seepage cut-off along Terry Avenue. | Aug 2022 |
| B10 - Clifton & Rawcliffe | 20,600 | 140 | Increased height of the existing barrier bank and extended at both northern and southern ends. A wider 'footprint' of the bank to reduce the angle of the slope and so reduce the risk of bank slippage in the future. A new pumping station within the barrier bank to control water levels in Blue Beck storage lagoon. | Nov 2023 |
| B11 - Coppins Farm to Scarborough Bridge (Left Bank) | 3,665 | 156 | Raised height of the flood embankment in St Peters School fields. A new transition wall between the embankment and the development at the end of Almerly Terrace. New floodgates and glass panels to increase the height of the flood defence along Almerly Terrace. A new flood gate at the top of the Almerly steps and piling within the Network Rail embankment. | Apr 2022 |
| B12 - Scarborough Bridge to Lendal Bridge (Left Bank) | 2,950 | 57 | Increased height of the existing flood wall from Scarborough bridge to Museum gardens. This includes new flood gates and glass panels along Earlsborough Terrace and Esplanade Court, a new flood gate near Scarborough Bridge and new demountable panels for the Marygate flood gate. Increased height of the embankment within Museum Gardens and also extended at southern end. This includes terracing of the embankment adjacent to the Hospitium to preserve the rare True Service tree. | Apr 2022 |

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|--------------------------------|--------|------|---|----------|
| C1 - Bishopthorpe | 3,390 | 170 | A 180m long flood wall along Chantry Lane with a 6m deep steel barrier underground cut off. A flood gate across the bottom of Chantry Lane. A new manhole chamber with a penstock mechanism. | Mar 2022 |
| F8 /F10/F11- Foss Storage Area | 17,526 | 490 | Construction of a new embankment with outfall control structure upstream of York, designed to hold up to 1million m ³ during times of extreme rainfall. Once downstream river levels recede, the stored water will be released at a controlled rate. The creation of two ponds connected to the River Foss, together with improvements to the river channel, will result in new wetland habitats to support wildlife. | Nov 2023 |
| Foss Barrier | 38,000 | 1600 | Greatly increased pumping capacity with replacement of all 8 pumps, including new infrastructure and new power supplies. In addition to 2 independently sourced High Voltage electricity supplies the barrier has 5 new back-up generators to maintain operation of all eight pumps at maximum capacity in the event of catastrophic power failure. All vulnerable infrastructure raised to first floor height. A new taller barrier gate, lifting equipment and housing. | Apr 2022 |

Capital Schemes still in the design phase or being delivered by our partners

| Flood Cell / Scheme | Description | Being delivered by | Stage |
|--|--|--------------------|--------|
| B9 – Germany Beck | City of York Council (CYC) led project with multiple benefits including increased flood protection to Fordlands Road and the A19 as well as reducing flood risk to local homes and businesses. Initial design is progressing well with planning submission planned for later this year. | CYC | Design |
| F1 – Tower Street | We are investigating options on how to provide flood protection along Tower Street to prevent exceptionally high flood levels on the River Ouse bypassing the defences within St Georges Car Park and entering the Foss Basin which would pose increased flood risk in the lower Foss. This scheme will initially involve raising of the wall between St George’s car park and the Foss Basin tying into Skeldergate Bridge. We are working closely with the CYC Castlegate project team to ensure our projects align. | Environment Agency | Design |
| F4/F5 – Tang Hall and Osbaldwick Becks | We are in early conversations with CYC and other partners to investigate how to incorporate Natural Flood Management and Sustainable Drainage processes to reduce flood risk in this area. | N/A | N/A |
| F12 – Westfield Beck | The flood risk in this area is complicated as it is influenced by a number of sources. We have been in discussions with our partners to consider what options may be available. To mitigate flood risk here a number of factors need to be considered to ensure that any work does not have adverse impact on another flood risk source. We will continue to work with our partners to identify possible options and how any work may be delivered. | N/A | N/A |

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Property Flood Resilience (PFR)

Completed PFR Flood Cells

| Flood Cell | Cell Name | No. of eligible properties | Total participating | Total delivered | Percentage achieved |
|------------|----------------------------|----------------------------|---------------------|-----------------|---------------------|
| B16 | Foss Confluence to Fulford | 55 | 44 | 44 | 80% |

PFR Flood Cells in progress

| Flood Cell | Cell Name | No. of eligible properties | Total participating | Total delivered | Percentage achieved to date |
|------------|--------------|----------------------------|---------------------|-----------------|-----------------------------|
| B8 | Clementhorpe | 28 | 27 | 19 | 68% |

PFR Flood Cells not yet in contract

| Flood Cell | Cell Name | Potential No. of eligible properties (yet to be confirmed) | Responses to date | Percentage engaged |
|------------|-------------------------------|--|-------------------|--------------------|
| B7 | Queens Staith and Skeldergate | 38 | 26 | 68% |
| B11 | Coppins Farm to Scarb Br | 4 | 0 | 0% |
| B12 | Scarborough Br to Lendal Br | 5 | 5 | 100% |
| B15 | Kings Staith | 69 | 12 | 17% |
| C1 | Bishopthorpe | 14 | 4 | 29% |
| C2 | Acaster Malbis | 30 | 6 | 20% |
| C3 | Naburn | 78 | 52 | 67% |
| F8 | Huntington Rd | 3 | 0 | 0% |

ANNEX 1

5. Map of the York Five Year Plan Flood Cell Outlines

