# 10. Little Chester

## 10.1 Introduction

10.1.1 The proposed flood defences at Little Chester are located between the north-east corner of Darley Playing Fields (by the former Draka site) up to, and including, City Road car park. The defences tie in to the Alfreton Road Industrial Estate defences to the north and the Aida Bliss development site to the south.

10.1.2 The site is split into the sub-areas shown on Figure 10.1.

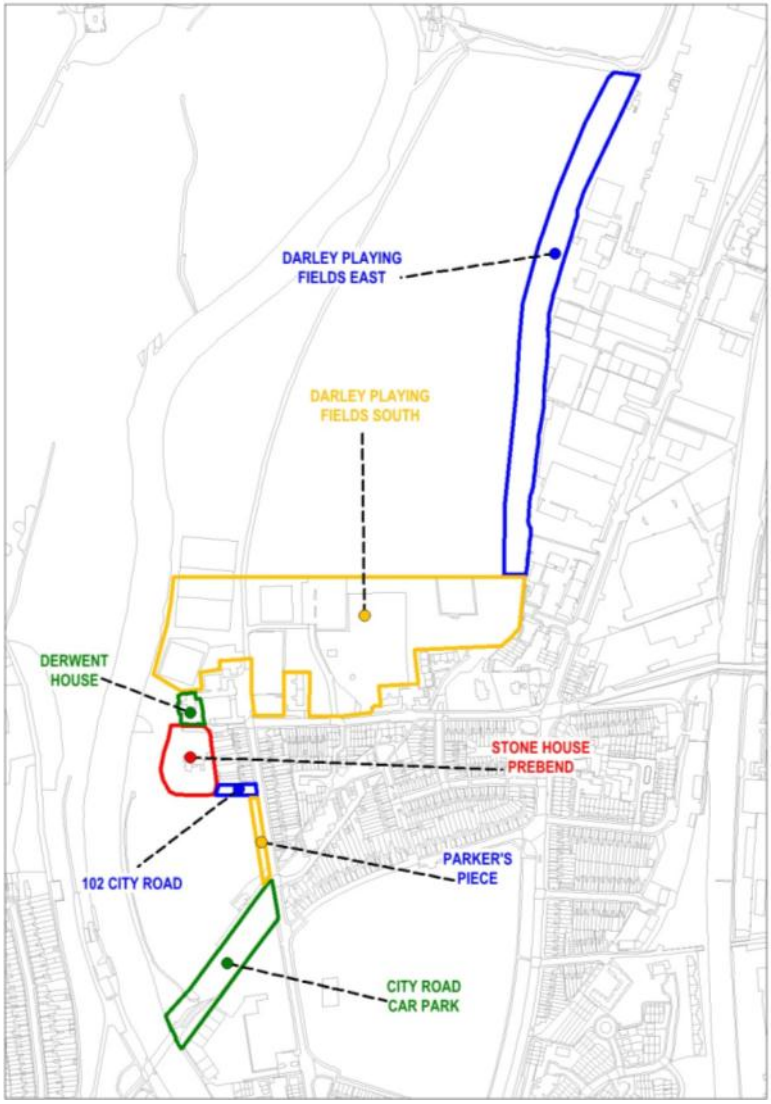


*Figure 10.1: Little Chester sub-areas*

10.1.3 The proposed defences around Little Chester, combined with the other proposed defences, will reduce flood risk to the residential community of Little Chester. The proposed works include the raising of some existing defences; the demolition of some existing defences and their reconstruction to a greater height on the same alignment; and the construction of some new defences on a new alignment.

10.1.4 Archaeology is the most significant constraint to the proposals through Little Chester with a Scheduled Roman Fort and other nationally significant but unscheduled Roman

remains. The proposed works have therefore been developed in liaison with key stakeholders including English Heritage such that the impact on underlying archaeology is minimised and the opportunity is taken to improve the legibility of the historic environment.

10.1.5 The alignment of flood defences has also been designed to minimise the net loss of playing fields, green space, and the avenue of mature trees that forms an important landscape feature. The proposals therefore include the reconfiguration of sports facilities and parking.

## 10.2 Darley Playing Fields East

| | | | | | |
|---|---|---|---|---|---|
| **General Arrangement Drawing Number** | **13** | **Sections Drawing Number** | **43** | **Package** | **1** |
| **Type of planning application** | **Permitted development** *under Schedule 2, Part 15, Class A (f) of the GPDO.* | | | | |
| **Proposed use** | **Flood defence** | | **Works carried out by:** | **Applicant** | |

10.2.1 Darley Playing Fields East extends from the north-east corner of the playing fields to the south-east corner along the boundary with Alfreton Road Industrial Estate.

### Key constraints

10.2.2 The eastern boundary of the playing fields forms the boundary between the Derwent Valley Mills World Heritage Site and its buffer zone.

10.2.3 Ryknield Street (Roman road) crosses the flood defence alignment.

10.2.4 The line of trees along the boundary with Alfreton Road Industrial Estate forms an important visual screen. Some trees provide moderate potential to support bat roosts.

10.2.5 The playing fields are used extensively for playing football.

### Scale

10.2.6 The existing flood embankment will be raised by constructing a 560m long flood wall up to 1.4m high and 0.55m wide with seepage cut-off.

### Layout

10.2.7 The new wall will be constructed within the west (riverward) shoulder of the embankment as shown in Figure 10.2.

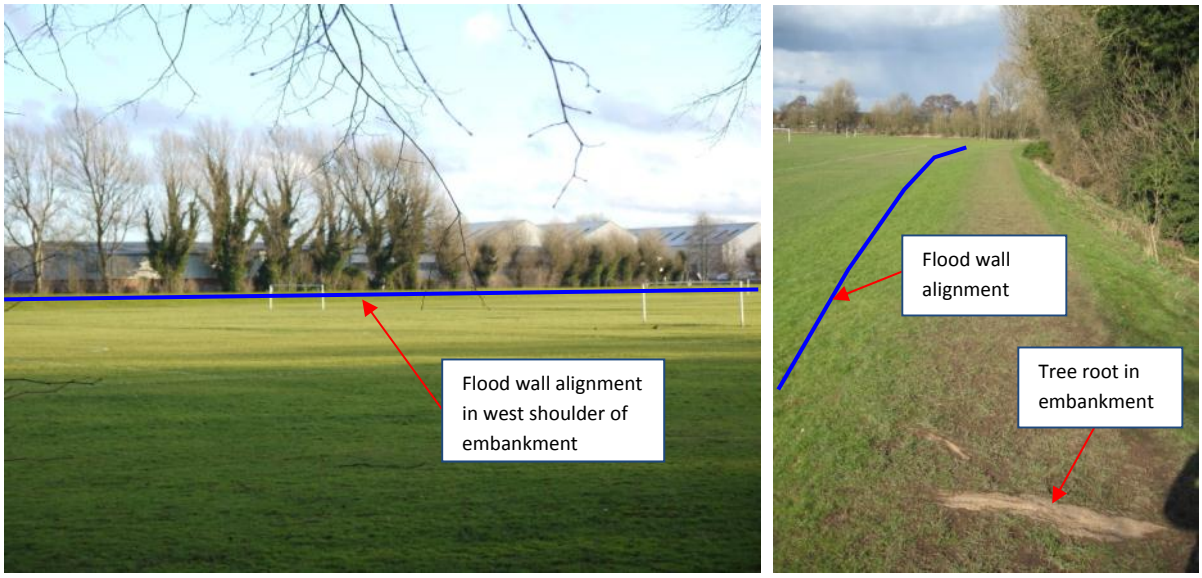


*Figure 10.2: Proposed flood wall constructed in west shoulder of embankment*

### Access

10.2.8 A new 2m wide gravel path will be constructed along the embankment crest primarily for maintenance access, but will also undoubtedly be used for recreational access too.

Access to the path at the northern end of the embankment will be formed by a new ramp with a 1 in 20 gradient.

10.2.9 The boundary fence between the playing fields and industrial estate will be retained.

10.2.10 During construction the football pitches will need to be reconfigured to avoid temporary loss.

### Landscaping/external appearance

10.2.11 Some pruning of trees will be required to provide clear overhead working space.

10.2.12 The flood wall will be clad in brick on both sides with a brick on edge coping.

10.2.13 Wildflower seeding on the western shoulder of the embankment.

10.2.14 A visualisation of the proposed works from the main path across the playing fields I shown in figure 10.3.

*Figure 10.3: Visualisation of Darley Playing Fields East from footpath towards industrial estate*

### Potential environmental enhancement

10.2.15 There is the potential to create marginal habitats through bank re-profiling and planting along the riverside through Darley Playing Fields, along with the provision of new fishing pegs. This will be investigated further during detailed design and its delivery will be dependent of funding and landowner agreement. The area is included with the red line planning boundary to allow the planning authority to impose a planning condition requesting details at a later date.

### Basis of design

10.2.16 The design has been developed to:

- avoid extending the footprint of the existing flood embankment such that there is no loss of playing fields or playing pitches;
- retain the line of trees along the boundary with Alfreton Road Industrial Estate.

10.2.17 This rules out the option of simply raising the flood bank as this would extend into the playing field and result in raising ground levels within the root protection areas of the trees.

10.2.18 The wall is positioned on the western shoulder of the existing flood bank to minimise the risk of tree loss. Some pruning of trees will be required, and some roots may need to be but where they are evident in the surface of the existing bank. A qualified arboriculturalist will provide on-site advice during construction as how best to retain the trees. If the works would compromise the stability of a tree, it may be unavoidable to lose some trees.

10.2.19 The proposed flood wall will cross the line of Ryknield Street. The exact location of this is not currently known but will be identified and recorded during construction. Appropriate mitigation will be undertaken.

10.2.20 The access ramp from the embankment crest down to the playing fields will be finished in an open textured tarmacadam surface rather than gravel to avoid stones being scattered on to the playing fields.

### Consultation

10.2.21 The design has been developed in liaison with key stakeholders including Sport England.

## 10.3 Darley Playing Fields South

| | | | | | |
|---|---|---|---|---|---|
| **General Arrangement Drawing Number** | **14 – 15** | **Sections Drawing Numbers** | **44 – 47** | **Package** | **1** |
| **Type of planning application** | **Full** | | | | |
| **Proposed use** | **Flood defence, playing pitches and parking** | **Works carried out by:** | | **Applicant** | |

10.3.1 Darley Playing Fields South extends from the south-east corner of the playing fields up to Derwent House.

### Key constraints

10.3.2 There are numerous constraints around Darley Playing Fields South including:

- Derwent Valley Mills World Heritage Site and its buffer zone;
- Derventio Roman fort (Scheduled Monument);
- Vicus – Roman civilian settlement associated with the fort that is not within the Scheduled Monument but is of national significance;
- Ryknield Street (Roman road);
- Little Chester Conservation Area;
- National and Regional Cycle Network;
- Playing fields and playing pitches;
- Significant avenue of trees; and
- Parking.

### Scale

10.3.3 Removal of the existing car park adjacent to the cricket nets and games court with replacement parking provided to the north of the existing car park by the Community Centre, on the site of the existing 4no. macadam tennis courts. The parking areas will have sustainable drainage systems installed.

10.3.4 Removal of the 4no macadam surfaced tennis courts and the 2no polymeric surfaced tennis courts (games court) and replacement with 3no macadam tennis courts and a polymeric surfaced multi-use games area (MUGA) for 5-a-side football and netball. The MUGA is bounded by a welded mesh fence which is up to 4m high behind the goals and 3m high along the pitch length, with 3m wide access gates. 2no tennis courts will be bounded by a 3m high welded mesh fence. The third tennis court will be bounded by a 3m high flood wall on three side and a 3m high welded mesh fence on the fourth side. Floodlights will be provided for the MUGA.

10.3.5 Removal of the existing Council Parks' compound area and provision of a new fenced storage area for sports equipment.

10.3.6 Removal of the existing bowling green and pavilion, and lowering of ground levels, and replacement with a new bowling green and pavilion in a different location.

10.3.7 Removal of 5no lime trees from the southern end of the avenue of trees along the footpath to Darley Abbey Mills.

10.3.8 Construction of a 250m long flood embankment, 3.2m high and 22m wide, with a groundwater seepage cut-off. The bank will have a 2m wide gravel path along its crest.

10.3.9 Construction of a 235m long flood wall up to 3m high and 0.55m wide, with a groundwater seepage cut-off. A grass bank will be formed on the riverward side of the wall, where appropriate, to reduce the visual height of the wall.

10.3.10 Raising of ground levels along the existing footpath between the existing flood defence by the Community Centre out to the proposed flood wall. A new 1m high by 4m wide flood gate is proposed at the flood wall with an access ramp back down to existing footpath levels.

10.3.11 Relocation of the cricket nets to Parkers Piece.

### Layout

#### *Flood defences*

10.3.12 The new flood embankment will tie into the raised flood defence within the Darley Playing Fields East section in the south-east corner of the playing fields. It will then form a linear feature that passes between the south edge of the former bowling green and Centurian Walk residential properties; crosses the northern part of the existing Parks' compound area; across the existing car park; and the across the northern part of the existing games court. The alignment is approximately shown on Figures 10.4 to 10.6.

10.3.13 The groundwater seepage cut-off under the embankment will be positioned under the bank crest except where it crosses particularly sensitive archaeologically remains .

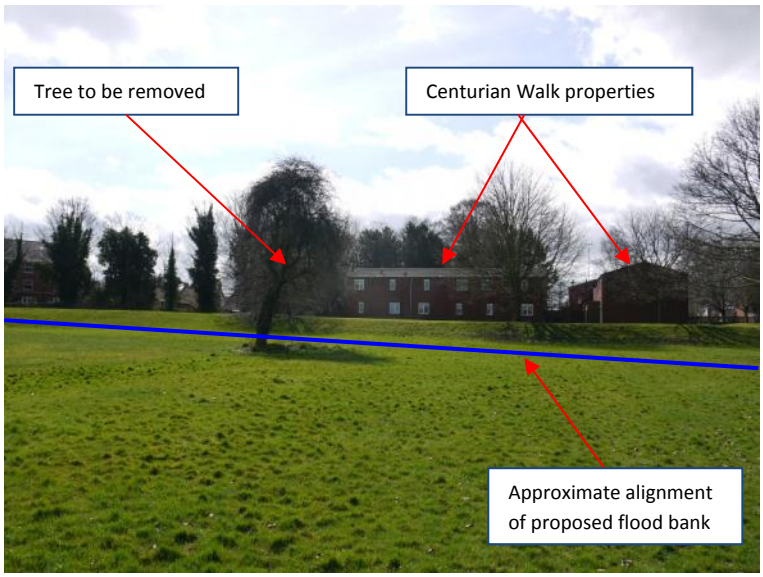


*Figure 10.4: Proposed layout of flood bank at Darley Playing Fields South*

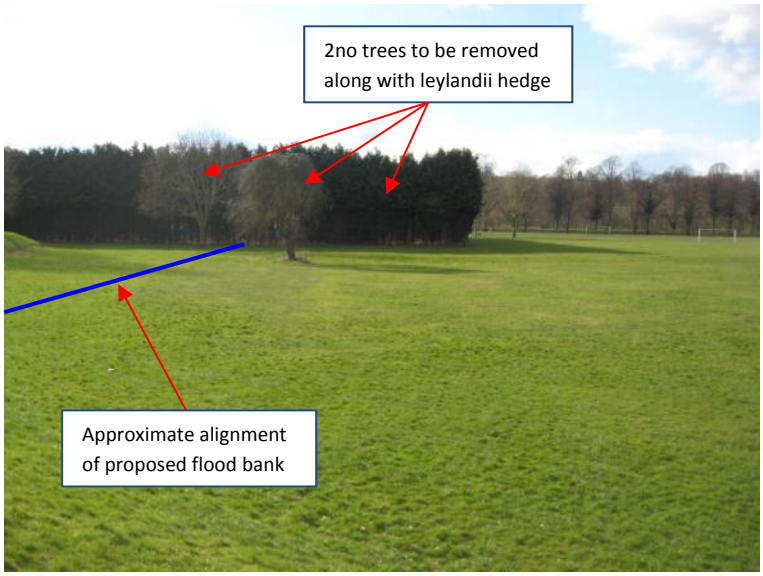


*Figure 10.5: Proposed layout of flood bank at Darley Playing Fields South*

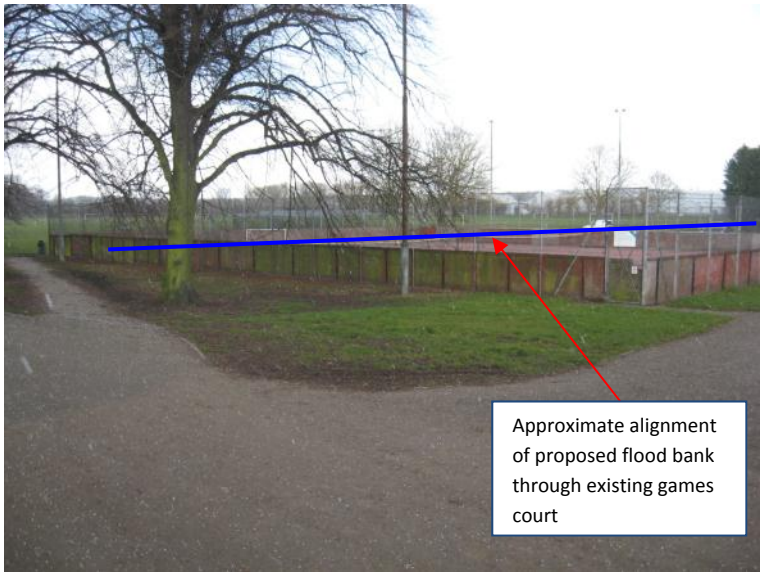


*Figure 10.6: Proposed layout of flood bank at Darley Playing Fields South*

10.3.14 At the eastern end of the bank the flood defence will change form into a wall before it crosses the avenue of trees and public footpath and cycle path between Little Chester and Darley Abbey Mills. (Figure 10.7)

10.3.15 The ground water seepage cut-off will pass directly across the footpath. The flood wall will be located either side of the existing path, to south of the seepage cut-off, such that a ramped 'access-for-all' can be provided over the flood defence along the same alignment as the existing path. A flood gate will form the top part of the access over the flood defence.

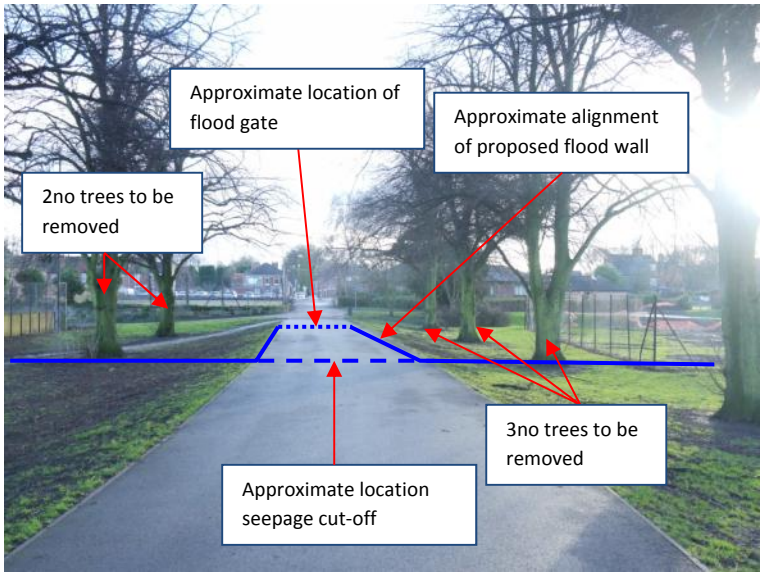


*Figure 10.7: Proposed layout of flood wall across public footpath and cycle path*

10.3.16 To the west of the footpath the flood wall will follow the recent alignment of the archaeological evaluation trench that was undertaken through the former grass tennis courts (Figure 10.8) and into the garden of the Community Centre. In the garden the wall will be located inside the garden adjacent to the hedge between the Community Centre and the bowling-green (Figure 10.9). The wall will tie into the existing flood wall alignment by the changing rooms, and then follow the existing flood wall alignment to boundary with Derwent House (Figure 10.10).

10.3.17 Mitigation to loss of garden space along the west boundary of the Community Centre will be provided by an extension of the garden to the north up to the boundary fence of the tennis court.


*Figure 10.8: Proposed flood wall alignment along line of recent archaeological evaluation trench*


*Figure 10.9: Proposed location of flood wall through Community Centre garden*

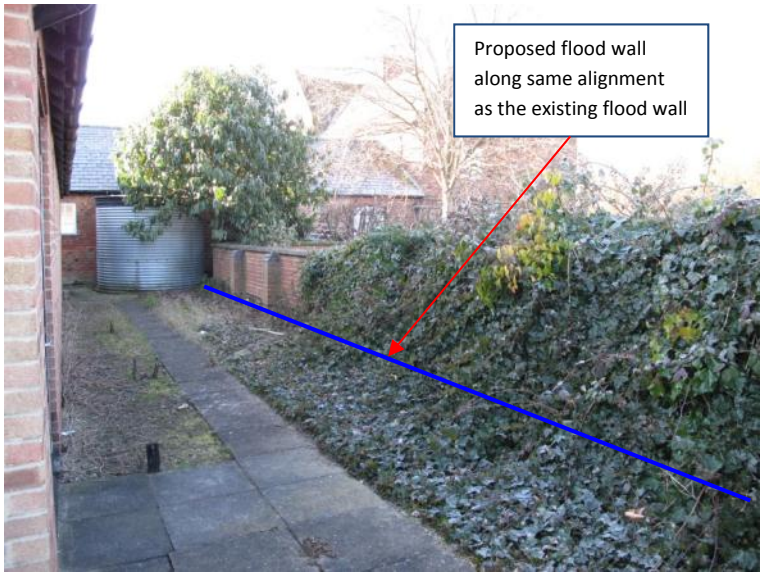


*Figure 10.10: Proposed location of flood wall behind changing rooms*

*Playing pitches*

10.3.18 Bowling green: it is proposed to remove the existing bowling-green and pavilion with ground levels lowered such that the shape of ramparts in the north-west corner of the Roman fort is visible. It is proposed to provide a replacement bowling green and pavilion in the location of the existing Parks' compound area. This area is bounded by the proposed flood bank to the north; Centurian Walk properties to the east; 52-58 Old Chester Road to the south; and the Roma fort boundary to the west.

10.3.19 Tennis courts: it is proposed to provide 2no replacement tennis courts to the east of the footpath between Little Chester and Darley Abbey Mills between the proposed flood bank to the north, and the Roman fort boundary to the south. It is proposed to provide a third court to the west of the footpath, bounded of the proposed flood defence wall to the north, east and west; with a new fence between the court and the Community Centre to the south.

10.3.20 Multi use games area (MUGA): it is proposed to provide a MUGA immeditaley to the east of the two tennis courts on the east die of the footpath.

*Parking*

10.3.21 It is proposed to provide an extended car park between the Community Centre and 110-118 Old Chester Road. The car park will be on the site of the existing car park and the southern part of the existing macadam surfaced tennis courts. The parking area will not cross the Roman fort boundary. Further parking is proposed within the existing Parks' compound area, adjacent to the existing access road between Old Chester Road and the existing parking area by the games court. This parking area is to primarily serve the proposed new bowling-green. Again, it will not extend over the boundary of the Roman fort. A new access road is proposed between these two parking areas to the north of 110-118 Old Chester Road. This will provide a one-way access around the parking areas.

*Storage compound*

10.3.22 A replacement storage compound for sports equipment is proposed to the north of 110-118 Old Chester Road. This will be accessed from the parking areas.

## Access

*Construction access*

10.3.23 A temporary footpath and cycleway closure will be required through construction of both the riverside path by the bowling-green and the main path between Little Chester and Darley Abbey Mills. Closures will be applied for and advertised in advance, diversions put in place and times kept to a minimum.

10.3.24 The width of construction access routes will be kept to a minimum and as close to within the footprint of proposed defences as possible.

*Pedestrian and cycle access*

10.3.25 Regional cycle route 66 and National Cycle Network 54 follow a route along the path between the Community Centre and the existing tennis courts between Little Chester and Darley Abbey Mills. This is also a well-used footpath used for recreational purposes. Access along this path for both pedestrians and cyclists will be maintained through the provision of a ramp over the flood defence and a 1m high by 4m wide flood gate across the path. The ramp will be designed so it is suitable for all users.

10.3.26 A new path will be created along the crest of the proposed flood bank. This will connect to the proposed path along the crest of the bank in the Darley Playing Fields East section and provide recreational access up to the north-east corner of the playing fields.

10.3.27 A new footpath will be created between the riverside path and the main footpath immediately to the north of the proposed flood wall.

10.3.28 Both stepped and ramped access will be provided from the raised footpath down to the two tennis courts and MUGA to the east of the footpath.

10.3.29 Only stepped access will be provided from the raised footpath down to the tennis court to the west of the footpath. It is not possible to provide a ramped access to this court (due to insufficient space between the court, flood walls and Roman fort boundary) without compromising the required archaeological mitigation to improve the legibility of the fort boundary.

10.3.30 Pedestrian access will be retained out of the back gardens of 110-118 Old Chester Road.

*Parking*

10.3.31 Across the two existing car parks there are a total of 127 parking spaces, without specific provision for disabled access. The proposed works include the provision of 118 parking spaces of which 6no would be designated for disabled access.

*Temporary access closure during a flood event*

10.3.32 The flood gate on the footpath will need to be closed during a flood event with a 2% (1 in 50) chance of happening each year. The threshold of the top of the proposed access ramp will be the same as the existing bank crest between the Community Centre and existing macadam surfaced tennis courts.

10.3.33 Prior to the gate being locked closed during a flood event, the playing fields and footpath will already be submerged under water as they will flood in an event with a 5% (1 in 20) chance of happening each year. This will effectively close the path before the gate is closed.

### Landscaping/external appearance

10.3.34 The proposed flood bank will be grass seeded with a gravel crest along its crest.

10.3.35 The proposed flood wall will be clad in brick with a brick-on-edge coping, and include mock piers. The brick type will be chosen to be in keeping with the setting of the Conservation Area. On the riverward side of the flood wall it is proposed to form a small grass bank to reduce the visual height of the wall.

10.3.36 Footpaths will be finished in macadam.

10.3.37 The 3no tennis courts will have a porous macadam surface. The MUGA will have a polymeric surface. Both courts and MUGA will have 3m high melded wesh fence around their perimeter. The fence behind the goals of the MUGA will be 4m high. Floodlights will also be provided.

10.3.38 The main parking area and access roads will be finished in macadam; the parking spaces by the proposed bowling-green will have a gravel finish.

10.3.39 As far as possible, it is proposed to maintain a ground level difference either side of the northern Roman fort boundary, and around the north-west corner of the fort under the existing bowling-green.

10.3.40 The proposals require the removal of approximately 30 trees, a tree group, the beech hedge around the bowling-green and the leylandii hedge bordering the Parks' compound area from within the Little Chester Conservation Area.

10.3.41 Reinstatement tree planting is proposed and will be undertaken on a 1:1 ratio, as close to their original positions as possible. However, tree planting within the area of nationally significant archaeology, including the Scheduled Monument and Vicus, will not be possible due to the impacts their roots would have on the underlying archaeology.

10.3.42 Figure 10.11 shows a visualisation along the footpath facing towards Little Chester.

*Figure 10.11: Visualisation of footpath from Darley Abbey Mills facing Little Chester*

### Basis of design

#### *Key drivers*

10.3.43 The drivers behind the design proposal are, in order of precedence:

- Reduce flood risk to Little Chester and minimise the constriction to flood flows around the Community Centre, changing rooms and bowling-green ;
- Minimising adverse impacts on the historic environment which is of national significance (ie Scheduled and unscheduled Roman archaeology);
- Maintaining the number of playing pitches;
- Maintaining pedestrian and cycle access across the flood defence; and access to and around existing buildings;
- Minimising the loss of trees especially where they provide potential bird and bat foraging and roosting habitat;
- Retaining parking capacity.

#### *Historic environment of national significance*

10.3.44 The proposed flood defences require a ground water seepage cut-off which will be formed from steel sheet piles driven deep into the ground. The foundations to the flood wall around the top of piles will also disturb the ground. In order to understand the impacts that the proposed works would have on the underlying archaeology, a

number of evaluation trenches have been undertaken over the last two years to supplement the knowledge gathered from previous archaeological investigations.

10.3.45 Key findings from these trenches include:

- Location of the north-west corner of the Roman fort rampart in the Community Centre garden;
- Position of a series of four defensive Roman ditches along the northern boundary of the fort. The northern most ditch is assumed to be 'Stukeley's Road', despite its slightly different orientation, given that the trenches did not locate any such road on its historic projection;
- Position of a series of 3 defensive Roman ditches along the eastern boundary of the fort within the existing Parks' compound area;
- No ditch located on the western side of the fort;
- Nationally significant archaeological remains of the Vicus to the north-east of the fort either side of Ryknield Street (Roman road) which runs in a north-south alignment to the east of the fort.

10.3.46 The principle to minimising the impact on archaeology is to preserve it in-situ. This means that the alignment of the defence needs to avoid the underlying archaeology as far as possible, and where this is not possible, any disturbance should be minimised. Mitigation for any disturbance is required which can take the form of archaeological excavation, where deposits are recorded and then removed to avoid damage, and improved legibility of the historic environment to improve the public's awareness of it. The design has therefore been defined with the following considerations:

- It is proposed that the seepage cut-off under the flood wall and flood bank is formed from steel sheet piles as this has the narrowest footprint which will therefore minimise disturbance to the archaeology;
- The flood bank is of a linear form to match the form of significant Roman features in the area such as the fort boundaries and roads;
- The flood bank and seepage cut-off is principally aligned to the north of the defensive ditches as the gap between ditches is not wide enough to install the seepage cut-off without the risk of significant disturbance to them.
- The flood defence element of the flood bank will where possible be formed from an extended sheet pile up to flood defence level. This means the bank fill either side of the sheet pile is only for landscaping purposes and therefore can less cohesive which will be easier to compact and there is therefore less risk of compaction of the archaeology under the bank footprint.
- The footprint of the flood bank lies to the south of the northern-most ditch where it crosses Ryknield Street due to risk of significant archaeological remains in this location.
- Where the flood bank does cross the northern-most ditch, the seepage cut-off runs parallel to ditch and then crosses it perpendicularly to minimise impacts on the ditch. Thus, for a short reach the seepage cut-off will not be extended up to

flood defence level. This means a cohesive, impermeable fill will be required in this location to form the structural element of the flood defence.

- The flood wall either side of the existing footpath which will support the ramped access over the flood defence, and which lies over two of the defensive fort ditches, will be constructed above existing ground levels. The sheet pile cut-off will not be located under the walls in this area, it will simply cross the footpath in an east-west direction north of the ditches.
- The seepage cut-off will only cross the ditches on the eastern side of the site in one location. This will be on line of the recently completed evaluation trench in order to minimise further disturbance to the archaeology.
- The flood wall along the western side of the changing rooms will be along the existing flood wall alignment as it is considered the archaeology under the existing wall will already have been disturbed.
- Minimise the number of crossings over the Roman fort boundary to allow for its improved legibility:
    - the flood wall crosses it twice in the north-west corner but the lowering of the bowling-green allows the shape of the rampart to be formed in the re-graded topography of the area;
    - none of the proposed parking areas or playing pitches lie over the fort boundary, which will allow a differential in ground levels to be formed either side of the fort ramparts;
    - the footpath from the Community Centre to the avenue of trees will be raised over the fort boundary but this is along an existing crossing point and is required to maximise the threshold level of the flood gate;
    - the existing access road between Old Chester Road and the northern parking area will be removed where it crosses the fort boundary as this access route will become redundant;
    - A new pedestrian access will be created over the eastern boundary of the fort between the proposed bowling-green and the adjacent parking area.
- Playing pitches can be located over the fort's defensive ditches as their foundations are very shallow and generally overlay existing areas of hard surfacing which will have a similar foundation depth. Hence, there will not be any further disturbance of underlying archaeology.

*Playing pitches*

10.3.47 The Council has recently completed its draft Sports Strategy. This has confirmed that Darley Playing Fields will continue to form an important sports hub for the City.

10.3.48 The Council has reviewed its requirements and confirmed with Sport England that the number of tennis courts can be reduced from the current provision of 6no courts down to 3no courts. This provision has been included within the design proposal. A MUGA is included in the design to accommodate 5-a-side football and netball and provides mitigation for the reduced number of tennis courts.

10.3.49 The existing bowling-green stands elevated in the flood plain and needs to be removed such that ground levels can be lowered to reduce the constriction that it currently forms to flood flows. Its replacement has been accommodated in the design proposals.

*Pedestrian and cycle access*

10.3.50 The plan alignment of the footpath and cycle path between Little Chester and Darley Abbey Mills has been retained. It is proposed to raise the vertical alignment over the flood defence.

10.3.51 Access to and around existing properties has been retained.

*Loss of trees and vegetation*

10.3.52 The number of tree losses has been minimised. The most significant losses are the 5no. lime trees at the southern end of the avenue of trees along the footpath, but these losses are unavoidable given the requirement to reduce flood risk and minimise the impact on nationally significant archaeology.

10.3.53 The removal of the leylandii hedge around the existing Parks' compound area, and hedge around the existing bowling-green will improve sight lines, connectivity and functionality of the area.

10.3.54 A detailed landscape reinstatement design is still required and will need to be developed within the restriction of tree planting within the area of nationally significant archaeology due to the impacts their roots would have on the underlying archaeology.

*Retention of parking capacity*

10.3.55 The retention of parking has been maximised following the completion of the rest of the design in this area. This has resulted in a small loss of parking spaces but is not considered to be significant adverse impact.

### Consultation

10.3.56 The design proposals have been developed in consultation with a Historic Environment Steering Group formed of representatives from English Heritage; technical officers from the Council including Development Control Archaeologist, Conservation Officer and Landscape Manager; and Environment Agency Regional Archaeologist. Further consultation has been held with a trustee of the Community Centre and the Council's Parks team.

10.3.57 The proposed works are considered to be the best solution that meets the often conflicting needs of the numerous stakeholders in this area.

## 10.4 Derwent House

| | | | | | |
|---|---|---|---|---|---|
| **General Arrangement Drawing Number** | **14 – 15** | **Sections Drawing Number** | **48** | **Package** | **1** |
| **Type of planning application** | **Full** | | | | |
| **Proposed use** | **Flood defence and replacement property boundary wall** | **Works carried out by:** | **Applicant** | | |

10.4.1 The extent of this section is along the north and west sides of Derwent House.

### Key constraints

10.4.2 Derwent House is:

- within the Derventio Roman fort (Scheduled Monument);
- a Grade II listed building;
- within the Little Chester Conservation Area; and
- within the Derwent Valley Mills World Heritage Site buffer zone.

10.4.3 The river's edge path forms a footpath and is part of National Cycle Route number 54, and a local cycle path.

### Scale

10.4.4 Removal of existing property boundary wall along northern and western sides of property which also acts, in part, as the existing flood defence.

10.4.5 Removal of the existing temporary flood wall on the riverward side of the western property boundary wall.

10.4.6 Construction of a new 55m long flood wall up to 1.6m high and 0.55m wide. The wall height from the existing ground level on the Derwent House side of the defence will be 1.5m.

10.4.7 Reinstatement of a 0.5m high grass bank on the riverward side of the new flood wall.

### Layout

10.4.8 The new flood wall will be built along the line of the existing property boundary wall as indicated on Figures 10.12 and 10.13. The increased thickness of the new wall will be accommodated on the riverward side of the existing flood wall such that there is no loss of footprint within the garden of Derwent House.

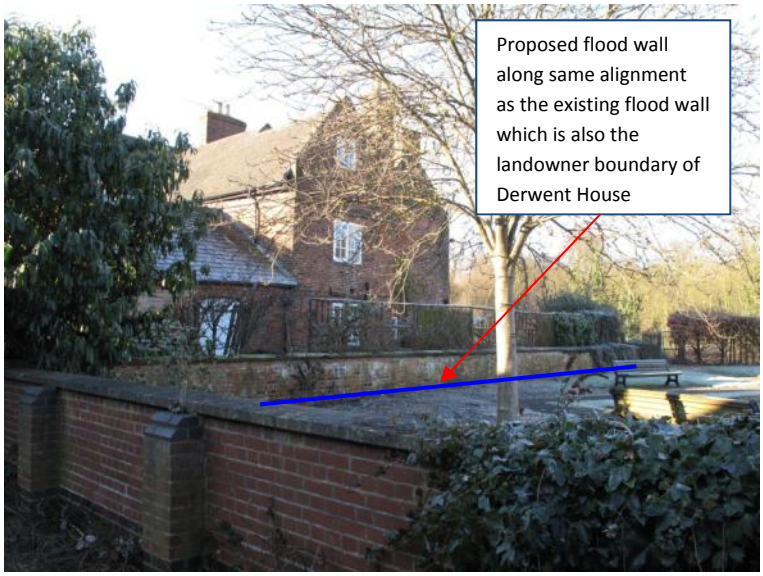


*Figure 10.12: Proposed flood wall alignment along northern side of Derwent House*


*Figure 10.13: View of Derwent House from riverside footpath.*

## Access

### *Construction access*

10.4.9 The main access during construction will be from the riverward side of the wall. However, the working area will extend into the garden of Derwent House.

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

### *Operational access*

10.4.11 The applicant will require access to the Derwent House side of the flood defence asset for inspection and maintenance purposes.

### Landscaping/external appearance

10.4.12 Reinstatement tree planting is proposed and will be undertaken on a 1:1 ratio, as close to their original positions as possible. However, tree planting within the area of nationally significant archaeology, including the Scheduled Monument and Vicus, will not be possible due to the impacts their roots would have on the underlying archaeology.

10.4.13 The proposed flood wall will be clad in brick with a brick-on-edge coping, and include mock piers. A number of tile courses will be used within the elevation of the fall to improve the interpretation of the area as a Roman fort. The brick type will be chosen to be in keeping with the setting of the listed building.

10.4.14 The garden of Derwent House will be reinstated to match existing finishes.

10.4.15 Ground levels on the riverward side of the flood wall will be reinstated to match existing.

10.4.16 A visualisation of the proposed defence from the riverside footpath is shown in Figure 10. 14.

*Figure 10.14: Visualisation of proposed flood wall in front of Derwent House.*

### Basis of design

10.4.17 The alignment of the proposed flood defence is along the property boundary for two reasons. Firstly, it will minimise disturbance to nationally significant underlying archaeology within the Roman fort Scheduled Monument as it will have already been disturbed by the construction of the existing wall foundation. Secondly, the riverward side of the property boundary is Public Open Space and the Applicant has a duty to protect this wherever possible.

10.4.18 The flood wall finishes are designed to be appropriate to the setting of the listed building and to subtly acknowledge the Roman heritage of the site. The proposed tile courses take their reference from surviving Roman walls as shown in Figure 10.15.

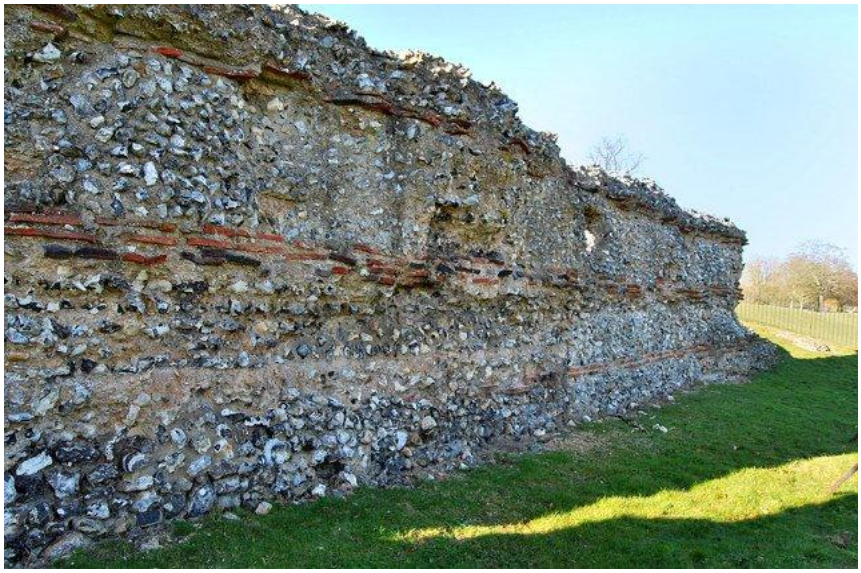

*Figure 10.15: Example of Roman wall from Verulamium Park, St Albans (Source: photographers-resource.co.uk)*

### Consultation

10.4.19 There have been a number of meetings and correspondence with the owners of Derwent House. Their preference is for the flood defence alignment to be located on the line of the existing temporary flood defence which is located on the riverward side of their property boundary. The owners of the property currently maintain the strip of land between their property boundary and the temporary flood defence. For the reasons outlined above, this preference cannot be met.

## 10.5 Stone House Prebend

| | | | | | |
|---|---|---|---|---|---|
| **General Arrangement Drawing Number** | **14 - 15** | **Sections Drawing Numbers** | **49 – 50** | **Package** | **1** |
| **Type of planning application** | **Full** | | | | |
| **Proposed use** | **Flood defence** | **Works carried out by:** | **Applicant** | | |

10.5.1 The extent of this section is along the west and south sides of Stone House Prebend.

### Key constraints

10.5.2 Stone House Prebend is:

- within the Derventio Roman fort (Scheduled Monument);
- a Grade II* listed building;
- within the Little Chester Conservation Area; and
- within the Derwent Valley Mills World Heritage Site buffer zone.

10.5.3 The river's edge path forms a footpath and is part of National Cycle Route number 54, and a local cycle path.

### Scale

10.5.4 Removal of majority of existing flood embankment around west and south sides of house.

10.5.5 Construction of a new 110m flood wall up to 2.0m high and 0.55m wide with piled foundations and a seepage cut-off under the wall.

10.5.6 Formation of a grass bank on the west (riverward) side of the flood wall up to 1.2m high such that the height of the wall is around 1.8m high to form a secure boundary..

### Layout

10.5.7 Adjacent to the north-west corner of the property, the new flood wall will be built along the line of the existing flood bank crest. Where the existing embankment crest then curves to the west, the new flood wall will be projected southwards in a straight line parallel to the Scheduled Monument boundary.

10.5.8 The wall will then be curved around the south-west corner of the property following the shape of the Roman fort. (Figures 10.16 and 10.17.)

10.5.9 Along the southern boundary of the property the flood wall will follow the toe on the south side of the existing embankment. (Figure 10.18.)

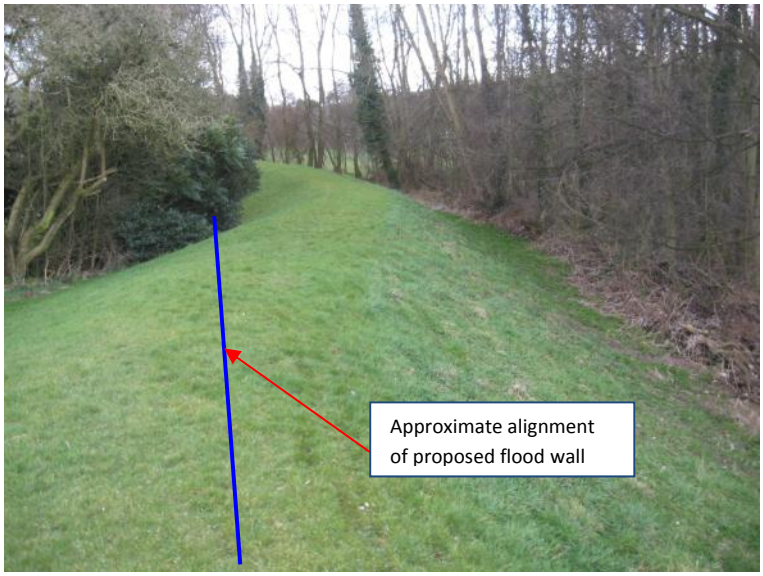


*Figure 10.16: Stone House Prebend west facing south*


*Figure 10.17 Stone House Prebend facing east*

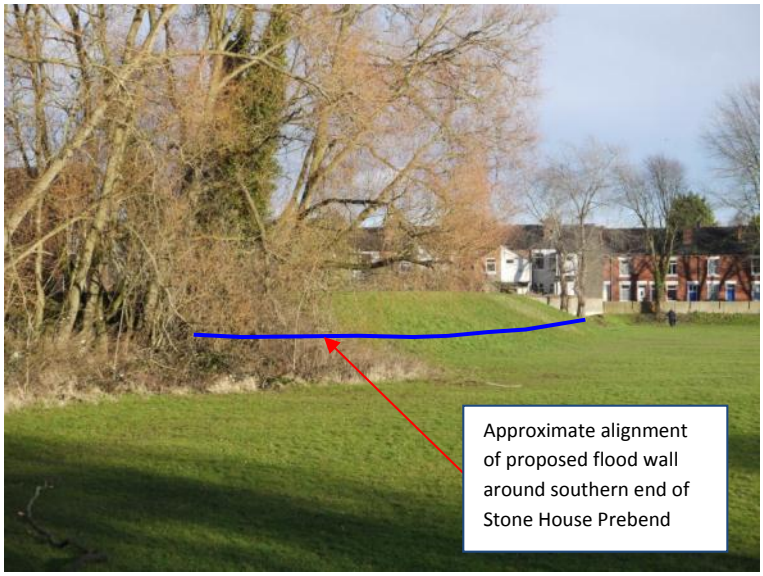


*Figure 10.18: Stone House Prebend facing east*

### Access

#### *Construction access*

10.5.10 The main access during construction will be from the riverward side of the wall. However, the working area will extend into the garden of Stone House Prebend.

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

#### *Operational access*

10.5.12 The applicant will require access to the Stone House Prebend side of the flood defence asset for inspection and maintenance purposes.

### Landscaping/external appearance

10.5.13 A number of trees along the eastern toe of the flood embankment will need to be removed for the construction of the flood wall, along with the eastern half of a large tree group on the riverward side of the defence.

10.5.14 Reinstatement tree planting is proposed and will be undertaken on a 1:1 ratio, as close to their original positions as possible. However, tree planting within the area of nationally significant archaeology, including the Scheduled Monument and Vicus, will not be possible due to the impacts their roots would have on the underlying archaeology.

10.5.15 The proposed flood wall will be clad in brick with a brick-on-edge coping, and include mock piers. A number of tile courses will be used within the elevation of the fall to improve the interpretation of the area as a former Roman fort. (Refer Figure 10. 13.) Local ground raising either side of the wall will ensure the wall height is kept to around 2m.

10.5.16 Visualisations of the proposed flood defence around Stone House Prebend are provided in Figures 10. 19 and 10.20.

*Figure 10.19: Visualisation of proposed flood wall from entrance to Stone House Prebend*

*Figure 10.20: Visualisation of proposed flood wall from riverside footpath*

### Basis of design

10.5.17 A flood wall is proposed to replace the existing bank to minimise the footprint of the defence and maximise the conveyance capacity of the flood plain in this location. The width of the constriction in the floodplain in this part of Little Chester is critical to the impact the delivery of this scheme has on flood levels at Darley Abbey. The narrower the constriction, the more flood water is throttled here and the greater risk that flood levels would be increased at Darley Abbey.

10.5.18 The alignment of the flood wall along the west side of the property will be within the footprint of the existing flood bank. This will ensure disturbance to the nationally significant underlying archaeology within the Roman fort Scheduled Monument is minimised. In the north-west corner of this section, the flood wall will be in the crest

of the existing bank. This will ensure that the wall and its foundation are sufficiently offset from the boundary fort ramparts and the potential west gate that could lie at the end of the access track between Derwent House and Stone House Prebend. This line will be projected southwards, parallel to the fort boundary, moving off the existing bank crest line for three reasons:

- To maximise the improved visual interpretation of the Roman fort along its western boundary;
- To minimise the loss of public open space;
- To maximise the width of the flood conveyance corridor.

10.5.19 The shape of the defence in the south-west corner of this site will be of a 'playing-card corner' to replicate the historic shape of the Roman fort.

10.5.20 The alignment of the flood wall along the southern side of Stone House Prebend will ensure disturbance to the nationally significant underlying archaeology within the Roman fort Scheduled Monument is minimised. The alignment has been determined from archaeological evaluation such that it will lie between the fort rampart and the ditch along this side of the fort.

10.5.21 The flood wall will be constructed within the land ownership of Derby City Council but there will be a gap between it and the land ownership boundary of Stone House Prebend. This land is officially Public Open Space despite being currently occupied by the existing defence. The proposal includes consideration of offering this land on a long-term lease to the owners of Stone House Prebend.

### Consultation

10.5.22 There have been a number of meetings and correspondence with the owners of Stone House Prebend. The owner is keen to avoid the need to maintain steep flood embankments in their gardens which the proposed solution will accommodate.

## 10.6 102 City Road

| | | | | | |
|---|---|---|---|---|---|
| **General Arrangement Drawing Number** | **14 - 15** | **Sections Drawing Number** | **51** | **Package** | **1** |
| **Type of planning application** | **Full** | | | | |
| **Proposed use** | **Flood defence and property boundary wall** | **Works carried out by:** | | **Applicant** | |

10.6.1 The extent of this section is along the south face of 102 City Road between Stone House Prebend and City Road.

### Key constraints

10.6.2 102 City Road is:

- within the Derventio Roman fort Scheduled Monument boundary;
- within the Little Chester Conservation Area; and
- within the Derwent Valley Mills World Heritage Site buffer zone.

### Scale

10.6.3 Construction of a new 40m long flood defence up to 3.5m high, above the level of Parkers Piece. The defence will consist of a flood wall up to 2m high on top of a 1.5m high bank.

### Layout

10.6.4 The wall will continue in a straight line from the wall along the southern side of Stone House Prebend. The wall will be offset 7m from the southern side of 102 City Road. (refer to figure 10.21.)

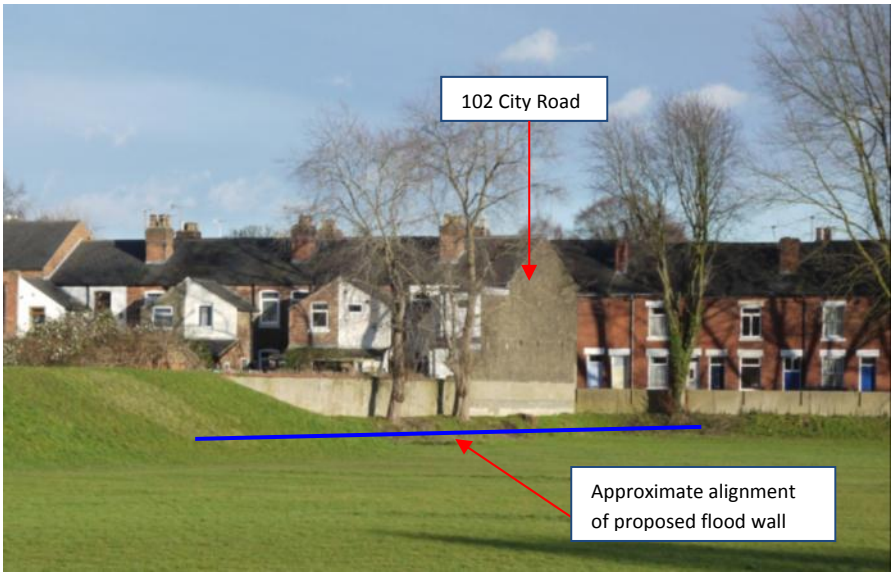


*Figure 10.21: View of 102 City Road from Parkers Piece*

### Access

10.6.5 The main access during construction will be from Parkers Piece.

*Operational access*

10.6.6 The applicant will require access to the 102 City Road side of the flood defence asset for inspection and maintenance purposes.

### Landscaping/external appearance

10.6.7 The existing two trees adjacent to 102 City Road will be lost due to the need to install sheet piles and raise ground levels within their root protection zone.

10.6.8 Reinstatement tree planting is proposed and will be undertaken on a 1:1 ratio, as close to their original positions as possible. However, tree planting within the area of nationally significant archaeology, including the Scheduled Monument and Vicus, will not be possible due to the impacts their roots would have on the underlying archaeology.

10.6.9 The proposed flood wall will be clad in brick with a brick-on-edge coping, and include mock piers. A number of tile courses will be used within the elevation of the fall to improve the interpretation of the area as a former Roman fort. (Refer to Figure 10.15.) Local ground raising either side of the wall will ensure the wall height is kept to 2m.

10.6.10 If 102 City Road takes a long-term lease of the land between its boundary and the proposed flood defence wall, then the existing garden wall would be demolished. Ground levels between 102 City Road and the flood wall will be graded to meet existing ground levels within the garden and City Road.

### Basis of design

10.6.11 The existing flood defence is provided by the garden wall of 102 City Road and the concrete render applied to the southern face of this residential property. The existing structures are not suitable for continued use as a flood defence.

10.6.12 The alignment of the flood wall along the southern side of 102 City Road will ensure disturbance to the nationally significant underlying archaeology within the Roman fort Scheduled Monument is minimised. The alignment has been determined from archaeological evaluation such that it will lie between the fort rampart and the ditch along this side of the fort. It is a continuation of the wall alignment from the south side of Stone House Prebend.

10.6.13 The flood wall will be constructed within the land ownership of Derby City Council but there will be a gap between it and the land ownership boundary of 102 City Road. This land is Public Open Space. The proposal includes consideration of offering this land on a long-term lease to the owners 102 City Road.

### Consultation

10.6.14 A number of attempts have been made to contact the owners of 102 City Road but no detailed discussions have taken place.

## 10.7 Parkers Piece

| | | | | | |
|---|---|---|---|---|---|
| **General Arrangement Drawing Number** | **16** | **Sections Drawing Number** | **52** | **Package** | **1** |
| **Type of planning application** | **Full** | | | | |
| **Proposed use** | **Flood defence** | **Works carried out by:** | **Applicant** | | |

10.7.1 The extent of this section is along the eastern edge of Parkers Piece along the boundary with City Road between 102 City Road and the City Road car park.

### Key constraints

10.7.2 This section of the proposed works is:

- between the Derventio Roman fort Scheduled Monument boundary and the Roman hypercaust Scheduled Monument. This area is likely to have significant archaeological remains.
- within the Little Chester Conservation Area;
- within the Derwent Valley Mills World Heritage Site buffer zone, and
- adjacent to a public recreation ground.

### Scale

10.7.3 Removal of a 100m length of the existing 1.2m high flood wall along the boundary between Parker's Piece and City Road.

10.7.4 Construction of a new 135m long flood wall up to 2.2m high on the City Road side and 2.8m high on Parkers Piece side. The wall will be up to 0.55m wide with a groundwater seepage cut-off. A grassed bank up to 1m high will be formed against the wall on the Parkers Piece side.

10.7.5 Footway along City Road widened from 2m to 3.5m.

### Layout

10.7.6 The wall will be constructed along an alignment approximately 1.5m riverward of the existing flood wall.


*Figure 10.22: View of existing flood wall from Parkers Piece*

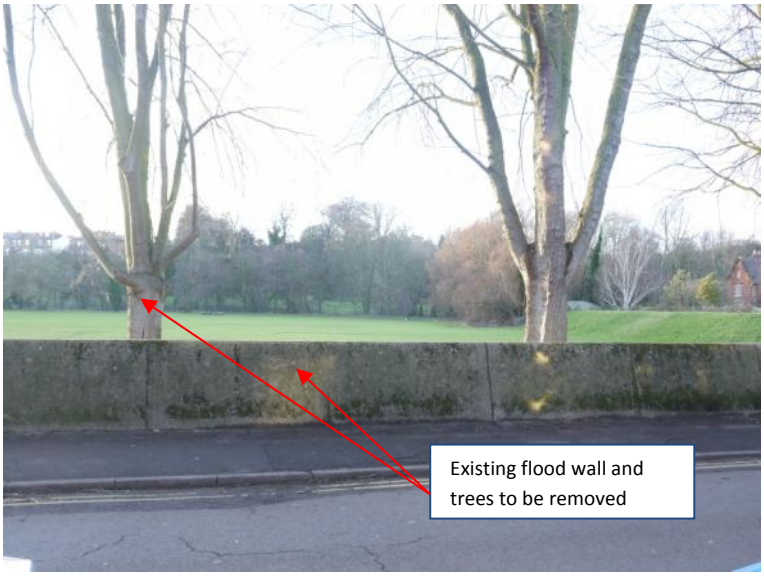


*Figure 10.23: View of existing flood wall from City Road*

### Access

*Construction access:*

10.7.7 The main access during construction will be from Parkers Piece. However, there will be some construction activities along City Road which require a temporary closure of the footway and may require traffic management along City Road itself.

*Permanent access:*

10.7.8 Derby City Council Parks team have an operational and maintenance access ramp in the south-east corner of Parkers Piece by the cricket pavilion. This also forms a pedestrian access to Parker's Piece from City Road and the car park. This access route will be removed. New permanent access will be provided to Parkers Piece within the City Road car park section of the works. (Refer to Section 10.8.)

### Landscaping/external appearance

10.7.9 The existing 12no silver maple trees along the eastern boundary of Parker's Piece will be removed, as well as 7 other trees and part of 1 tree group from the Little Chester Conservation Area.

10.7.10 Reinstatement tree planting is proposed and will be undertaken on a 1:1 ratio, as close to their original positions as possible. However, tree planting within the area of nationally significant archaeology, including this area, will not be possible due to the impacts their roots would have on the underlying archaeology.

10.7.11 The top section of the flood wall will be formed from 0.9m high structural glass panels, with brick piers. The wall below will be clad with brick, and will incorporate mock piers. The height of the wall on Parkers Piece side will provide an opportunity for the placement of public artwork which reflects the historic environment.

10.7.12 Replacement cricket nets from Darley Playing Fields South will be relocated to Parkers Piece. In addition two new artificial cricket wickets will be provided on Parkers Piece.

10.7.13 Visualisations of the proposed flood wall are provided in Figures 10.24, 10.25 and 10.26.

*Figure 10.24: Visualisation of proposed flood wall from City Road*

*Figure 10.25: Visualisation of proposed flood wall from City Road*

### Basis of design

10.7.14 The Our City Our River Masterplan proposed a flood embankment in this section of the scheme to improve access between the community of Little Chester, the recreation ground and the river. However, through further discussions with historic environment and landscape stakeholders, a preference was given for the existing flood wall along City Road to be replaced with a higher wall, with architectural detailing to avoid adversely affecting City Road. This has the advantage of minimising the loss of public open space and avoids the loss of any playing fields at Parkers Piece.

10.7.15 The alignment of the flood wall is set-back 1.5m into Parkers Piece to provide mitigation for the increased wall height on the street-scene so it doesn't feel oppressive for pedestrians. This is further mitigated by the inclusion of glass panels in the top of the wall to maintain views across Parkers Piece for both pedestrians and residents of property opposite the wall.

10.7.16 The height of the glass panels has been set at 0.9m in order to provide standardisation and efficiency across the scheme. This means the brick clad section of the wall will be higher than the existing wall but this is mitigated by the wall's proposed alignment.

10.7.17 The existing trees need to be removed as their roots would prevent the construction of a groundwater seepage cut-off. The trees would need to be removed even if the new wall was constructed on the same alignment as the existing wall.

10.7.18 The proposed alignment will also minimise disturbance on underlying archaeology.

### Consultation

10.7.19 The design has been developed following discussions with various stakeholders since the adoption of the Our City Our River Masterplan.

10.7.20 Comments have been received from the general public opposed to the loss of the silver maple trees. Options have been investigated to consider whether the trees could be retained but other constraints mean this is not possible.

## 10.8 City Road car park

| | | | | | |
|---|---|---|---|---|---|
| **General Arrangement Drawing Number** | **16** | **Sections Drawing Number** | **53 - 54** | **Package** | **1** |
| **Type of planning application** | **Full** | | | | |
| **Proposed use** | **Flood defence, flood conveyance, and parking** | **Works carried out by:** | | **Applicant** | |

10.8.1 The extent of this section is City Road car park between Parkers Piece, City Road, Aida Bliss and Handyside Bridge.

### Key constraints

10.8.2 The City Road car park site is:

- adjacent to Roman hypercaust Scheduled Monument;
- adjacent to Handyside Bridge which is a Grade II listed building;
- within the Little Chester Conservation Area;
- within the Derwent Valley Mills World Heritage Site buffer zone,
- part of National Cycle Route 54; and
- an area of free parking serving Derby city centre and Parkers Piece.

### Scale

10.8.3 Construction of a new 110m long floodwall up to 2m high (riverward side) and 1.6m high (landward side) along the northern edge of, and across, the car park with a groundwater seepage cut-off.

10.8.4 Excavation of the south-west section of the car park between the flood wall and Handyside Bridge to lower existing ground levels by approximately 1.5m over an area of 35m by 45m. The finished ground levels will be the same as the existing levels within the Aida Bliss site. The proposed ground level in this area will typically be 1.5m above the ground level of Parkers Piece.

10.8.5 Construction of a 55m long, 3m wide, 2.0m high tarmac access ramp along the northern edge of the car park to maintain access over the flood wall between City Road and Handyside Bridge; this ramp will include the construction of a 37m long 'sloped' retaining wall up to 1m high.

10.8.6 Construction of access steps over the flood wall at the north-west corner of the car park.

10.8.7 Construction of access steps from the from the north-west corner of the car park down on to Parkers Piece recreation ground.

10.8.8 Construction of an 11m long, 3m wide gravel track to provide access for maintenance vehicles onto Parker's Piece in its south-east corner.

10.8.9 The number of parking spaces available in the car park will be reduced from 132 spaces to 54 spaces which will include three disabled spaces.

### Layout

10.8.10 The flood wall will be located across the northern edge of the car park with a step change in its alignment where the 3m wide access ramp crosses it. The wall will then turn a corner heading south and tie-in to the Aida Bliss site at the edge of the original Victorian façade. (Figure 10.26.)

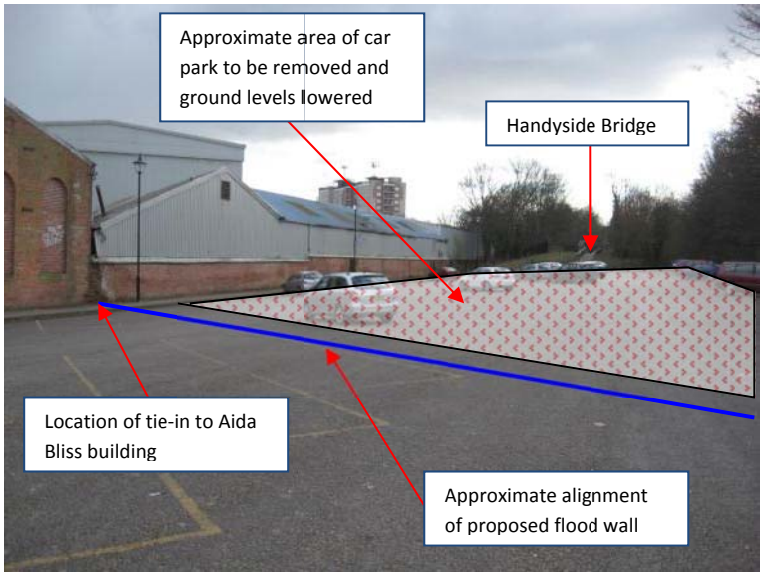


*Figure 10.26: Proposed layout of flood wall and ground lowering at City Road car park*

### Access

#### *Construction access*

10.8.11 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*

10.8.12 The public car park currently provides free parking within a short walk of the city centre, as well as parking for the recreational use of Parker's Piece. There will be no parking on the riverward side of the new flood wall.

10.8.13 Pedestrian and cycle access over the flood wall will be provided by a new 3m wide access ramp over the flood wall. A shared footpath and cycle path will be created between the ramped access and Handyside Bridge that is suitable for all users.

10.8.14 Additional more direct access over the flood wall will be provided for pedestrians in the north-west corner of the remaining car park via steps.

10.8.15 From these steps, further steps will provide direct access down on to Parkers Piece.

### Landscaping/external appearance

10.8.16 The construction of the flood wall and lowering of ground levels means the trees between the car park and Parkers Piece will need to be removed. This is within the Little Chester Conservation Area. Reinstatement tree planting is proposed and will be undertaken on a 1:1 ratio, as close to their original positions as possible. However,

tree planting within areas of nationally significant archaeology, including the Roman hypercaust Scheduled Monument, will not be possible due to the impacts their roots would have on the underlying archaeology.

10.8.17 The proposed flood wall, retaining wall and access steps from the car park will be clad in a suitable brick for within the Conservation Area.

10.8.18 On the riverward side of the flood wall a bank will be formed at the bottom of the wall to reduce its visual height.

10.8.19 A black metal railing up to 1.1m in height, which is in keeping with existing street furniture within the Conservation Area, will be provided along the top of the walls and access steps to guard against vertical drops and deter unauthorised use.

10.8.20 The access steps down on to Parker's Piece will be constructed from timber with stone infill.

10.8.21 The area of lowered ground will be landscaped and seeded with wildflower mix, with replacement tree and shrub planting.

10.8.22 A sketch-up model of the access arrangements is provided in Figure 10.27.

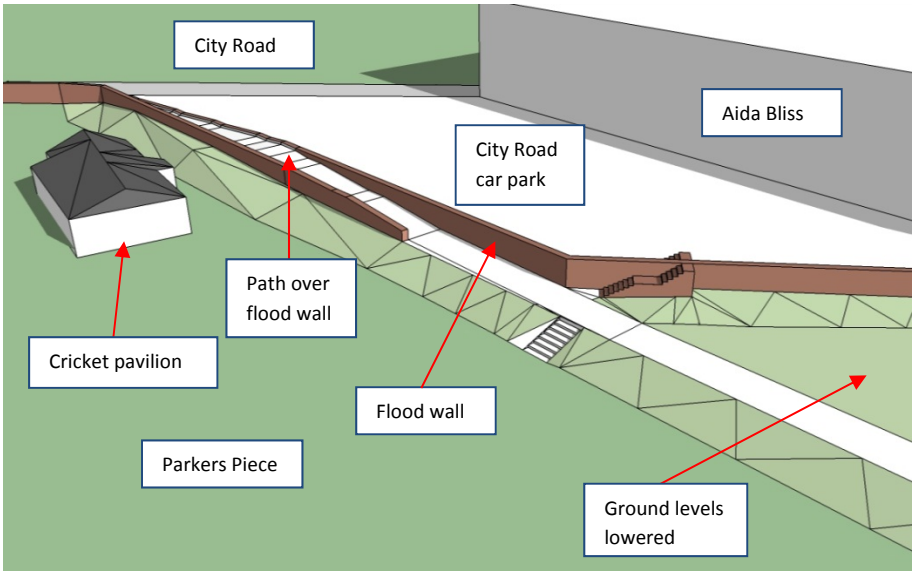


*Figure 10.27: Sketch-up model of access arrangements at City Road car park.*

### Basis of design

10.8.23 The lowering of ground levels in the south-west section of the car park is designed to improve the conveyance of flood flows around Handyside Bridge. Without this, flood levels would be further increased in upstream areas as a result of building the flood defences north of this location.

10.8.24 The depth of ground lowering has been limited to ensure a 'buffer' is maintained to potential archaeological remains below the former railway embankment. The legibility of the approach to the Grade II* listed Handyside Bridge as a former railway embankment will also be maintained as it is considered to be an important aspect of its setting.

10.8.25 The form of flood defence is a wall to minimise the loss of parking spaces.

10.8.26 The access ramp and steps are required to maintain this important pedestrian and cycle access between Little Chester, Parkers Piece, the river and the city centre.

10.8.27 The tie-in pint with the Aida Bliss site is designed to enable the retention of the original Victorian façade of the building facing the car park and City Road which is considered to be an important aspect of the Conservation Area.

### Consultation

10.8.28 The design has been developed following discussions with various stakeholders since the adoption of the Our City Our River Masterplan.