

11. Duke Street

11.1 Introduction

11.1.1 The flood defences at Duke Street are located between Handyside Bridge to the north and St Alkmunds Way to south along the west bank of the River Derwent. This section is approximately 500m long.

11.1.2 The site is split into the sub-areas as shown on Figure 11.1.

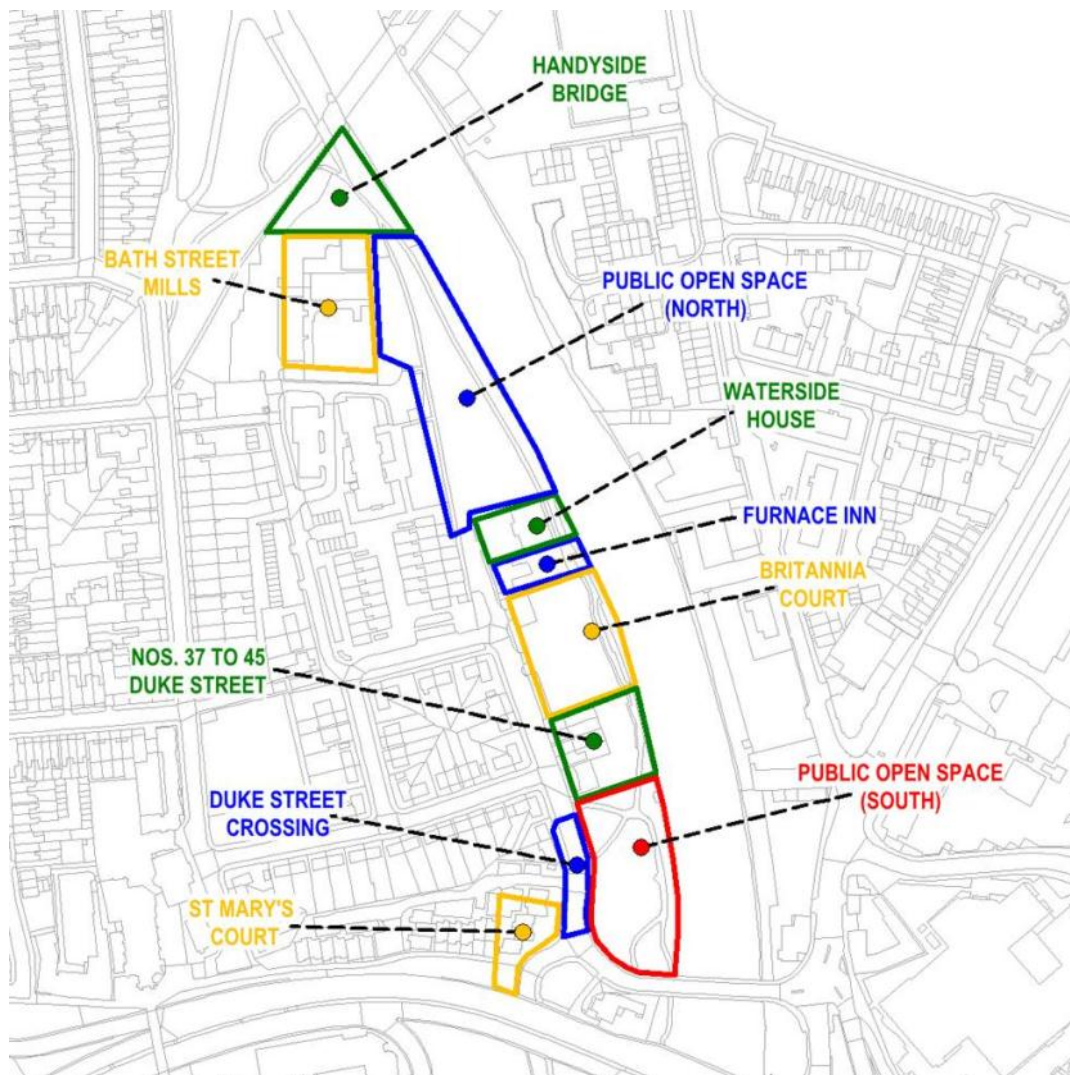


Figure 11.1: Duke Street sub-areas

11.1.3 The proposed defences at Duke Street will reduce the risk of flooding to properties between the river and North Parade. The proposed works include the removal of existing defences and the construction of new defences set-back away from the river's edge.

11.1.4 The key constraint around Duke Street is the importance of delivering new, generally stand-alone, flood defences that fits within the local environment without segregating the community from the river and creating areas that would attract anti-social behaviour. The northern part of the site, up to and including the former Bath Street Mills, is within the Derwent Valley World Heritage Site. The remainder of the site is

within the World Heritage Site buffer zone with the potential for the foundations of old mill buildings being of archaeological interest. Handyside Bridge is a Grade II listed building, and St Mary's Bridge and associated chapel are a Scheduled Monument. The riverside path is part of the Derwent Valley Heritage Way and National Cycle Network Route 54.

- 11.1.5 The alignment and form of flood defences is as defined within the Our City River Masterplan. During the development of the Masterplan, wider re-generation options were considered but following public consultation were not taken forward.

11.2 Handyside Bridge

General Arrangement Drawing Number	18	Sections Drawing Number	55	Package	1
Type of planning application	Full				
Proposed use	Flood defence		Works carried out by:	Applicant	

11.2.1 This section is located between Handyside Bridge and the Bath Street Mills development site.

Key constraints

11.2.2 This site is located within the Derwent Valley Mills World Heritage Site, and Handyside Bridge is a Grade II listed building.

11.2.3 The riverside path forms part of the Derwent Valley Heritage Way and National Cycle Network Route 54.

11.2.4 The site is within the Strutts Park Conservation Area.

Scale

11.2.5 Lowering of a 53m long section of existing 1m high flood embankment along the top of the river bank. The embankment will be lowered to the level of the top of the river bank. A 3m wide macadam surfaced combined footpath and cycle path will be reinstated at this lower level.

11.2.6 The removal of a group of trees and vegetation and the construction of a flood bank up to 2.3m high.

Layout

11.2.7 The reinstated footpath will be on the same alignment as the existing (Figure 11.2).

11.2.8 The vegetation clearance and construction of the flood bank will be located between the former railway embankment adjacent to Handyside Bridge and the Bath Street Mills development site as shown in Figure 11.3.

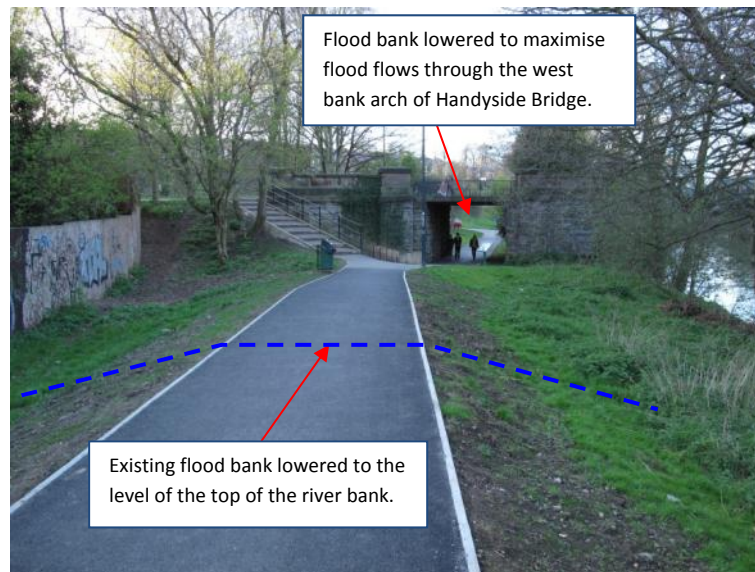


Figure 11.2: Existing flood bank lowered downstream of Handyside Bridge



Figure 11.3: Location of proposed flood bank by Handyside Bridge

Access

Construction access

- 11.2.9 A temporary footpath and cycleway closure will be required through construction. Closures will be applied for and advertised in advance, diversions put in place and times kept to a minimum.

Permanent access

- 11.2.10 The footpath and cycleway will be reinstated on its existing alignment but at a lower level.

Landscaping/external appearance

- 11.2.11 A group of trees require removal from the Strutt's Park Conservation Area for this section of works. There is also the potential to undertake selected tree removal along the riverbank to open up views of the river and create a more open and safe space.
- 11.2.12 The flood bank will be grass seeded.
- 11.2.13 Reinstatement tree planting is proposed and will be undertaken on a 1:1 ratio, as close to their original positions as possible.

Basis of design

- 11.2.14 The proposed defence is set back as far from the river as possible. The lowering of the existing flood bank maximises the space for flood water and the conveyance of water through the west bank arch of Handyside Bridge as shown in Figure 11.2.

Consultation

- 11.2.15 The design has been developed in liaison with the developers of the former Bath Street Mills site.

11.3 Bath Street Mills development site

General Arrangement Drawing Number	18	Sections Drawing Number	N/A	Package	1
Type of planning application	Outline				
Proposed use	Flood defence		Works carried out by:	Third party	

Key constraints

- 11.3.1 This site is located with the Derwent Valley Mills World Heritage Site.
- 11.3.2 The riverside path forms part of the Derwent Valley Heritage Way and National Cycle Network Route 54.
- 11.3.3 The site is within the Strutts Park Conservation Area.

Scale

- 11.3.4 Construction of an 80m long flood wall up to 3m in height which is integrated into the redevelopment of the former Bath Street Mills.

Layout

- 11.3.5 The flood wall will be constructed along the boundary of the Bath Street Mills development site as defined in the planning application for the redevelopment of the site. (planning application reference number 12/12/01527). Refer to figure 11.4.



Figure 11.4: Redevelopment of Bath Street Mills with integrated flood wall

Access (RESERVED MATTER)

- 11.3.6 Access for the applicant to inspect the flood wall will be required.

Landscaping/external appearance (RESERVED MATTER)

- 11.3.7 The flood wall will be clad in brick to match the surrounding re-development of the site.

Basis of design

- 11.3.8 The flood defence is set back away from the river to maximise space for flood water.
- 11.3.9 The flood wall is integrated into the redevelopment of Bath Street Mills so that an active frontage is provided to the riverside which will improve natural surveillance of the area and hence public safety.
- 11.3.10 The redevelopment of the site is currently under construction and the flood wall element of the works have been completed.

Consultation

- 11.3.11 The provision of a flood defence was discussed with and then incorporated by the developer of the site.

11.4 Public open space (north)

General Arrangement Drawing Number	18	Sections Drawing Number	56	Package	1
Type of planning application	Full				
Proposed use	Flood defence		Works carried out by:	Applicant	

Key constraints

- 11.4.1 Part of this site is located with the Derwent Valley Mills World Heritage Site, the rest is within its buffer zone.
- 11.4.2 The riverside path forms part of the Derwent Valley Heritage Way and National Cycle Network Route 54.
- 11.4.3 Part of the site is within the Strutts Park Conservation Area.

Scale

- 11.4.4 Lowering of a 137m long section of existing 0.8m high flood embankment along the top of the river bank. The embankment will be lowered to the level of the top of the river bank. A 3m wide macadam surfaced combined footpath and cycle path will be reinstated at this lower level.
- 11.4.5 Construction of 110m long flood wall up to 2.7m high and 0.55m wide, with piled foundations.
- 11.4.6 Construction of a 2.7m high bank to form a 3m wide ramped access path over the flood wall.

Layout

- 11.4.7 The riverside footpath will be reinstated on its existing alignment.
- 11.4.8 The path over the flood wall will be shaped to provide sufficient length to construct a ramp that is of a shallow enough gradient to be used by all.
- 11.4.9 The flood wall will tie into the Bath Street Mills development site and Waterside House. It is proposed to have a wall that is curved in places to soften its appearance.

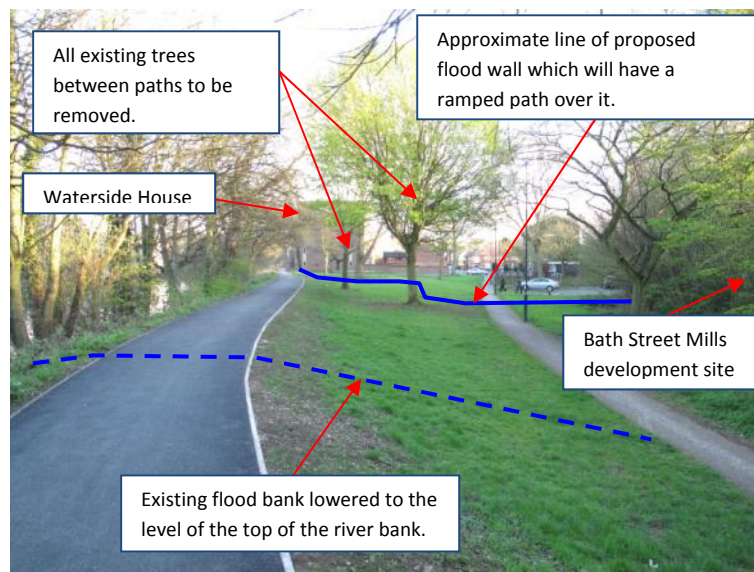


Figure 11.5: Location of flood wall in Duke Street public open space (north)

Access

Construction access

- 11.4.10 A temporary footpath and cycleway closure will be required through construction. Closures will be applied for and advertised in advance, diversions put in place and times kept to a minimum.

Permanent access

- 11.4.11 The riverside footpath and cycleway will be reinstated on its existing alignment but at a lower level.
- 11.4.12 A footpath access will be retained between the northern end of Duke Street and the riverside path by the formation of a new path over the flood wall.

Landscaping/external appearance

- 11.4.13 The flood wall will be clad in brick with a reconstituted stone coping of material to match that of Handyside Bridge.
- 11.4.14 Footpaths will be surfaced in black macadam.
- 11.4.15 The bank that forms the path over the flood wall will reduce the visual height of the wall.
- 11.4.16 10 trees and 1 tree group require removal for the construction of the flood wall.
- 11.4.17 There is also the potential to undertake selected tree removal along the riverbank to open up views of the river and create more natural surveillance to reduce the risk of anti-social behaviour.
- 11.4.18 Reinstatement tree planting is proposed and will be undertaken on a 1:1 ratio, as close to their original positions as possible. Proposed landscaping works will be developed during detailed design to include new benches and an appropriate lighting scheme.

- 11.4.19 Reinstatement tree planting is proposed and will be undertaken on a 1:1 ratio, as close to their original positions as possible. An appropriate lighting scheme will be developed for the site during detailed design especially along the path over the flood wall.

Basis of design

- 11.4.20 The lowering of the existing flood bank maximises the space for flood water.
- 11.4.21 A flood defence is required between the Bath Street Mills development site and Waterside House. The proposed form of defence, a flood wall, will provide the required defence line around which a landscaping scheme can be developed which includes a path over the wall. At the top of the path the flood wall will be entirely covered by the landscaping works.

Consultation

- 11.4.22 The design has been developed in liaison with the Council's Landscape team.

11.5 Waterside House

General Arrangement Drawing Number	18	Sections Drawing Number	57	Package	1
Type of planning application	Full				
Proposed use	Flood defence and boundary wall		Works carried out by:	Applicant	

Key constraints

- 11.5.1 The riverside path forms part of the Derwent Valley Heritage Way and National Cycle Network Route 54.
- 11.5.2 This site is located with the Derwent Valley Mills World Heritage Site buffer zone.
- 11.5.3 Waterside House forms residential apartments with 3no. apartments of the ground floor.

Scale

- 11.5.4 Removal of a 20m length of existing 1.0m high brick clad flood wall from the riverward side of the existing footpath.
- 11.5.5 Removal of the existing 24m long, 1.7m high boundary wall and ground floor balcony/patio at Waterside House.
- 11.5.6 Construction of a 24m long flood wall up to 2.3m high and 0.55m wide with piled foundations, on the line of the existing Waterside House boundary wall, and reinstatement of the ground floor balcony/patio.
- 11.5.7 Construction of a 20m length of new 4.5m wide macadam footpath on the riverward side of the new flood wall.

Layout

- 11.5.8 The increased width of the flood wall compared to the existing balcony wall will be accommodated on the footpath side of the wall to maintain the existing balcony size. Figure 11.6 shows the proposed works.



Figure 11.6: Proposed works at Waterside House

Access

Construction access

- 11.5.9 A temporary footpath and cycleway closure will be required through construction. Closures will be applied for and advertised in advance, diversions put in place and times kept to a minimum.

Permanent access

- 11.5.10 The footpath and cycleway will be widened and reinstated on its existing alignment.

Landscaping/external appearance

- 11.5.11 The new flood wall will be clad in brick up to the same level as the existing brick wall. Above this, in the position of the existing steel fencing, the flood wall will be constructed from 0.6m high structural glass panels.
- 11.5.12 A new 1.2m high vertical bar fencing will be installed along the riverward edge of the path in this section.
- 11.5.13 The ground floor balconies/patios of Waterside House will be reinstated as per the existing finishes.
- 11.5.14 Lighting along the footpath will be reinstated.



Figure 11.7: Visualisation of new flood wall and footpath by Waterside House

Basis of design

- 11.5.15 Waterside House forms a pinch-point to the conveyance of flood water and it is therefore important to maximise the width of the flood corridor. It is also important that with higher flood defences, sight lines and footpath widths are maximised to improve natural surveillance and the sense of public safety. This is why it is proposed to remove the existing flood wall and use the edge of Waterside House as the new flood defence.
- 11.5.16 It is proposed to locally widen the footpath to 4.5m to improve sight lines around the corner of Waterside House.
- 11.5.17 The use of structural glass panels in the top section of the wall will maintain existing light levels in to the ground floor apartments, as well as maintain natural surveillance along the footpath.
- 11.5.18 The new fence along the footpath will protect against falls down the steep river bank.

Consultation

- 11.5.19 Waterside House is owned by a private freeholder. The flats have leaseholders and many are rented out. A management company manages the site.
- 11.5.20 The freeholder and management company were approached in July 2013 with details of the proposed works. The management company provided details of the proposals to leaseholders at their Annual General Meeting on 23rd July 2013. No responses have been received on the proposals.

11.6 Furnace Inn

General Arrangement Drawing Number	18	Sections Drawing Number	58	Package	1
Type of planning application	Full				
Proposed use	Flood defence and boundary wall		Works carried out by:	Applicant	

Key constraints

- 11.6.1 The riverside path forms part of the Derwent Valley Heritage Way and National Cycle Network Route 54.
- 11.6.2 This site is located with the Derwent Valley Mills World Heritage Site buffer zone.
- 11.6.3 The Furnace Inn public house is a commercial property with a beer garden at its rear.

Scale

- 11.6.4 Removal of the 20m length of existing 1.1m high flood wall from the riverward side of the existing footpath.
- 11.6.5 Construction of a 20m long flood wall 2.35m high and 0.55m wide with piled foundations to replace the existing rear boundary fence of the Furnace Inn. The top 0.6m of the wall will be formed from structural glass.
- 11.6.6 Construction of a 10m long flood wall 2.35m high and 0.5m wide with piled foundations to replace the existing southern boundary wall of the Furnace Inn.
- 11.6.7 Reinstatement and widening of a 20m length of the riverside path to 4m. Removal and infilling of the existing boat slipway into the river with mass concrete to accommodate the widened footpath.

Layout

- 11.6.8 The new flood wall along the rear boundary of the public house will be constructed on the edge of the Applicant's land to ensure there is no loss of footprint within the beer garden. Refer to Figure 11.7.
- 11.6.9 The increased thickness of the new flood wall along the southern boundary of the public house will be accommodated on the Applicant's side of the boundary such that there is no loss of footprint within the beer garden. Refer to Figure 11.8.



Figure 11.8: View of riverward boundary of the Furnace Inn

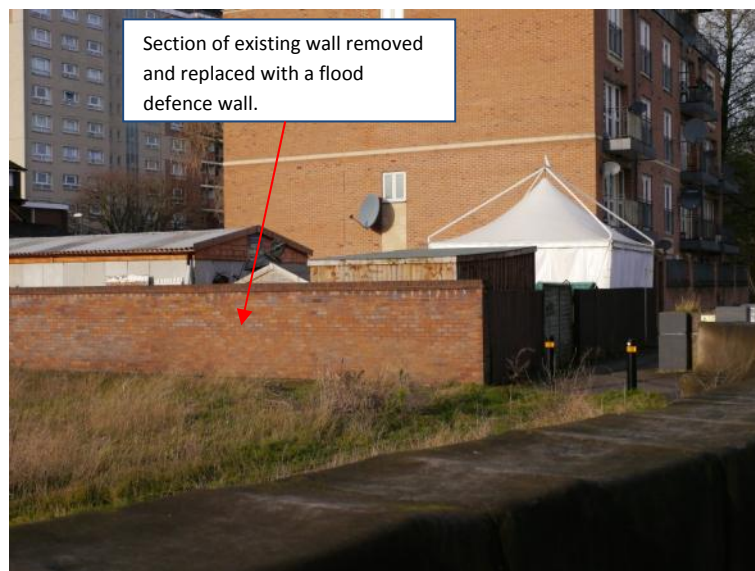


Figure 11.9: View of the southern boundary of the Furnace Inn

Access

Construction access

- 11.6.10 A temporary footpath and cycleway closure will be required through construction. Closures will be applied for and advertised in advance, diversions put in place and times kept to a minimum.

Permanent access

- 11.6.11 The footpath and cycleway will be widened and reinstated on a straightened alignment.
- 11.6.12 Access from the riverside footpath directly into the beer garden will be removed.
- 11.6.13 Access into the river via the boat slipway will be removed.

Landscaping/external appearance

- 11.6.14 The proposed flood wall along the riverside footpath will be clad in brick with the top 0.6m of the defence formed from structural glass panels.
- 11.6.15 The proposed flood wall along the southern boundary of the public house will be clad in brick to its full height with a brick coping.
- 11.6.16 A proposed 1.2m high vertical bar fencing will be installed along the riverward edge of the path in this section.
- 11.6.17 The Furnace Inn beer garden will be reinstated as per existing.
- 11.6.18 Lighting along the footpath will be reinstated.

Basis of design

- 11.6.19 It is proposed to set the flood wall back to the rear boundary of the beer garden to maximise space for flood water. This will allow the existing convoluted flood wall to be removed. This will improve accessibility for both pedestrians and cyclists, and along with its widening to 4.0m will improve sight lines and the feeling of openness along the length of this stretch of the river.
- 11.6.20 The top part of the flood wall will be formed from structural glass such that patrons of the public house can see out of the beer garden to the river, assuming a terraced seating area is provided.
- 11.6.21 The existing access from the riverside path to the beer garden will not be reinstated. This is because there is insufficient space for a full flight of steps up and over the defence, and the provision of a flood gate would be a weakness in the defence that can be avoided.
- 11.6.22 It is proposed to remove the boat slipway as it is not currently used and impedes access along the riverside footpath.
- 11.6.23 The new fence along the footpath will protect against falls down the steep river bank.

Consultation

- 11.6.24 A meeting was held with the landowner in July 2013. They expressed concerns over loss of riverside views, access to riverside path and loss of existing disused slipway. The proposals have been updated to include structural glass panels within the flood wall to retain riverside views but the access gate and boat slipway are still proposed to be removed.

11.7 Britannia Court

General Arrangement Drawing Number		Sections Drawing Number	59	Package	1
Type of planning application	Outline				
Proposed use	Flood defence		Works carried out by:	Applicant	

Key constraints

- 11.7.1 The riverside path forms part of the Derwent Valley Heritage Way and National Cycle Network Route 54.

Scale

- 11.7.2 Construction of a 60m long flood wall, up to 2.8m high, which is integrated into the re-development of the site.
- 11.7.3 Removal of the existing flood wall along the river bank and raised planting beds.
- 11.7.4 Reinstatement of a 3m wide footpath and cycleway along the river's edge.

Layout

- 11.7.5 The flood defence will be located across the centre of the site parallel to Duke Street and tying into the corner of back garden wall of 45 Duke Street. Refer to Figure 11.10.

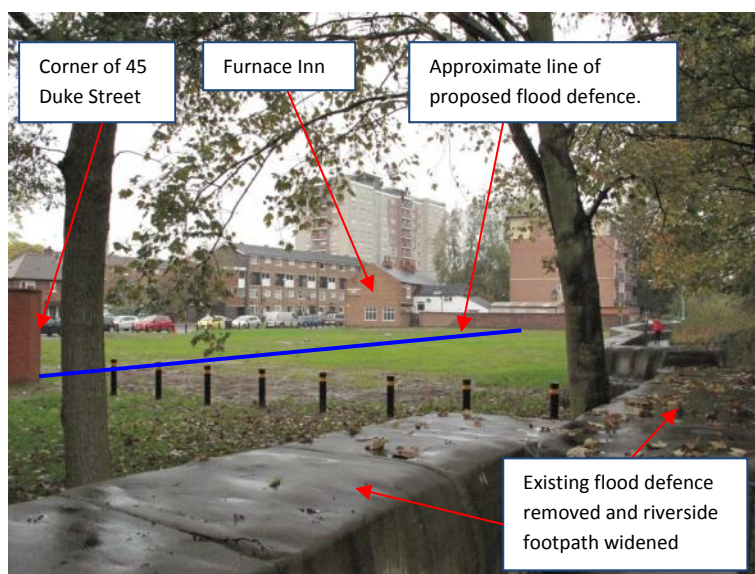


Figure 11.10: Proposed layout of flood defence across the former Britannia Court site

Access (RESERVED MATTER)

- 11.7.6 The footpath and cycleway will be reinstated.
- 11.7.7 The applicant will require access to inspect the integrated flood defence.

Landscaping/external appearance (RESERVED MATTER)

- 11.7.8 The flood wall will be clad in materials to match the surrounding re-development of the site.

Potential environmental enhancement

- 11.7.9 There are aspirations for riverbank re-profiling works and marginal planting to enhance the ecological value of the riverside habitat as part of works to set back the new flood defence.

Basis of design

- 11.7.10 The flood defence is set back away from the river to maximise space for flood water. The line has been set to match the proposed flood wall alignment along the boundary of the back gardens of 39-45 Duke Street.
- 11.7.11 The flood wall is to be integrated into the redevelopment of the site so that an active frontage is provided to the riverside which will improve natural surveillance of the area and hence public safety.
- 11.7.12 The former Britannia Court was demolished in 2013 by the Council in line with the aspirations of the Our City Our River Masterplan.

Consultation

- 11.7.13 Early discussions have been held with Council officers who have advised against an additional public access route through this site between Duke Street and the riverside path.

11.8 37-45 Duke Street

General Arrangement Drawing Number	19	Sections Drawing Number	60	Package	1
Type of planning application	Full				
Proposed use	Flood defence and replacement boundary wall		Works carried out by:	Applicant	

Key constraints

- 11.8.1 The riverside path forms part of the Derwent Valley Heritage Way and National Cycle Network Route 54.
- 11.8.2 This site is located with the Derwent Valley Mills World Heritage Site buffer zone.
- 11.8.3 37-45 Duke Street are residential properties. No 39 is privately owned with the others managed by Derby Homes.

Scale

- 11.8.4 Removal of a 25m length of existing flood defence.
- 11.8.5 Remove wall and fence on river side of footpath and replace with 1.2m high vertical bar fence.
- 11.8.6 Removal of existing rear boundaries to 37-45 Duke Street which the public open space.
- 11.8.7 Construction of a 50m long flood wall up to 2.4m high and 0.55m wide with piled foundations to replace the property boundaries.
- 11.8.8 Reinstatement and widening of a 40m length of the riverside path to 3m.

Layout

- 11.8.9 The proposed flood wall will replace the existing property boundaries of 37-45 Duke Street. The increased width of the flood wall will be accommodated on the Applicant's side of the wall rather than within the private properties, such that there is no loss of footprint within the gardens. Refer to Figure 11.11.

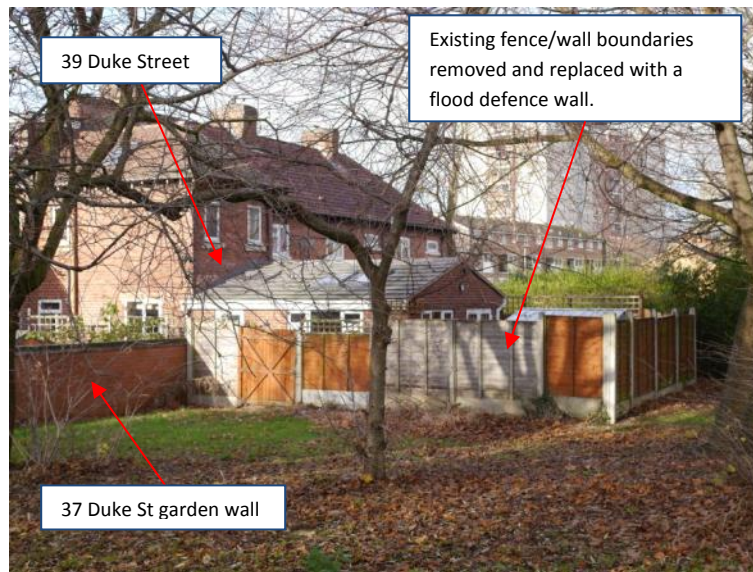


Figure 11.11: Layout of proposed flood wall along rear boundaries of 37-45 Duke Street

Access

Construction access

- 11.8.10 A temporary footpath and cycleway closure will be required through construction. Closures will be applied for and advertised in advance, diversions put in place and times kept to a minimum.

Permanent access

- 11.8.11 The footpath and cycleway will be widened and reinstated.
- 11.8.12 There will no private access from the back gardens of properties into the public open space.
- 11.8.13 The Applicant will require inspection and maintenance access to both sides of the flood wall.

Landscaping/external appearance

- 11.8.14 The proposed flood wall will be clad in brick along its full length and height, with mock piers and a brick coping.
- 11.8.15 10no trees require removal for this section of works.
- 11.8.16 Reinstatement tree planting is proposed and will be undertaken on a 1:1 ratio, as close to their original positions as possible. Proposed landscaping works will be developed during detailed design to include an appropriate lighting scheme.
- 11.8.17 Reinstatement of private gardens will be undertaken to provide a like-for-like replacement.
- 11.8.18 A 3m wide macadam surfaced riverside path will be reinstated.
- 11.8.19 The removal of the existing defence and widening of the riverside path will significantly improve sight lines right the way through to Waterside House improving natural surveillance and the perception of public safety.

11.8.20 A visualisation of the proposed flood defence is provided in Figure 11.12.



Figure 11.12: Visualisation of flood wall behind 37-45 Duke Street

Basis of design

- 11.8.21 The flood defence is set back away from the river to maximise space for flood water. By combining the property boundary and flood defence, the defence will sit more comfortably within the local environment and make the riverside path more attractive to use.
- 11.8.22 The defence will be clad in brick to full height to maintain a secure and private boundary to the residential properties.

Consultation

- 11.8.23 An initial meeting was held with Derby Homes in July 2013. The residents of the properties managed by Derby Homes were invited to a follow up meeting later that month to explain the proposals. Only one resident attended.
- 11.8.24 A separate meeting was held with owner of 39 Duke Street in July 2013. Concerns were expressed over proposed flood wall alignment, loss of a gated access to the public open space, and loss of views due to the height of the wall.
- 11.8.25 Consideration has been given to the inclusion of a structural glass panel adjacent to the extension on the property but has not been included as it is considered that a single glass panel would draw attention to the property and it would lose privacy.
- 11.8.26 Consideration was given to realigning the wall to provide a straight section between the south-east garden corner of 39 Duke Street, with the south-east corner of 37 Duke Street. This would form a triangle of land behind 37 Duke Street which would effectively be a loss of public open space. This option has not therefore been taken forward.
- 11.8.27 The property has an existing side access to the back garden and there is therefore no justification to include a flood gate in the flood wall in this location.
- 11.8.28 There has been previous consultation with the residents about the option of extending the footway across the front of the properties and providing off-road parking in the front gardens. This was considered to offer an improvement to the street-scene of

Duke Street. Whilst this was broadly supported by residents, it has not been taken forward due to technical difficulties in providing satisfactory off-road parking.

11.9 Public open space (south)

General Arrangement Drawing Number	19	Sections Drawing Number	61	Package	1
Type of planning application	Full				
Proposed use	Flood defence and flood conveyance	Works carried out by:	Applicant		

Key constraints

- 11.9.1 The riverside path forms part of the Derwent Valley Heritage Way and National Cycle Network Route 54.
- 11.9.2 This site is located with the Derwent Valley Mills World Heritage Site and its buffer zone. There is the potential for buried foundations of historic mill buildings and wharfs under this site.

Scale

- 11.9.3 Removal of a 90m length of existing flood embankment with ground levels lowered by up to 1.0m between Duke Street and the existing riverside footpath.
- 11.9.4 Construction of a 70m long flood wall, up to 2.1m high and 0.55m wide, on piled foundations.
- 11.9.5 Construction of 180m length of 3m wide macadam surfaced footpaths.

Layout

- 11.9.6 The proposed flood wall will tie into the south-east corner of the garden of 37 Duke Street and head south before curving to the west and adjoining Duke Street at a point opposite the party wall between Nos 1 & 2 St Mary's Court, and 3 & 4 St Mary's Court. Refer to Figure 11.13.

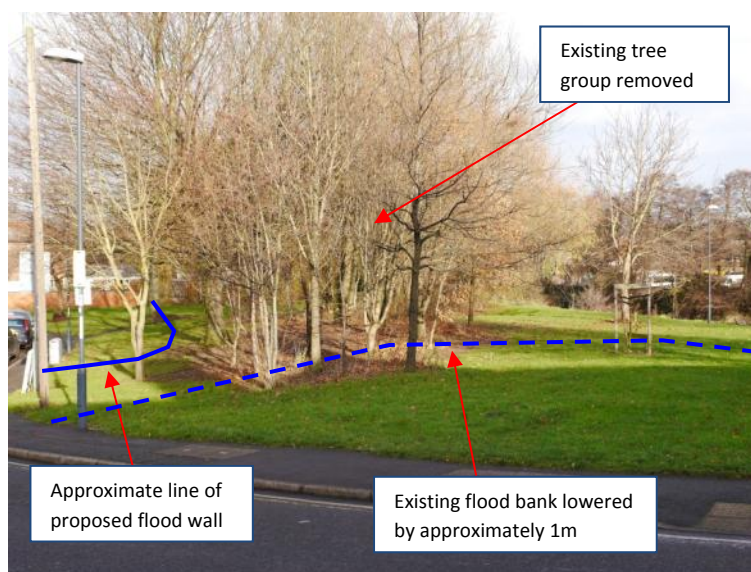


Figure 11.13: Layout of flood defences at Duke Street public open space south

- 11.9.7 The existing flood bank will be lowered so that the ground profile is a constant slope between the footway on Duke Street and the riverside path.

Access

Construction access

- 11.9.8 A temporary footpath and cycleway closure will be required through construction. Closures will be applied for and advertised in advance, diversions put in place and times kept to a minimum.

Permanent access

- 11.9.9 The riverside footpath and cycleway will be widened and reinstated. A footpath between Duke Street and the riverside path will be reinstated. Footpaths will be accessible to all.

Landscaping/external appearance

- 11.9.10 The flood wall will be clad in brick with a stone coping of material to match that of St Mary's Bridge.
- 11.9.11 Ground levels adjacent to the wall will be graded to minimise the visual height of the wall.
- 11.9.12 21no trees and a tree group require removal to undertake the proposed works.
- 11.9.13 Reinstatement tree planting is proposed and will be undertaken on a 1:1 ratio, as close to their original positions as possible. Proposed landscaping works will be developed during detailed design to include bulb planting, new benches and an appropriate lighting scheme.
- 11.9.14 Two of the trees to be removed are memorial trees. The first is a memorial to Olga Nahlak, who lived in Derby between 1965 and 1997 and who is remembered for her courage in the face of death saving victims of Nazi persecution in Ukraine. The second is Anne Frank's tree to commemorate Anne Frank and all the children killed in wars and conflicts this century. The Olga Nahlak memorial tree is a semi-mature horse chestnut that an arboriculturalist has defined to be in 'poor condition'. Anne Frank's tree is a horse chestnut and within a group of other trees. It is not possible to undertake ground lowering works whilst retaining these trees and they are too large to guarantee their survival should they be potted and replanted on completion of the works. Instead, replacement trees of the same species and size will be planted following construction. The exact location is still to be agreed with the Derby's Holocaust Memorial Day Working Group.
- 11.9.15 A visualisation of the proposed works is provided in Figure 11.14.



Figure 11.14: Visualisation of proposed works at Duke Street public open space south

Basis of design

- 11.9.16 The lowering of the existing flood bank designed is to allow floodwaters to bypass St Mary's Bridge, which currently acts as a throttle to flood flows, via Sowter Road through the St Alkmund's Way underpass, and back in to the river by the Silk Mill. This flood relief route will operate during events exceeding a 3.3% (1 in 30) chance of occurrence in any given year. The existing bank would overtop during flood events exceeding a 2% (1 in 50) chance of occurrence in any given year. This means that the risk of the bank being overtopped will increase. If this bank was not lowered then flood defence levels on both sides of the river would increase resulting in higher defences. All properties will still have a higher level of flood protection than they do at the moment. It is only the highway that would be at increased risk of flooding.
- 11.9.17 The clearance of the existing group of trees and appropriate detailed landscape design will improve sight lines along the riverside path and improve natural surveillance.
- 11.9.18 The proposed flood wall has a curved alignment to soften its appearance in the local environment and avoid pockets of land where natural surveillance is poor.

Consultation

- 11.9.19 The impact on the two memorial trees has been discussed with Derby's Holocaust Memorial Day Working Group. Their preference is to retain the existing trees but for the reasons described above this is not likely to be possible.

11.10 Duke Street crossing

General Arrangement Drawing Number	19	Sections Drawing Number	63	Package	1
Type of planning application	Full				
Proposed use	Temporary flood defence	Works carried out by:	Applicant		

Key constraints

- 11.10.1 Duke Street is a public highway and an important access route for the local community to cross the river at St Mary's Bridge.

Scale

- 11.10.2 Localised road raising by up to 0.4m.
- 11.10.3 Provision for a temporary (demountable) flood defence across Duke Street (road and both footways). The proposed temporary defence would be 13.8m long and 1.9m high when in place.
- 11.10.4 Installation of a concrete foundation to support the temporary defence.

Layout

- 11.10.5 The road raising would be located between the junction of Duke Street and Sowter Road, and 14 Duke Street. The entrance of the private access road to St Mary's Court would also be reprofiled to match the raised levels on Duke Street. Refer to Figure 11.15.

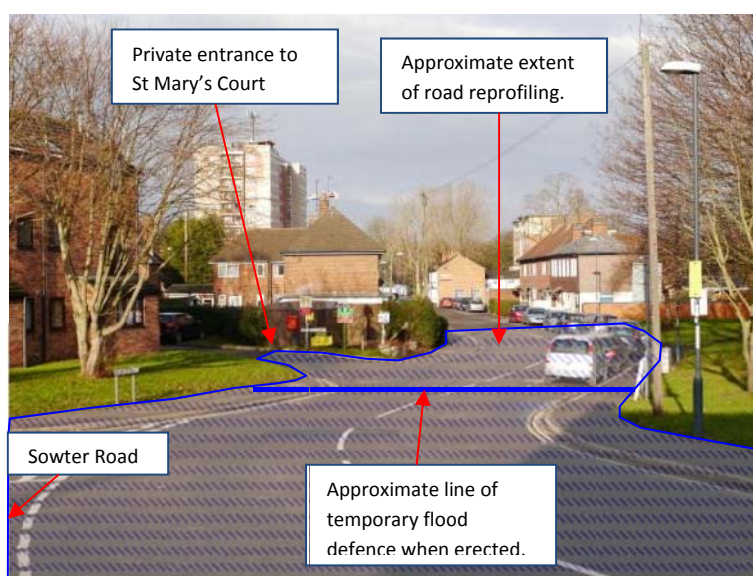


Figure 11.15: Layout of proposed works at Duke Street crossing

Access

Construction access

- 11.10.6 A temporary road closure will be required during construction. Closures will be applied for and advertised in advance, diversions put in place and times kept to a

minimum. All efforts will be made to implement partial road closures to maintain 1-way access controlled with traffic management, where possible. All efforts will be made to maintain vehicular access to private properties at all times during construction. Where this is not possible, pedestrian access will be maintained and assistance will be provided to affected parties.

Temporary transport network closures during a flood event

- 11.10.7 A flood event with a 3.3% (1 in 30) chance of occurrence each year will result in the installation of the temporary flood defence across Duke Street. At such times, Duke Street, St Mary's Bridge and Sowter Road will also be closed to through traffic. Alternative vehicular access to all residential properties will be retained via the A6 with signed diversions put in place.
- 11.10.8 Alternative pedestrian access between the city centre and Duke Street is available via the footbridge over the inner ring road by St Mary's Church and along Handyside Street.

Landscaping/external appearance

- 11.10.9 The reprofiled road and footway would have a macadam surface to match existing.

Basis of design

- 11.10.10 The road raising is required to reduce the frequency of required operation of the demountable flood defence and resulting temporary road closure. It will also avoid flood water collecting behind the temporary defence as it would otherwise be at the bottom of a slope.
- 11.10.11 A temporary defence is required as there is insufficient space to raise the highway over the flood defence. A temporary defence is proposed rather than flood gates due to the required size of gates and need for a central highway pier that would obstruct larger vehicles.
- 11.10.12 The position of the crossing has been determined by:
- providing the required spill width for flood water to pass over Duke Street and along Sowter Road without increasing upstream flood levels; and
 - locating the crossing directly in front of a party wall between apartments within St Mary's Court to minimise the visual impact on the properties

Consultation

- 11.10.13 The proposal has been developed in liaison with the Council's highways team.
- 11.10.14 Discussions with the St Mary's Court Management Committee highlighted their preference to move the crossing further south to reduce the visual impact on the properties; and providing a easier turning circle when turning right out of the private access to the St Mary's Court properties. This location of the crossing has not been changed, but in consultation with the Council's highway team, the previously proposed central pier in the highway has been removed.

11.11 St Mary's Court

General Arrangement Drawing Number	19	Sections Drawing Number	64	Package	1
Type of planning application	Full				
Proposed use	Flood defence		Works carried out by:	Applicant	

Key constraints

- 11.11.1 St Mary's Court is a group of residential properties. Nos 1-10 face directly onto Duke Street. This block comprises ground floor only apartments, and two-storey apartments above them.

Scale

- 11.11.2 Construction of a 50m long flood wall, up to 1.6m high and 0.55m wide, with piled foundations.
- 11.11.3 Raise a 5m length of the existing 2m wide footpath between St Mary's Court and St Alkmund's Way by up to 0.4m and re-profile with a 1 in 12 slope; and the installation of a 2m wide by 1.3m high metal flood gate across the existing footpath, which is normally locked in the open position.

Layout

- 11.11.4 The proposed flood wall will be positioned along the top edge of the grass bank along the Sowter Road footway in front of St Mary's Court as shown in Figure 11.16.



Figure 11.16: Layout of proposed flood wall in front of St Mary's Court

- 11.11.5 The proposed flood wall will extend up the hill along the footpath between St Mary's Court and St Alkmund's Way up to the private access to Nos 1-10 St Mary's Court. At this point a flood gate will be used to cross the footpath, with a wall extending into the high embankment. Refer to Figure 11.17.

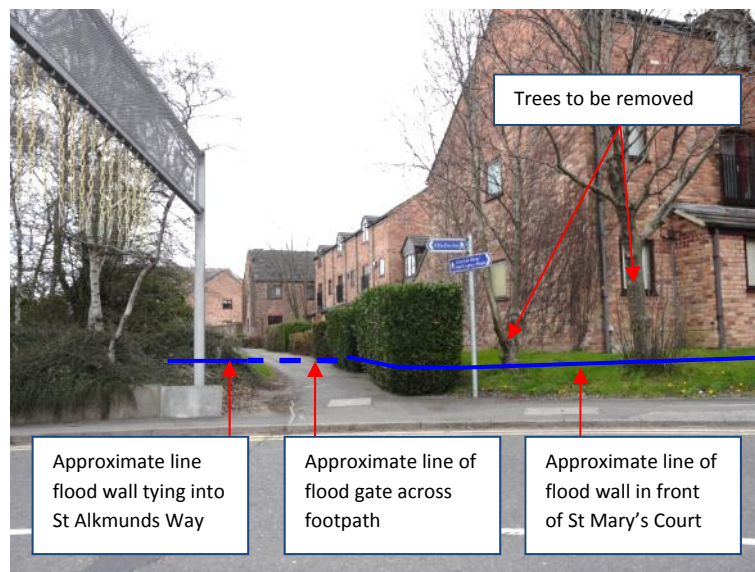


Figure 11.17: Layout of proposed flood defence by footpath adjacent to St Mary's Court

Access

Construction access

- 11.11.6 A temporary road closure will be required during construction. Closures will be applied for and advertised in advance, diversions put in place and times kept to a minimum. All efforts will be made to implement partial road closures to maintain 1-way access controlled with traffic management where possible.

Permanent access

- 11.11.7 Pedestrian and vehicular access to St Mary's Court will be unaffected except in a flood event.

Temporary access closures during a flood event

- 11.11.8 A flood event with a 3% (1 in 35) chance of occurrence each year will result in the closure of the flood gate across the footpath between St Mary's Court and St Alkmund's Way. Alternative access from St Mary's Church to Duke Street is available via Handyside Street. Signed diversions will be put in place when the gates are closed.

Landscaping/external appearance

- 11.11.9 The proposed flood wall in front of St Mary's Court will be brick clad with the top 0.6m of the defence formed from structural glass panels.
- 11.11.10 The flood gate will be made of steel and painted black.
- 11.11.11 The section of new flood wall between the footpath and St Alkmund's Way highway embankment will be brick clad.
- 11.11.12 4 trees, 1 tree group and a 10m section of existing hedge along the footpath require removal for this section of works. Reinstatement tree planting is proposed and will be undertaken on a 1:1 ratio, as close to their original positions as possible. Proposed landscaping works will be developed during detailed design but will include low

maintenance groundcover planting between the Sowter Road footway and the proposed flood wall.

11.11.13 A closed board timber fence and gate will be erected between the proposed flood wall by the Duke Street crossing and St Mary's Court.

11.11.14 A visualisation of the proposed flood defence facing north-east from Sowter Road is shown in Figure 11.18.



Figure 11.18: Visualisation of flood defences from Sowter Road

Basis of design

11.11.15 The flood defence is set back in front of St Mary's Court to make space for the flood flow route across Duke Street, along Sowter Road and through the St Alkmund's Way underpass, and back into the river by the Silk Mill.

11.11.16 The flood wall is located along the top of the grass bank in front of St Mary's Court to reduce its visual height and provide space for low maintenance ground cover planting between the footway and flood wall.

11.11.17 The top of the flood wall is formed from structural glass to maintain light into and views from the St Mary's Court properties. It also maintains natural surveillance of the area.

11.11.18 The flood wall extends up the footpath, which is itself raised, to reduce the threshold level of the flood gate across it which will reduce the frequency at which the gate needs to be closed. The extent of the flood wall up the path is limited by the private access to the St Mary's Court properties which will be retained.

Consultation

11.11.19 All property owners at St Mary's Court are joint freeholders of the site. A Management Committee consisting of a group of residents, and elected by residents, manage day-to-day activities at the site.

- 11.11.20 A meeting was held in July 2013 with the Management Committee and some directly affected residents¹ to explain the proposals. Concerns were expressed over the need for a new wall, its proposed alignment, and its visual impact. As all property owners are joint freeholders, it was felt all residents should be consulted.
- 11.11.21 A consultation letter and feedback form were sent to all residents later in July 2013 and follow-up meetings were held with the Management Committee in August and September 2013 to discuss feedback and answer questions. It was explained that the wall alignment could not be altered due to the requirement to accommodate flows to bypass St Mary's Bridge via Sowter Road. Any reduction in the potential flow width would require flood defence levels to be raised in this location and further upstream.
- 11.11.22 Shrub planting is included in front of the flood wall to soften its appearance, and a fence between the flood wall and property is included to deter unauthorised access when the flood gate and temporary defence is closed.

¹ All directly affected residents (determined as property number's 1-10) were invited by the Management Committee but did not all attend the meeting.