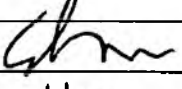


**THE ENVIRONMENT AGENCY**  
**NORTH WEST REGION**  
**RIVER MERSEY FLOOD ALLEVIATION SCHEME**  
**CONSULTATION DOCUMENT**

**JANUARY 2000**

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## 1.0 SCHEME INTRODUCTION

In 1995 the then National Rivers Agency (now incorporated in the Environment Agency) commissioned a study into the standard and condition of the flood defences along the River Mersey between Stockport and Ashton-upon-Mersey, a distance of approximately 20km. The study objectives were to identify the standards of flood protection provided, to report on the condition of the existing defences and to investigate options for remedial works or improvements if these were found to be necessary. A map showing the scheme area is shown in **Figure 1**.

These objectives were met in the Feasibility stage of the scheme, which was completed in late summer 1999. The main conclusions on flood defence were that standards of flood protection to the Mersey floodplain varied from approximately 5 years to over 100 years, and that there were three significant areas of urban development where the standard of protection fell well below a desirable level. These were at Northenden both north and south of the river and at Didsbury. The condition of the defences and the components of the Flood Control Scheme also varied; parts of the river banks had been rehabilitated in the 1980's, but others had not been treated and their condition was starting to deteriorate. At present the Agency carries out a regular and intensive maintenance regime over the length of river concerned, managing vegetation on the river banks and in the channel, removing accumulated silt and debris from the river banks and channel, carrying out repairs to the banks as necessary and maintaining the operational assets at the Flood Basins and other control structures.

The Flood Control Scheme, which comprises the Flood Basins at Didsbury and Sale Ees, as well as the Agency's flood warning system for this area, had experienced some operational difficulties during floods (eg. debris obstructing trash screens) although the condition of the operational structures and systems was generally found to be satisfactory.

The study concluded that flood defence improvements should be carried out at a number of sites to raise the standard of protection to that of a 100 year return period, and that in general the present level of maintenance activity on the river should be continued, with further investigation into alternative practices to assess whether these could offer environmental improvements. The scheme is now at the initial detailed design stage for the defence improvement works, with completion of contract documents programmed for the end of the summer 2000.

This Consultation Document has been produced to provide basic information on the proposed defence improvement works and to invite comments on their layout and form from Statutory Consultees. It is not intended to be a comprehensive technical report, however, further information on specific matters can be made available to consultees on request. Copies are also available to the general public in local libraries and at Agency offices at Sale and Warrington. In addition a Public Display will be held in February at Northenden and Didsbury (venues to be advertised in the local press) to present the Agency's proposals to the general public for their information and comment.

**Section 2** of this document details the areas affected by the scheme and the flood standards under existing conditions. **Section 3** lists the alternative options which were considered during the Feasibility Stage of the scheme. **Section 4** comprises the

ecological and other environmental issues relating to the scheme. **Section 5** details issues specific to the sites for proposed improvement works. Outline plans and typical cross-section details of the works have been included in **Figures 2-7**.

## 2.0 SCHEME DESCRIPTION

### 2.1 Flood-risk Site Locations

The areas where defence improvements have been identified as being necessary are situated where development has encroached onto the floodplain or where other construction activity on the floodplain in the past has altered flood patterns to bring marginal areas into the flood-risk area. The full list of developed areas affected is tabulated below. The return period at which floodwater begins to directly affect the properties is also shown (though there may be floodwater on local roads at lower return periods).

**Table 1 : Existing Areas at risk of flooding (below 100 year return period)**

Site name	Property at risk	Number of properties at risk	Onset of flooding (approx. return period - yrs.)
Heaton Mersey Industrial Estate	Industrial/ commercial	3	25
Didsbury (East of Kingsway)	Residential	200+	20
Didsbury (West of Kingsway)	Residential	19 approx.	45
Didsbury (West of Kingsway)	Residential (gardens)	40 approx.	19
Northenden	Residential/ Commercial	370+	5
Palatine Road	Residential/ Commercial	14	20
Beeches Mews	Residential	24	45
Northbank (Princess Parkway)	Residential	50	70

The majority of these areas comprise residential development, with the current standard of protection from flooding significantly below the indicative standard of 100 years as set out in the Ministry of Agriculture Food and Fisheries (MAFF) Guidelines. The exception is at Northbank, an area of housing adjacent to Princess Parkway, where the existing standard is approximately 70 years. It was found for this site that it was not cost-effective to carry out improvements sufficient to provide a 100 year standard of protection, and consequently this area has not been included within the scheme.

### 2.2 Defence Improvement Works

Under the preferred scheme, the proposed defence improvements comprise raising of existing defence banks or the provision of new defences where none exist at present. The scheme proposals are shown on **Figures 2 and 3**, and the sites are listed in **Table 2**. The Table also briefly describes the works at each site; more details, including defence heights, are given in **Section 5**. In general, new or raised earth banks will have side slopes of 1:2 or flatter and minimum crest widths of 2m, or 3m where alongside the river itself. Flood walls will be of reinforced concrete construction with brick facing where appropriate, or of brickwork if small in height.

Foundations for walls are generally planned to be reinforced concrete bases, or mass concrete strip footings for brick walls, although the supporting structures to the road ramp on Palatine Road, especially on the eastern side, may require piled foundations. Typical cross-sections of the proposed works are shown on Figures 4 to 7 for the various sites.

**Table 2 : Proposed Defence Improvements**

Site name	Description of Improvements	Figure refs.
Heaton Mersey Industrial Estate	Replace existing earth bank with flood wall to higher crest level within boundary of industrial unit.	3, 7
East Didsbury (East of Kingsway)	New flood bank and wall to north-east perimeter of playing fields (by Parrs Wood School) and alongside Wilmslow Road down to Cheadle Bridge. New flood wall, down access road behind Waterside Hotel alongside existing fenceline. Raise or reconstruct floodbank through woodland to higher crest level, using existing bank alignment where possible, up to Kingsway embankment.	3, 6, 7
East Didsbury (West of Kingsway)	Raise existing bank between Kingsway and railway, and adjacent to railway embankment on west side to new crest level. Raise crest to flood bank between railway and Flood Basin inlet by new flood wall on existing bank or by extending bank crest, with reworked rear slope to minimise land take.	2, 6
Northenden	Raise existing bank crest by local ground raising or by raised bank profile between Palatine Road and Tatton Arms. New flood wall to edge of car park at Tatton Arms. Raise footpath past Tatton Arms garden, with new wall and bank to provide tie-in to high ground behind Tatton Arms.	2, 4, 5
Beeches Mews	New flood wall and bank along west boundary of Fielden College behind maisonettes. Raise crest of existing floodbank by sheet piling faced with brickwork.	2, 4

### 3.0 ALTERNATIVES CONSIDERED

A number of options for improving the flood defence standards were considered as part of the Feasibility Study. All the options listed below were found to be either unsatisfactory in terms of the improvement in standards of protection and/or uneconomic to implement against the scale of potential benefit to be gained.

#### 3.1 Do Nothing

This would involve the cessation of all maintenance and future remedial or improvement works. Over time the defences would steadily degrade and the standard of protection would fall accordingly. This option is required to be considered to form a benchmark for undertaking scheme cost-benefit evaluations of the alternative options but has been rejected as a viable option in itself on grounds of public safety, economic and environmental factors.

#### 3.2 Do Minimum

This option comprises the minimum work necessary to maintain the existing standards of flood protection. Again, no improvements would be made. Existing levels of routine maintenance would continue, with an increasing level of reactive

repairs to the floodbanks expected over a period of time. Existing assets such as weirs or the Flood Basin structures would be repaired or replaced only as and when necessary.

### **3.3 Partial/Full Rehabilitation Options**

These options involve capital works to the floodbanks to reduce the risk of breaching during floods and to reduce long-term maintenance expenditure. This would be achieved through pro-active works including re-profiling bank slopes, provision of access berms, renewal of toe piling and reconstruction of bank crests. The works however would do little to raise standards of flood protection and so little direct economic benefit is gained. Reductions in the risk of bank failure through breaching were also found to generate little economic gain since this had little effect on the scale of flood damage that would result from such failures.

### **3.4 Increase of Flood Storage Facilities**

A site for a third flood basin was investigated, as an extension to the present Flood Control Scheme, but no suitable location was identified without major impacts on third party usage or was too far downstream to be of any use to the developed areas at risk. Similarly, modifications to the existing flood banks to other areas of the floodplain to alter the pattern of flooding so as to maximise the natural floodplain storage were found to have only minor benefits, especially under the more extreme flood events. This approach would also have had significant adverse impacts upon the users of these other floodplain areas. Alterations to the operation of Sale Ees Flood Basin such as lowering of the existing basin inlet river level thresholds were also proved to be ineffective. Accordingly none of these options were considered further.

### **3.5 Increase in River Channel Capacity**

The alternative of increasing the in-bank capacity of the River Mersey, by raising the river bank crest levels along the whole reach, would involve large-scale reconstruction, be very costly, and would pose significant problems in dealing with increased flows at Barfoot Aqueduct, where the river flows passing beneath the Aqueduct are constrained by the geometry of the bridge arch. This option is also contrary to the Agency policy of utilising natural floodplain storage during flood events, particularly in less critical areas which do not contain residential or commercial development (ie. playing fields, golf courses, open land).

## **4.0 ENVIRONMENTAL ASSESSMENT**

An Environmental Assessment of the proposed scheme is being prepared in accordance with the requirements of the Town & Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 Statutory Instrument 293, which implements the European Community (EC) Directive on the assessment of certain public and private projects on the environment (85/337/EEC). The information forming the basis of the Environmental Assessment is being derived from the results of a range of field studies, reviews of published and unpublished baseline data and consultation with key organisations. Particular consideration will be given to mitigation and enhancement measures, which can be implemented to alleviate the degree of impact of the various flood defence works. The issues outlined in Sections 4.1 to 4.11 are being considered as part of the design stage process.

#### 4.1 Archaeology & Cultural Heritage

A desk-based review has been undertaken to investigate the archaeological and cultural issues associated with the flood defence works. As part of this, the Greater Manchester Archaeological Unit (GMAU) has been contacted, and the Sites and Monuments Record consulted. The main archaeological issues raised have been in respect of Northenden and Sale Ees Weirs. Neither of these weirs will be directly affected by the works. However, construction works at Northenden and Withington may reveal archaeological evidence for medieval Northenden, and construction at Didsbury may reveal Neolithic and Roman remains. GMAU have recommended that a watching brief be implemented during any excavation works in these areas.

#### 4.2 Ecology

A survey of most of the proposed sites has been carried out by a fully experienced ecologist. The remaining sites will also be surveyed. A desk study of existing information has also been undertaken, as well as discussions with consultees e.g. the Mersey Valley Wardens. For most of the study area the uniform grass banks of the River Mersey support sparse tree/shrub cover and little marginal vegetation. The key ecological issues are outlined below. Site specific issues are discussed in more detail in **Section 5**.

The steep sided banks which are common along stretches of the river provide good nesting sites for sand martin colonies. Kingfishers are a Schedule 1 species (Wildlife and Countryside Act 1981) and are found along this stretch of the river. As such information is required on their nesting grounds in order to formulate designs which avoid impacting directly on these sites. One small area of willow wood adjacent to the river at the Waterside Hotel, Didsbury is covered by a block Tree Preservation order (TPO).

Himalayan Balsam and Japanese Knotweed, are abundant along much of the bank toe. These are both highly invasive species. Japanese Knotweed is listed under Schedule 9 of the Wildlife and Countryside Act 1981, and as such it is an offence to cause its spread. Treatment will be required prior to, during and after construction, with removal of all roots and aerial shoots to a licensed landfill. The Agency's current maintenance programme includes spraying of these species where encountered along the existing defences. Some sites, as noted in **Section 5**, where further stands have been recorded, are outwith the Agency's normal range and treatment in these areas would have to be by agreement with the relevant landowners.

#### 4.3 Land Use

A review of land use has been undertaken, including a review of the Manchester Unitary Development Plan, (adopted 1995). The main land use along the water front that will be affected by the works is residential. One small pocket of industrial land and one area of commercial usage stand to be protected by the proposed flood defence works. These are the Heaton Mersey Industrial Estate and the shopping area on Palatine Road in Northenden. Works are also proposed behind the Waterside Hotel at East Didsbury. Access to the Hotel and a designated footpath will need to be maintained.

#### 4.4 Landscape

The key Landscape effects being considered are:

- A reduction in the woodland and tree character of the river valley;
- An increase in the urban character at Wilmslow Road and Heaton Mersey.

The key visual impacts being considered are:

- An increase in the visual impact of the flood defences due to vegetation removal;
- An increase in the visual impacts on housing/buildings due to vegetation removal;
- Reduction in the wooded views from existing houses and flats;
- Increase of enclosure experienced by those walking along the River Mersey;
- Localised increase in enclosure of private properties.

Mitigation measures to reduce any visual impacts as a result of the flood defence works include the planting of replacement trees and shrubs where appropriate. All mitigation measures are subject to the maintenance standard requirements for the desired flood protection requirements and Environment Agency approvals.

#### 4.5 Geomorphology

A review of the geomorphology of the River Mersey has been undertaken. The Mersey has a highly modified catchment, which reflects the urbanised nature of the catchment. Extensive resectioning and embankment works have been undertaken resulting in the largely uniform appearance of the river channel. The river is thus of low geomorphological diversity and the flood defence works are likely to have a limited effect on the geomorphology. However, various enhancement techniques will be considered as part of the design of the flood defences. These include the creation of bars and berms through the use of rip rap and through the moderation of bed height and sediment size.

#### 4.6 Noise

It is anticipated that the impacts as a result of noise disturbance will be minimal, and will only be an issue during the construction phases. A brief noise survey may be required at sites near to residential properties (e.g. at Didsbury). Heavy equipment, excavators, HGVs etc., will be used during most of the construction period. Mitigation measures will be considered to reduce this additional noise pollution.

#### 4.7 Planning Context

The following plans will also be reviewed to ensure that all appropriate policies are considered during the design stage:

- Manchester Unitary Development Plan (MUDP) – Manchester City Council 1995;
- Mersey/Bollin Local Environment Agency Plan (LEAP) – Environment Agency 1999;
- Greater Manchester Flood Defence Strategy (ongoing);
- Policy and Practices for the Protection of Flood Plains – Environment Agency 1997.

#### 4.8 Recreation

The entire stretch of the River Mersey in this study area has significant importance in terms of recreational usage, particularly informal recreation along the flood banks such as walking, fishing, and cycling. A public footpath runs along the flood bank along virtually the entire study area. Part of this path (from the allotment gardens at West Didsbury to the study limits at the western end) forms a section of the Trans-Pennine Trail; and the floodbanks along all of the sites are classified as major recreational routes. The main water-based activity within the study area is canoeing. Fishing is limited but has been increasing due to improvements in water quality resulting in increased fish spawning.

Construction works are likely to result in the temporary restriction of access to sections of the flood banks. Opportunities for enhancement include the improvement of footpaths, provision of fishing platforms, and provision of portages for canoeists upstream and downstream of the Northenden and Sale Ees weirs.

#### 4.9 Traffic

Traffic impacts are likely to be minimal, except for works on Palatine Road and restricted to the construction phase. An assessment will be made of the likely impact of the flood defence works on the local traffic flows throughout the construction phase. Temporary traffic management measures will be put in place where necessary during construction.

#### 4.10 Water Quality & Fisheries

A desk-top review of water quality and fisheries has revealed that the River Mersey has some of the most polluted waters in England and Wales. Pollution sources include continuous discharges of poor quality effluent from sewage works and industrial plants. Run-off from farming, mining and waste disposal have also contributed to intermittent pollution problems. Water quality is, however, improving. Increases in fish populations and associated increases in sand martins and kingfishers along the river also indicate improved water quality. The water quality may be affected by construction works, especially where the disturbance of bottom sediments may occur as a result of piling works, or from dust and pollution from the works.

#### 4.11 Construction Impacts

Construction activities are likely to result in significant impacts at each of the proposed sites. These impacts will however be of a short term nature. Construction impacts are likely to be mainly in terms of noise, vibration, construction traffic, dust, surface run off, and restriction of access. Consideration will therefore be given to the methods of working, plant phasing, construction processes and the nature and quantity of materials to be used on site in order to reduce the potential for impact at design stage. Mitigation and good construction practice measures will be highlighted before construction starts. This may include habitat compensation where applicable. An Environmental Action Plan will be developed during the detailed design stage to ensure all construction works are carried out with minimal disturbance to local residents, businesses and the environment.

## 5.0 SITE SPECIFIC ISSUES

In addition to the issues raised in Section 4 which are of relevance to all improvements sites, there are a variety of site specific impacts which need to be considered as part of the environmental assessment. These are discussed in detail in the following paragraphs.

### 5.1 Beeches Mews

#### Works Summary

The proposed defence works (**Figure 2**) comprise:

- Raising the crest of the river-side floodbank by sheet piling faced in brick, by approx. 0.4m.
- A new floodbank and flood wall along the eastern perimeter of the Mews garden, within the Fielden College grounds, between 1-2m high.

#### Ecology

There is an area of important woodland to the south east of this site which is allocated for environmental improvement/protection under Policy DB25 of the MUDP.

#### Archaeology

There are currently no known archaeological sites near to the sections at Beeches Mews.

#### Recreation

The footpath which runs alongside this site is designated as a major recreational route under the MUDP as well as forming part of the Trans-Pennine Trail.

#### Landscape

It is likely that it will be necessary to remove approximately seven trees in order to undertake these works. Replacement trees and shrubs will be planted where appropriate to offset these losses.

#### Construction

Noise and vibration impacts are likely to be significant as a result of the proposed piling works, however they will be of short duration. Appropriate mitigating measures will be required during the construction phase to maintain any impacts within acceptable limits.

### 5.2 Northenden

#### Works Summary

The proposed defence works (**Figure 2**) comprise:

- Raising of ground levels locally by up to 0.3m in the area adjacent to Palatine Road bridge.
- Raising of the river bank crest by up to 1m approx. between Tatton Arms and the area mentioned above.
- A new flood wall along the perimeter of the pub car park, 1.1m high approx., tying into a raised length of the footpath between the car park and the Ford Lane caravan park.

- A new wall approx. 0.7m high along the pub garden side of the footpath, tying into a new floodbank up to 1.7m high at the eastern edge of the pub garden.

#### Ecology

The river face of the flood bank is closely mown along this section, with little riparian vegetation at the water's edge. There is a well-used footpath on the bank crest, and mature trees and scrub on the landward face. The trees are of some ecological value (sycamore, ash, crack willow) although the area is closely managed, with no semi-natural vegetation. There is a possibility of bat roosts in the mature willows.

A stand of Japanese Knotweed occurs at the boundary between the flood bank and the adjoining road. At present it appears to have been roughly cut, and with no further management is likely to spread. Active treatment is recommended as outlined in Section 4.2.

The proposed works may impact on a Conservation Area directly south of the river at Northenden. This area is designated as a Conservation Area by the MUDP.

#### Recreation

The footpath which runs along the bank where works are proposed is part of the Trans-Pennine Trail and is outlined in the plan as a major recreational route. The footpath in front of the proposed wall adjacent to the Tatton Arms' garden will be maintained. A ramp/access steps will be constructed in order to maintain access rights to the river and the steps to the footbridge over the river will be reworked. Part of the Conservation Area has been set aside for informal public open space, linked to the riverside, under Policy EW38 of the Mersey Valley Local Plan. Consideration will be given to the construction of landing stages for canoeists on the right bank of the river.

#### Archaeology

Northenden Weir is of considerable archaeological interest. Records of the weir are shown on the 1841 Tithe Award. The weir was probably constructed together with the mill and its leat which are shown on an estate map of 1641. These may also be referred to in a document circa 1530. A mill is recorded in Northenden as early as 1311, but its location is not certain. At the present time no capital works are scheduled on Northenden Weir, however adjacent flood defence construction works may reveal archaeological evidence for medieval Northenden. A watching brief is recommended during excavation works.

#### Landscape\Visual

It is likely that a total of nine trees will need to be removed to allow for construction of the wall and floodbank. Replacement trees and shrubs will be planted where appropriate to offset these losses.

### 5.3 East Didsbury

#### Works Summary

The proposed defence works (Figures 2 and 3) comprise:

- Raising of the crest of the existing river-side floodbank by up to approx. 1m, by a combination of crest raising, flood wall construction and other works to retain the raised bank, tying into the railway embankment at its eastern end.

- Raising of the crest of a short section of floodbank between the railway and Kingsway embankments.
- Raising the crest of an existing floodbank within woodland adjacent to the Kingsway embankment and reconstruction of the bank in the eastern part of the wood, up to 1.5m high approx.
- A new flood wall between 0.3 - 1.5m high along the boundary of the Waterside Hotel and the housing off Morningside Drive, on the Hotel side of the fence, including raising of part of the remnant of Broad Oak Lane between Morningside Drive and the Hotel car park, and of the access road to the Hotel by Cheadle Bridge.
- Construction of a 'shoulder' to the Wilmslow Road embankment to support a new flood wall, and diversion of a stream at the edge of the playing fields over a short length.
- A new floodbank and flood wall alongside the new access road to Parrs Wood School, between 0.3 - 1.3m high.

### Ecology

An area of woodland/scrub/damp grassland behind the flood bank at the western end of the section west of Kingsway (near the Flood Basin Inlet) represents the only area of semi-natural habitat in this particular location. A number of mature trees (<20m in height) occur on the landward face and crest of the flood bank in the middle and eastern end of the bank (towards the railway). These are generally of low value (sycamore, leylandii, ash) and may be removed. At present they are likely to represent a risk to the stability of the flood bank.

The presence of water voles in riverbanks is an issue of significance in relation to flood defence works. However, following a thorough search for burrows, none were found. The habitat is generally unsuitable due to the absence of riparian vegetation at the channel edge.

It should also be noted that two sets of steps have been 'dug' into the upper level of the flood defence bank and some garden boundaries extended onto the bank, presumably by the owners of adjacent properties. This is a breach of flood defence bye-laws, under which consent is required from the Agency, and it is planned that these extensions and features be removed as part of the improvement works.

Immediately east of Kingsway the defence lies within an area of damp willow woodland. This is covered by a block TPO. Crack willow (*S. Fragilis*) is the dominant tree species, with common osier (*S. Viminalis*) and ash (*F. Excelsiore*). There is substantial standing and ground deadwood providing invertebrate habitat. Bank raising would inevitably involve some degree of woodland destruction, however, a 10m wide line through the woodland involving the minimum loss of willow stools should be achievable. This would have to be carefully plotted through the sections of least value.

This wooded area has a very high conservation value owing to the special wet woodland habitat. Mature trees may contain bat roosts, and a specialist survey should be carried out in the Spring. Himalayan Balsam and Japanese Knotweed are also present in this woodland and treatment is proposed as outlined in Section 4.2.

To the east of the woodland the defence follows the back of private gardens. There are no ecological issues associated with this particular area.

On the eastern side of Wilmslow Road the proposed defence coincides with a line of trees along the roadside. Construction of a new floodbank and wall along the side of the road will result in the loss of a number of trees on the slope of the embankment which will have a visual impact on residential properties on the opposite side of the road. However appropriate planting of new trees and shrubs will reduce the long term impacts.

A small stream runs along the foot of the road embankment, adjacent to the playing fields of Parrs Wood School. There is very little flow in the stream, which appears to be polluted. Building material from the adjoining construction site and contractors' compound has been deposited in the stream, further impeding the flow. A small stand of fennel pondweed (*Potamogeton pectinatus*), was noted in the stream. However, as the channel was largely inaccessible identification was not confirmed. Construction of the new floodbank would require diversion of the stream over a relatively short length, which is unlikely to have a significant impact upon the stream. The potential for enhancement works to the diversion will be examined during the detailed design.

#### Recreation

A public footpath runs along the river banks from Wilmslow Road to the Kingsway Railway Viaduct along this section of the river, and is defined within the MUDP as a major recreational route. The public footpath throughout the willow wood between the Kingsway and the Waterside Hotel is subject to a Section 106 agreement between Manchester City Council and the Hotel owners. As a result of this, the existing alignment of the footpath must be maintained. It is not yet confirmed whether the footpath has been properly maintained. This could be managed by constructing the new flood bank along the existing line of the footpath and relaying the footpath along the bank crest.

#### Archaeology

The Sites and Monuments Record indicates that close to the river between the Wilmslow Road and the Kingsway bridges, there is a 17th century timber framed hall site, a Neolithic axe find and several Roman coins from the Barnes Hospital/Red Rock area. It is possible that there was a crossing point or settlement at the river in this area. The new defence sections involving construction of a wall or bank may impinge on archaeological deposits or artefacts both between the bridges and north of the east side of the Wilmslow Road bridge (GMAU November 1999). GMAU have recommended that a watching brief be put in place during excavation works.

#### Landscape\Visual

It is likely that a number of trees will need to be removed from the embankment slope alongside Wilmslow Road to allow for widening of the embankment and construction of the flood wall. The larger trees at the crest of the slope and the screen of vegetation on the fenceline would be retained as far as possible, but there would still be a partial loss of the overall treescape as viewed from the houses opposite. Replacement trees and shrubs will be planted where appropriate to offset these losses.

The removal of some trees within the area of wet willow woodland near Kingsway would have a lesser overall impact on the visual nature of that area, provided that

these are carefully selected. The new works will be aligned where possible to enable this to be achieved.

#### **5.4 Heaton Mersey Industrial Estate**

##### **Works Summary**

The proposed defence works (**Figure 3**) comprise:

- Removal of the existing earth flood bank
- Construction of a new flood wall behind the existing industrial unit, up to 1.3m high.

##### **Ecology**

This site includes a line of large mature willow to the west of the footpath adjacent to the industrial estate and a very large, mature horse chestnut at the southern end. The willow number 11 individuals each of high conservation value owing to their age and stature. Many bear torn limb scars, minor deadwood and small cavities and cracks which add to their value as habitat for invertebrates and birds/small mammals.

Building a defence wall adjacent to the trees will require special mitigation to avoid damage to essential surface root systems which are likely to be affected by excavation and construction of the wall.

##### **Archaeology**

There are no known archaeological sites in close proximity to this site.

##### **Recreation**

The flood bank runs alongside a footpath at the western boundary of the industrial estate leading to the river. Restriction of access is a likely, albeit temporary, impact of the construction works. The footpath also borders a recreation ground. Access to this site may also be temporarily affected by the works and a localised diversion may be required.

## 6.0 RESPONSES & FURTHER CONSULTATION

This Consultation Document has been set out to provide an overview of the proposed scheme and the associated environmental investigations which are being undertaken. A list of the consultees to whom this document has been circulated is included in **Appendix A**. Copies have also been made available in local libraries and at Agency offices for public viewing (as noted in **Appendix A**).

If further details are required, the Agency's Consultant Engineers should be contacted at the address below.

Scott Wilson Kirkpatrick & Co Ltd., Bayheath House, Rose Hill West, Chesterfield, S40 1JF. Tel: 01246 209 221 Fax: 01246 210 349. Contacts: Chris Broome, Tim Dawe.

Comments on the scheme proposals or the environmental assessment are welcomed, and these should be made initially using the form included in **Appendix B**. Any comments should be addressed in the first instance to Scott Wilson as above, or to the Agency at :

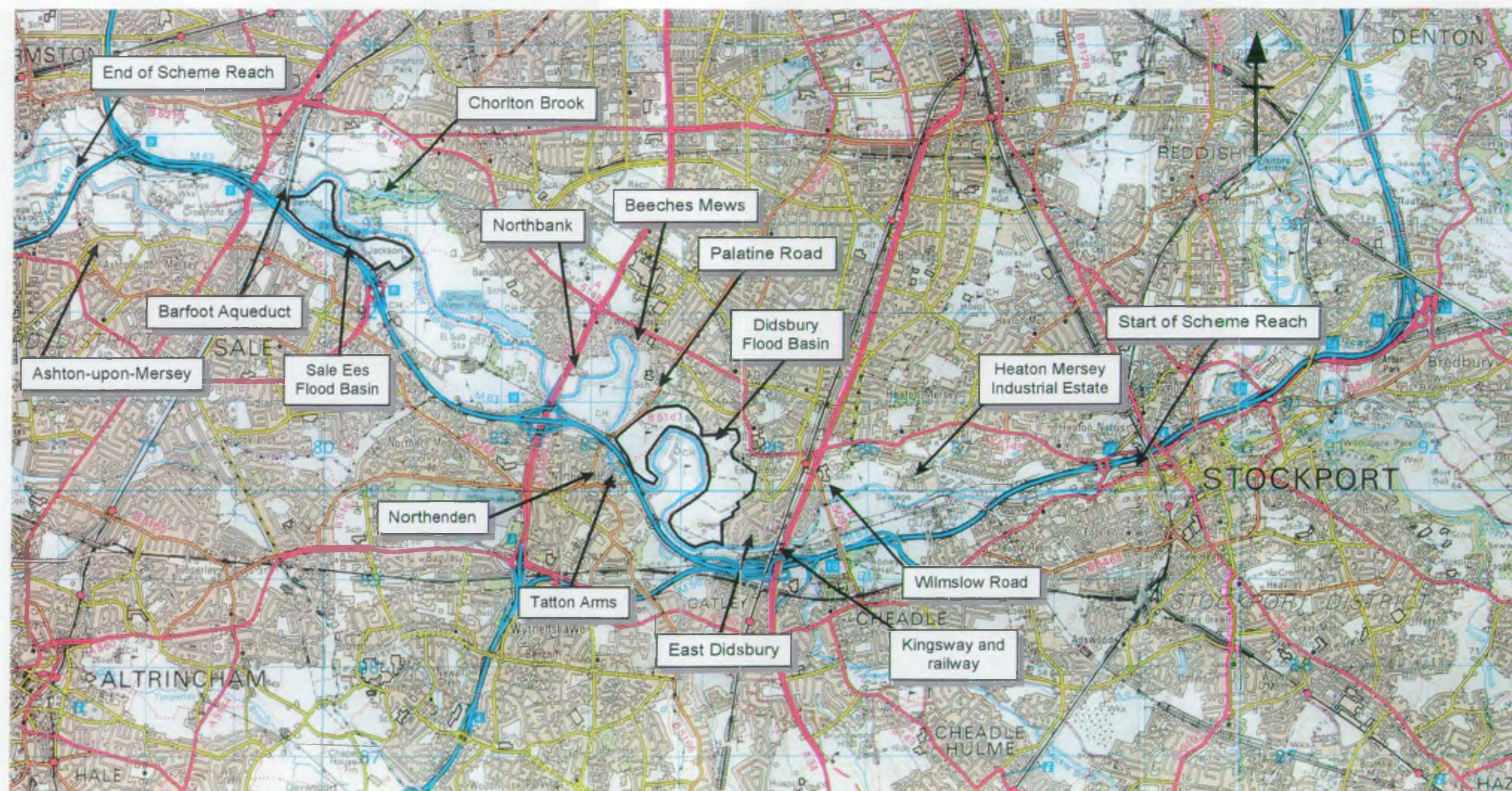
The Environment Agency, North West Region, Richard Fairclough House, Knutsford Road, Warrington, WA4 1HG Tel : 01925 653 999 Fax : 01925 230 776. Contact : Mike Maddocks.

As noted earlier in the document, Public Displays are planned for February in Northenden and Didsbury to present the scheme proposals to the general public. The dates and venues for these will be advertised in the local press nearer the time. Feedback from the circulation of this document or the displays will be taken into account prior to the commencement of the next stage of the design process.

Responses to the scheme proposals should be returned by 21 February 2000.

## FIGURES

Figure 1	Scheme Location Plan
Figure 2	Beeches Mews, Northenden & Didsbury (East) Preferred Scheme
Figure 3	Didsbury (East) & Heaton Mersey Preferred Scheme
Figure 4	Typical Sections Sht. 1
Figure 5	Typical Sections Sht. 2
Figure 6	Typical Sections Sht. 3
Figure 7	Typical Sections Sht. 4



ENVIRONMENT AGENCY

# River Mersey Flood Alleviation Scheme

Consultation Document

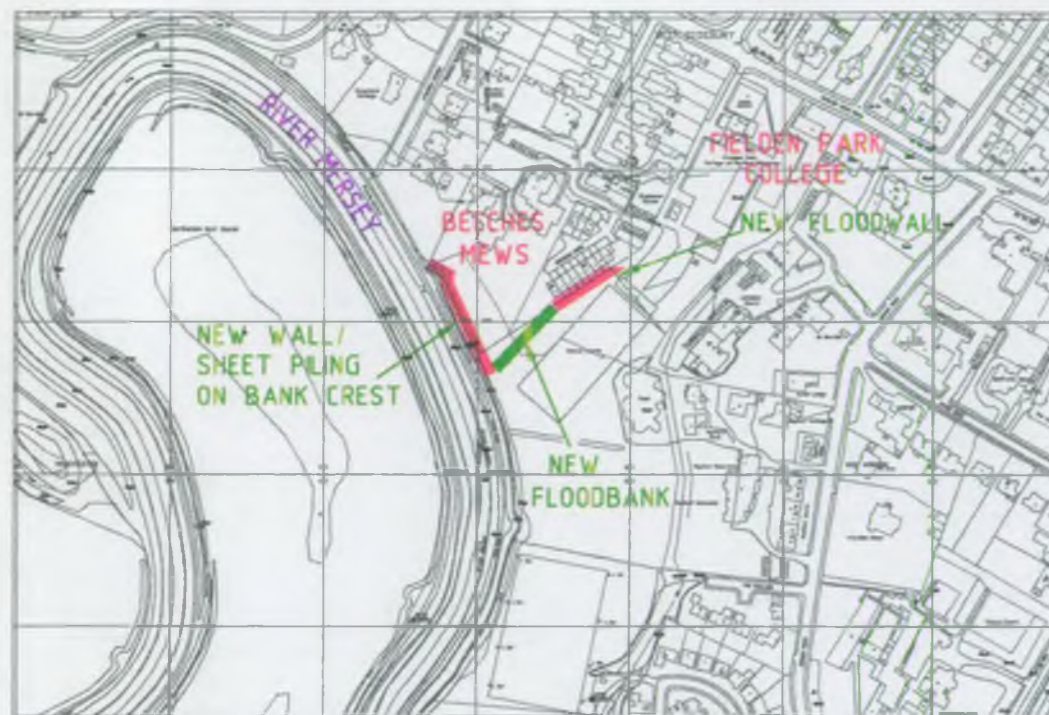
Location Plan

FIGURE 1

SCALE 1:50,000

Drg	NP	Appd	CPB	Revised
Chk	TD	Date	11/98	Date

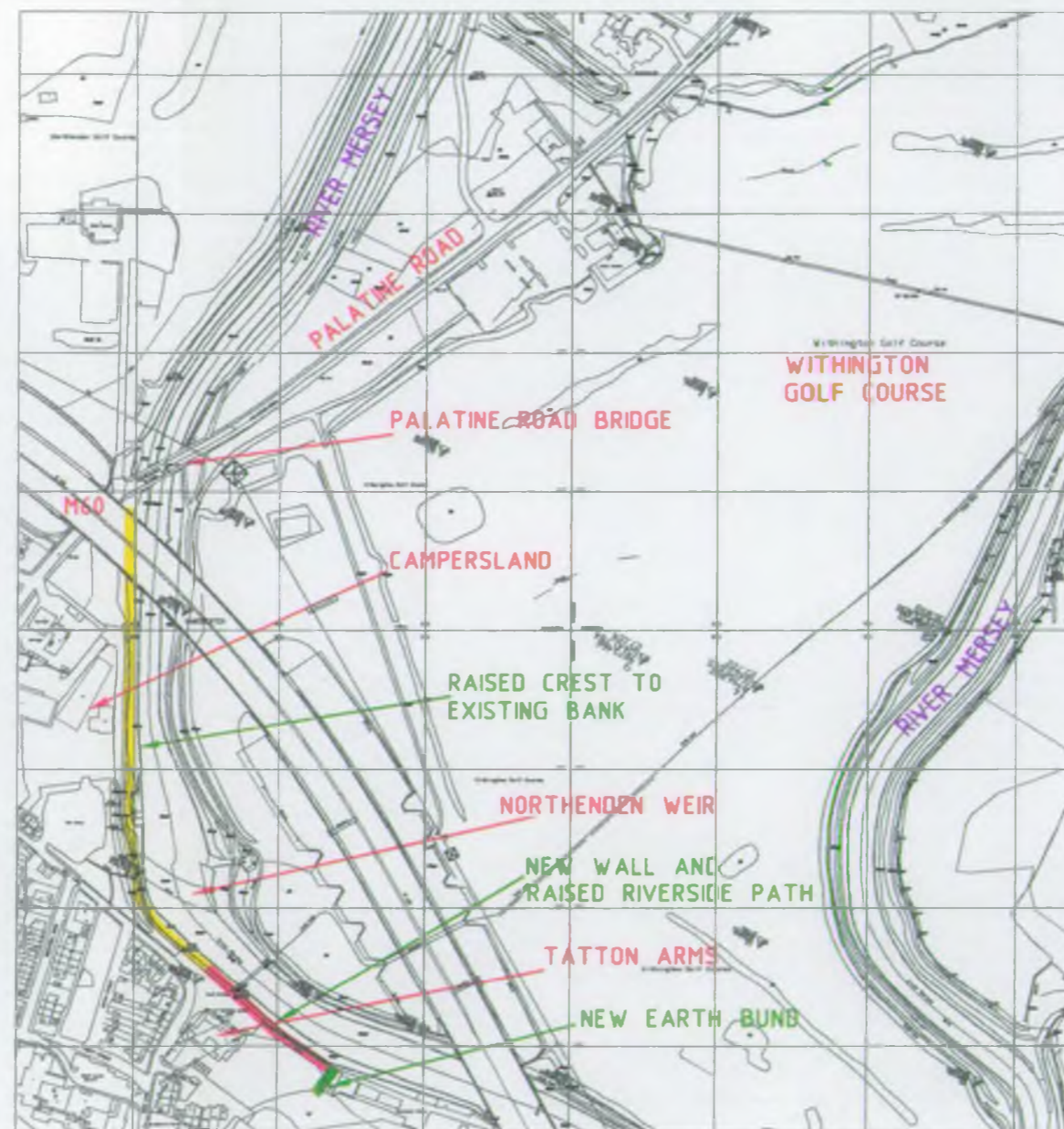
Scott  
Wilson



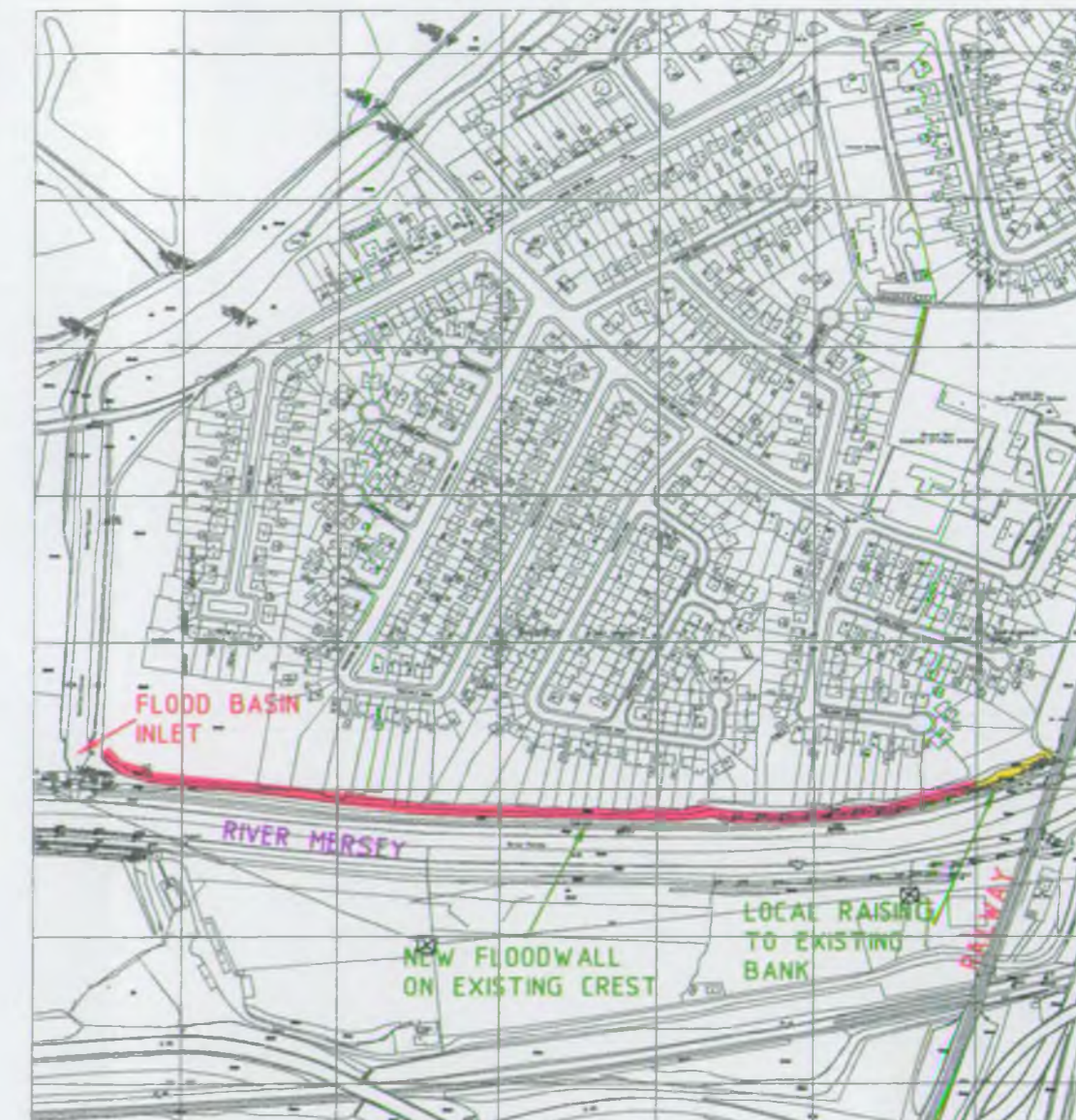
BEECHES MEWS

KEY

- BANK RAISING
- NEW DEFENCE: WALL
- NEW DEFENCE: BANK

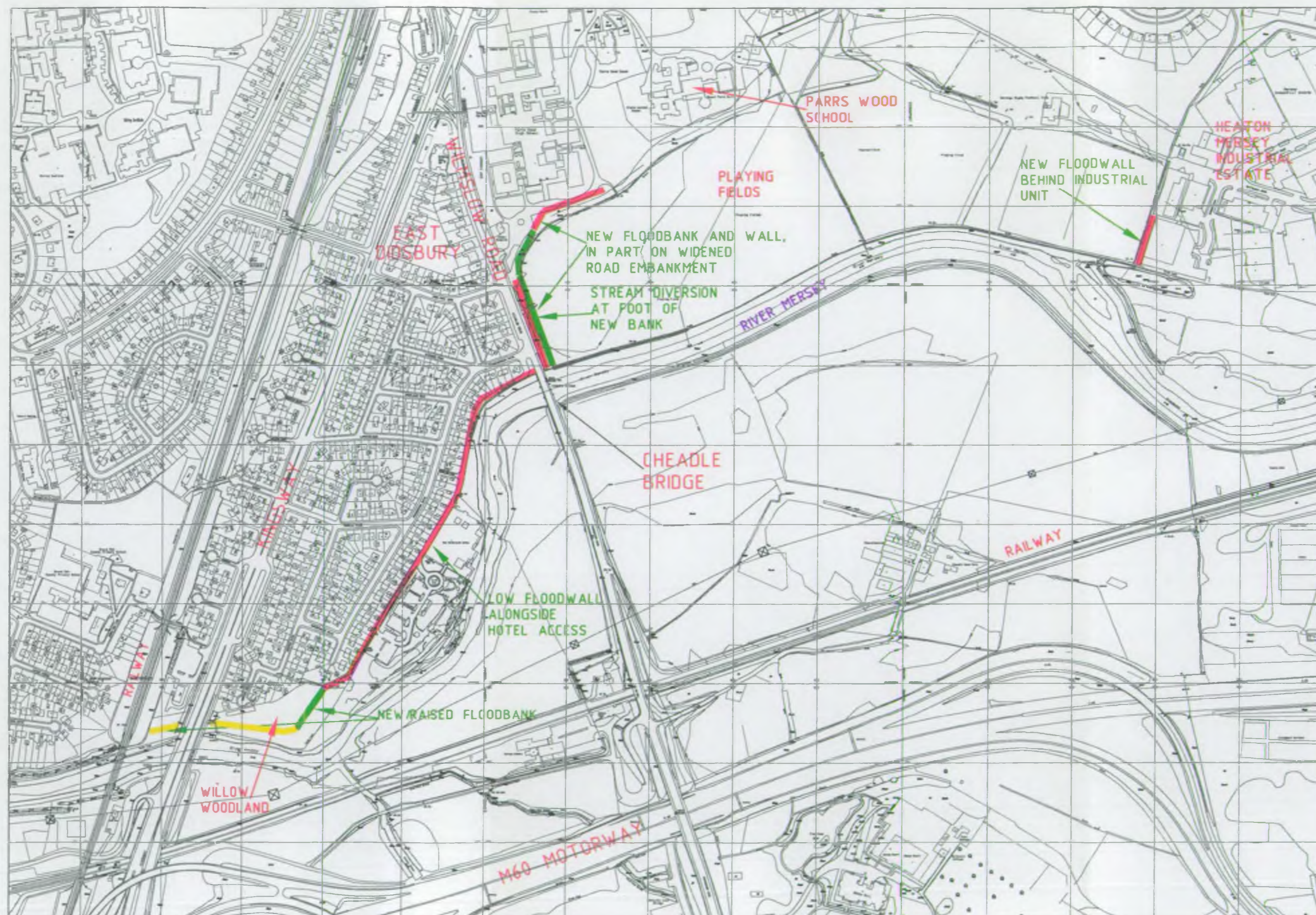


NORTHENDEN



DIDSBURY (WEST OF KINGSWAY)





# KEY

- BANK RAISING
- NEW DEFENCE: WALL
- NEW DEFENCE: BANK

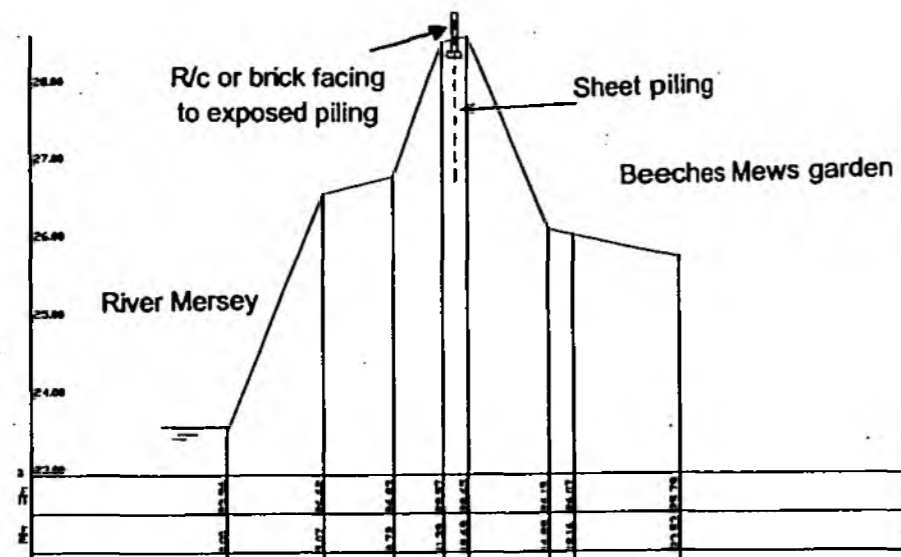


FIGURE 3

Scale	1:5000		
Drawn	DM	Approved	Revised
Checked	TD	Date	Date

RIVER MERSEY  
FLOOD ALLEVIATION SCHEME

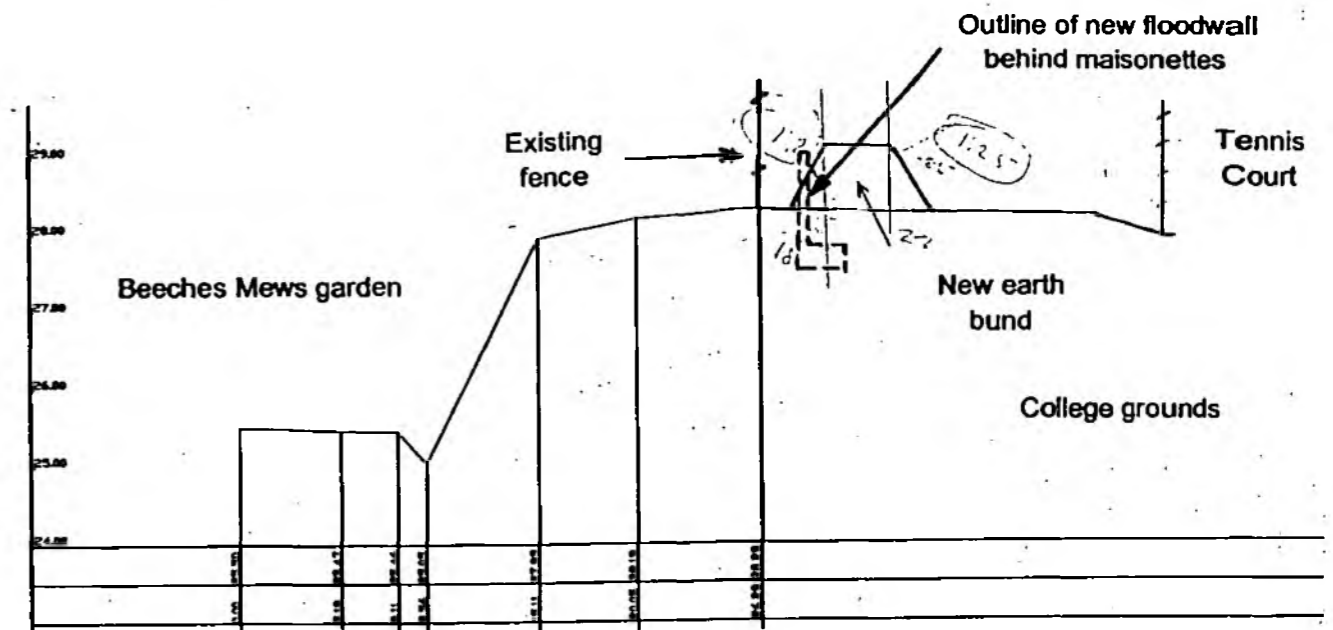
CONSULTATION DOCUMENT  
DIDSBURY (EAST) AND HEATON MERSEY  
PREFERRED SCHEME



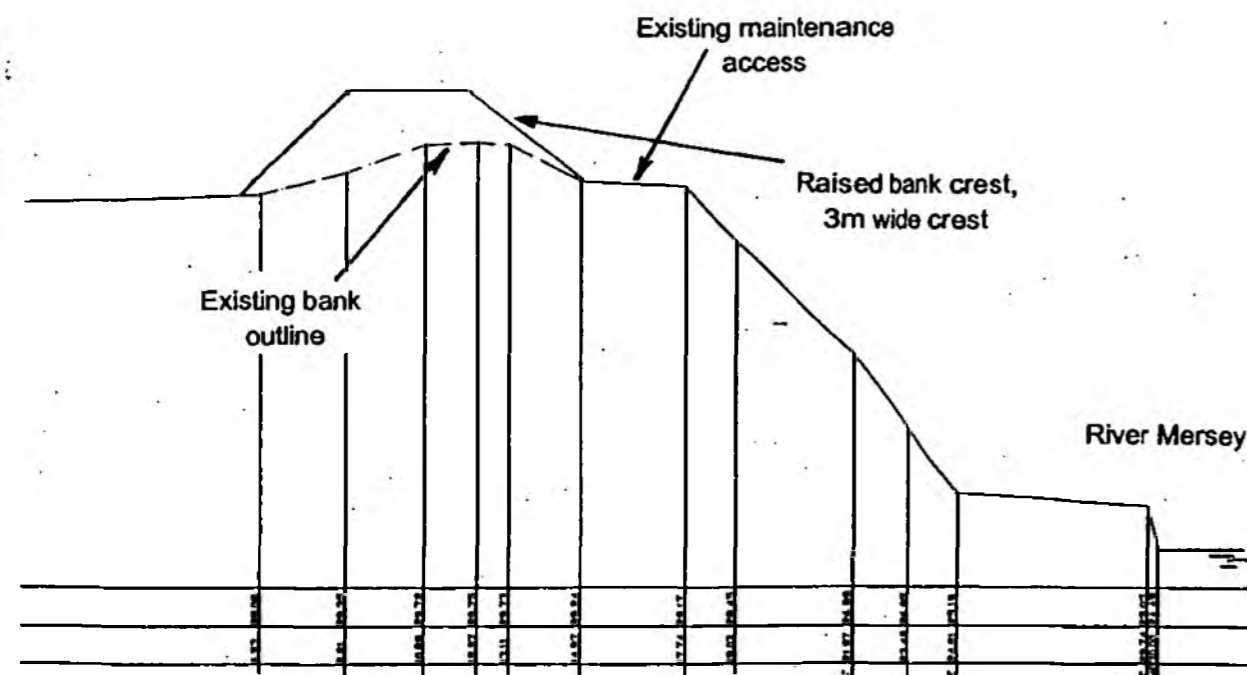
Section through floodbank in front of Beeches Mews  
(1 : 400H)

**Notes:**

- 1: Note that scales are distorted.
- 2: The two rows of figures show horizontal chainage (upper) and vertical level (lower) in m and mAOD respectively.



Typical section on new floodbank at Beeches Mews (inside College boundary)  
(1 : 400H)



Typical section of raised bank between Tatton Arms and Campersland,  
Northenden



ENVIRONMENT AGENCY

# RIVER MERSEY FLOOD ALLEVIATION SCHEME

Drawing Title

Consultation Document

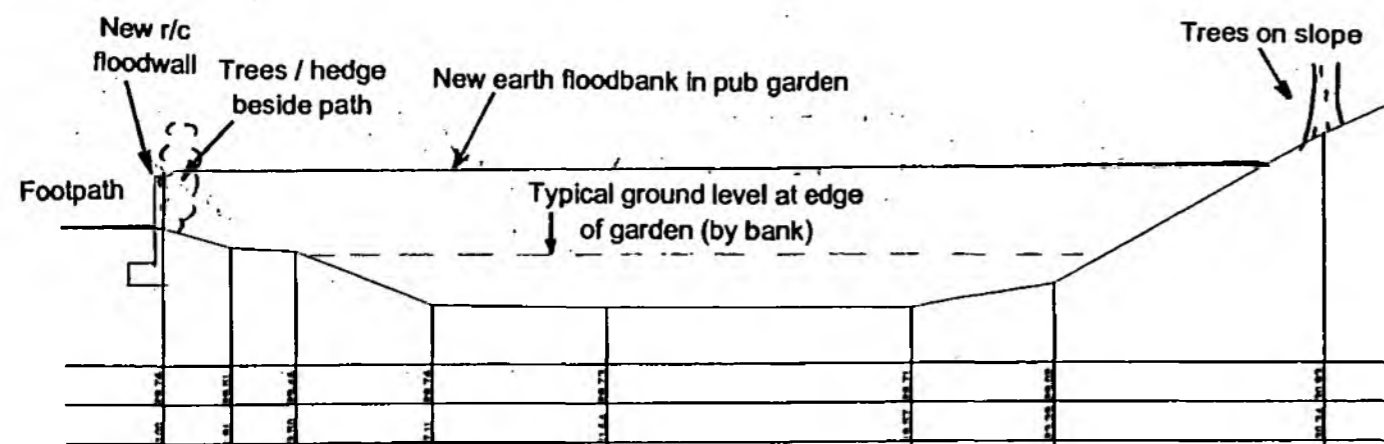
Typical Sections Sheet 1

## Figure 4

Scale : 1:200 or 400H, 1:100V

Drawn <i>TD</i>	Approved	Revised
Checked <i>AVT</i>	Date	Date

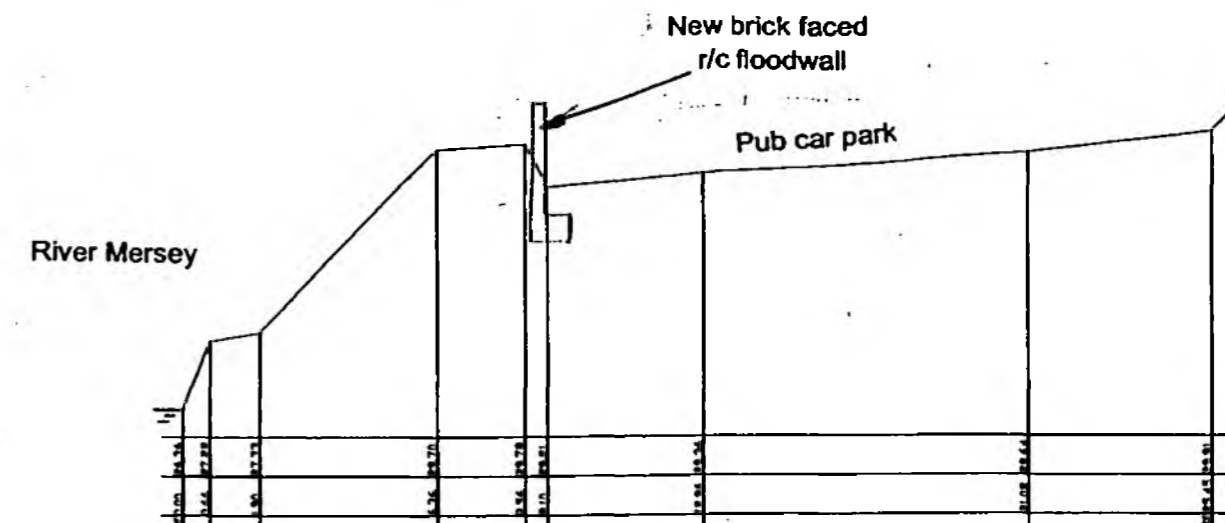




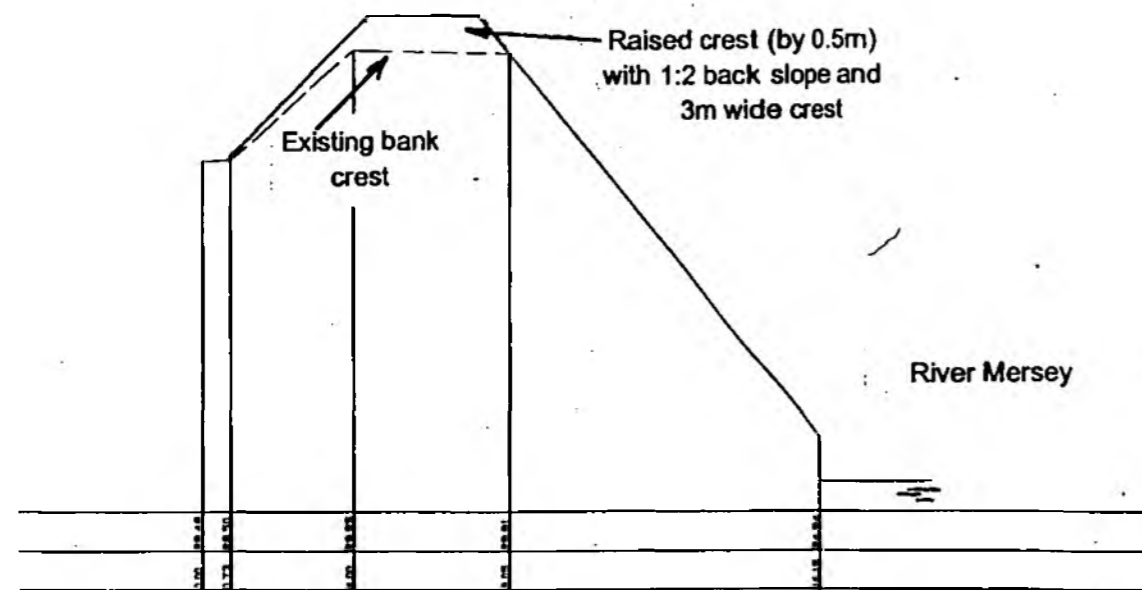
Elevation view on new floodbank in Tatton Arms garden (from pub side)

**Notes:**

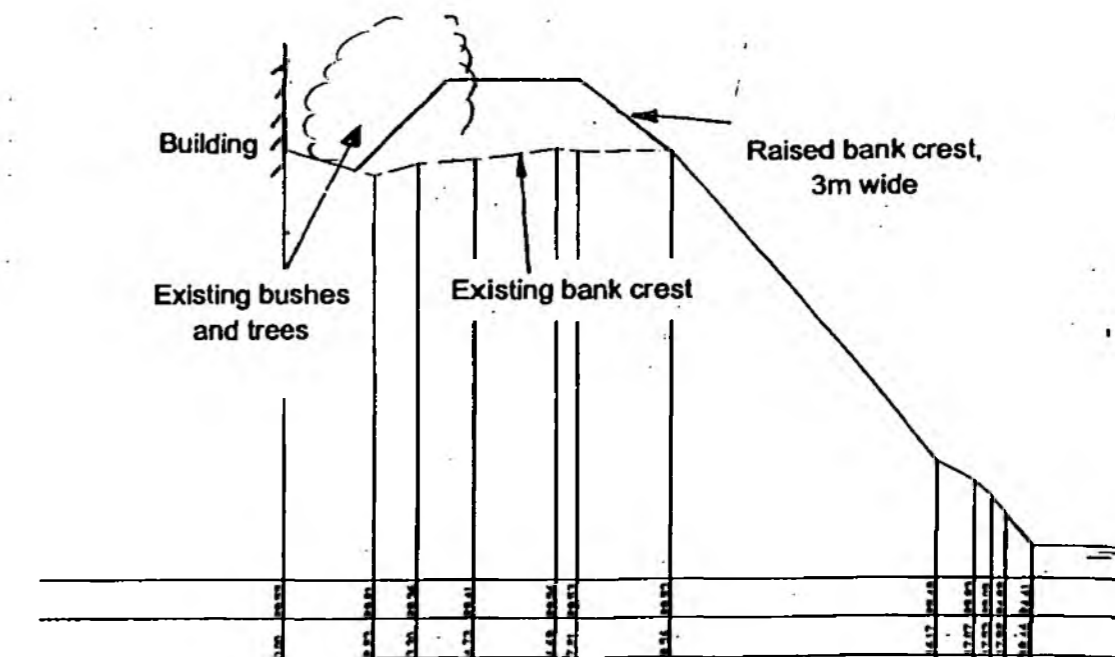
- 1: Note that scales are distorted.
- 2: The two rows of figures show horizontal chainage (upper) and vertical level (lower) in m and mAOD respectively.



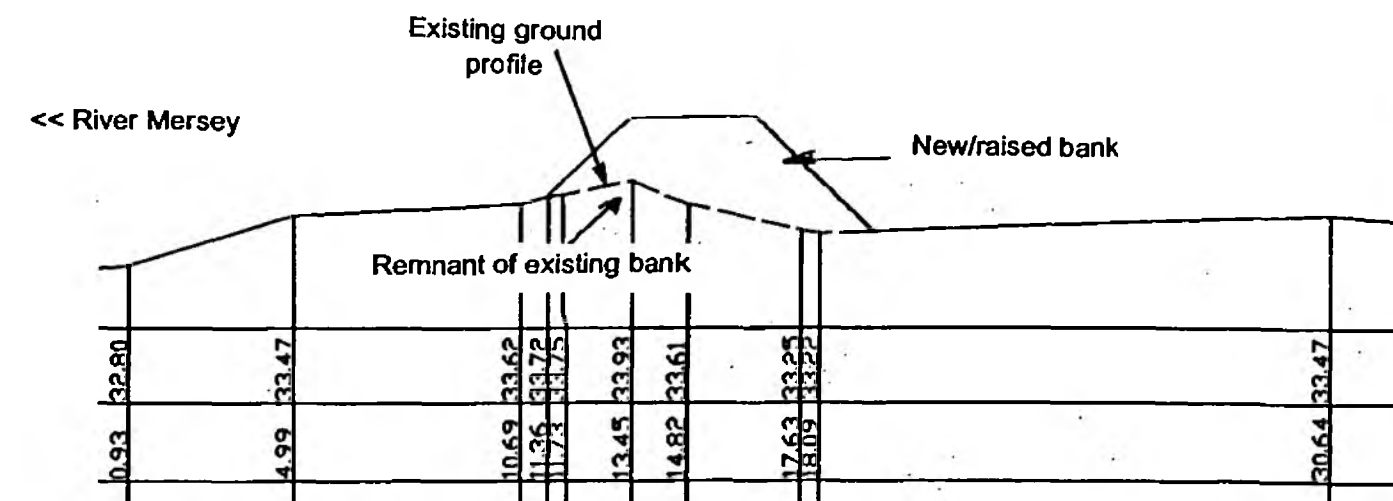
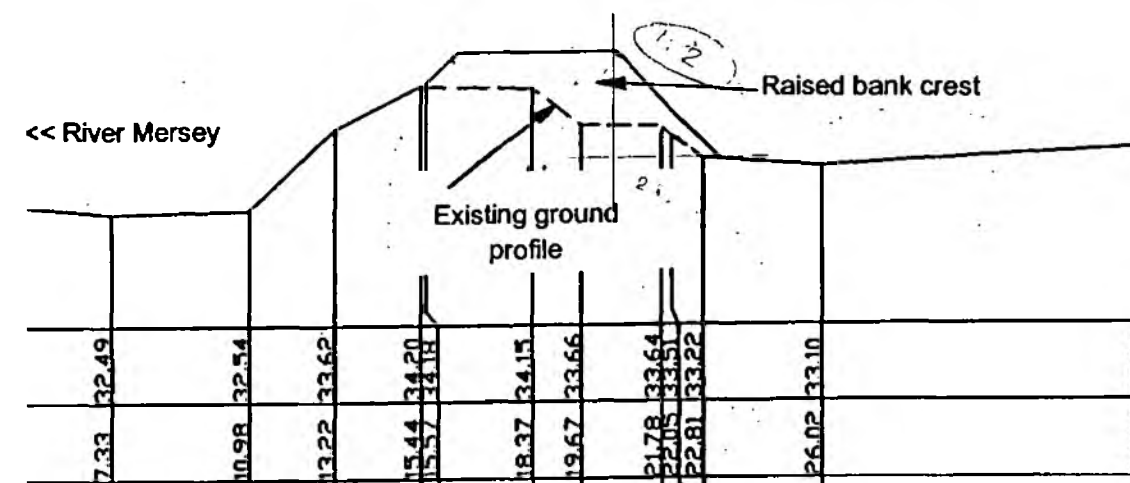
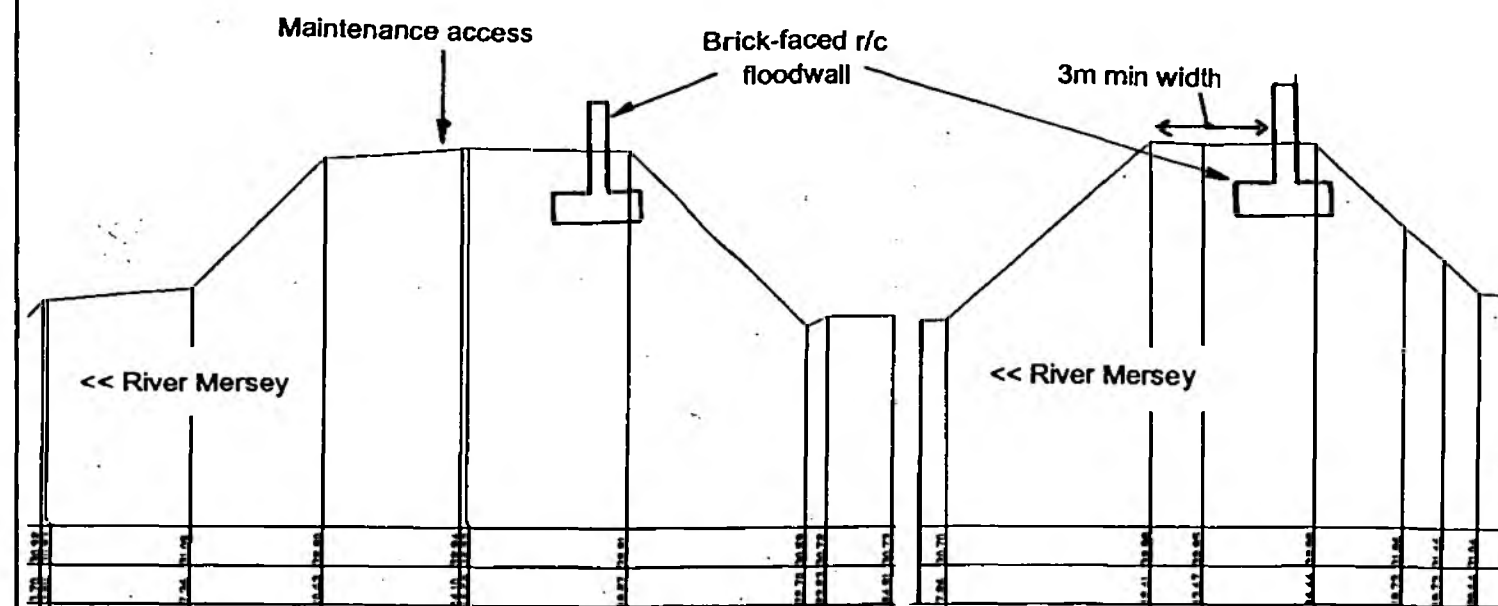
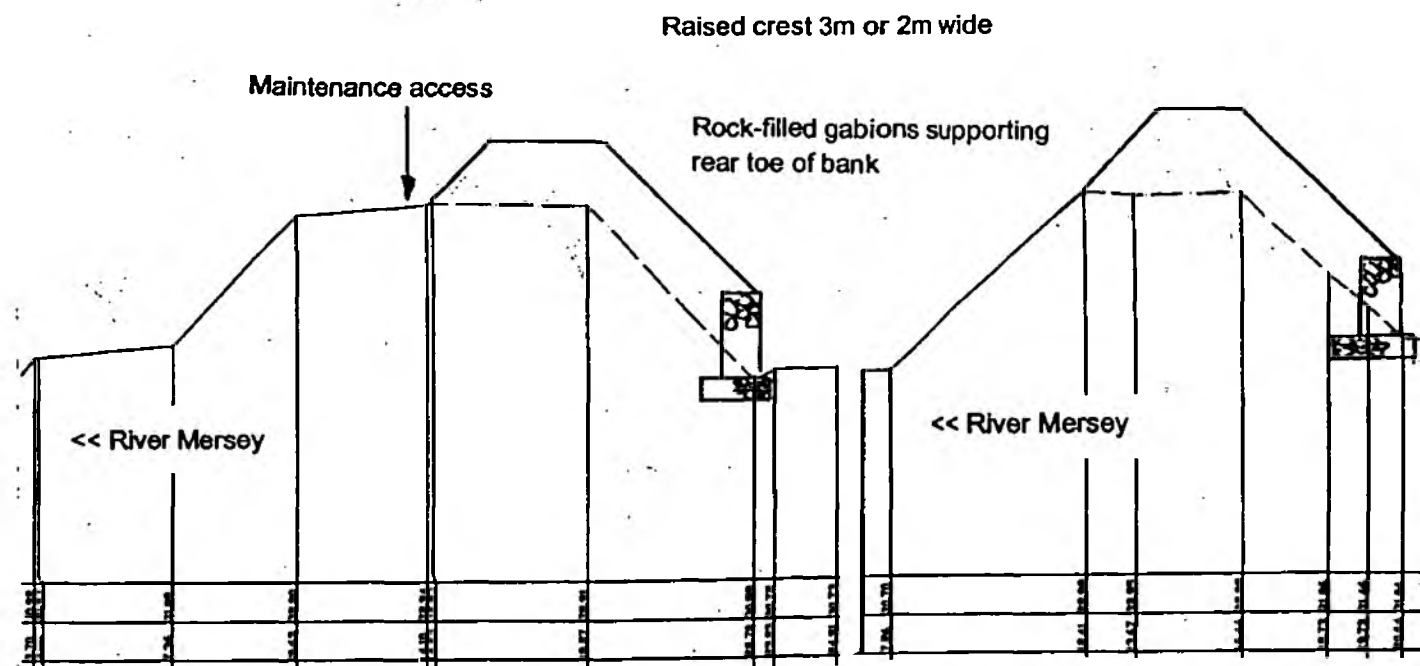
Typical section of floodwall at the edge of Tatton Arms car park



Typical section of raised bank at north end of Campersland, Northenden



Typical section of raised bank alongside Campersland, Northenden



Notes:

1: Note that scales are distorted.

2: The two rows of figures show horizontal chainage (upper) and vertical level (lower) in m and mAOD respectively.



## RIVER MERSEY FLOOD ALLEVIATION SCHEME

Drawing Title

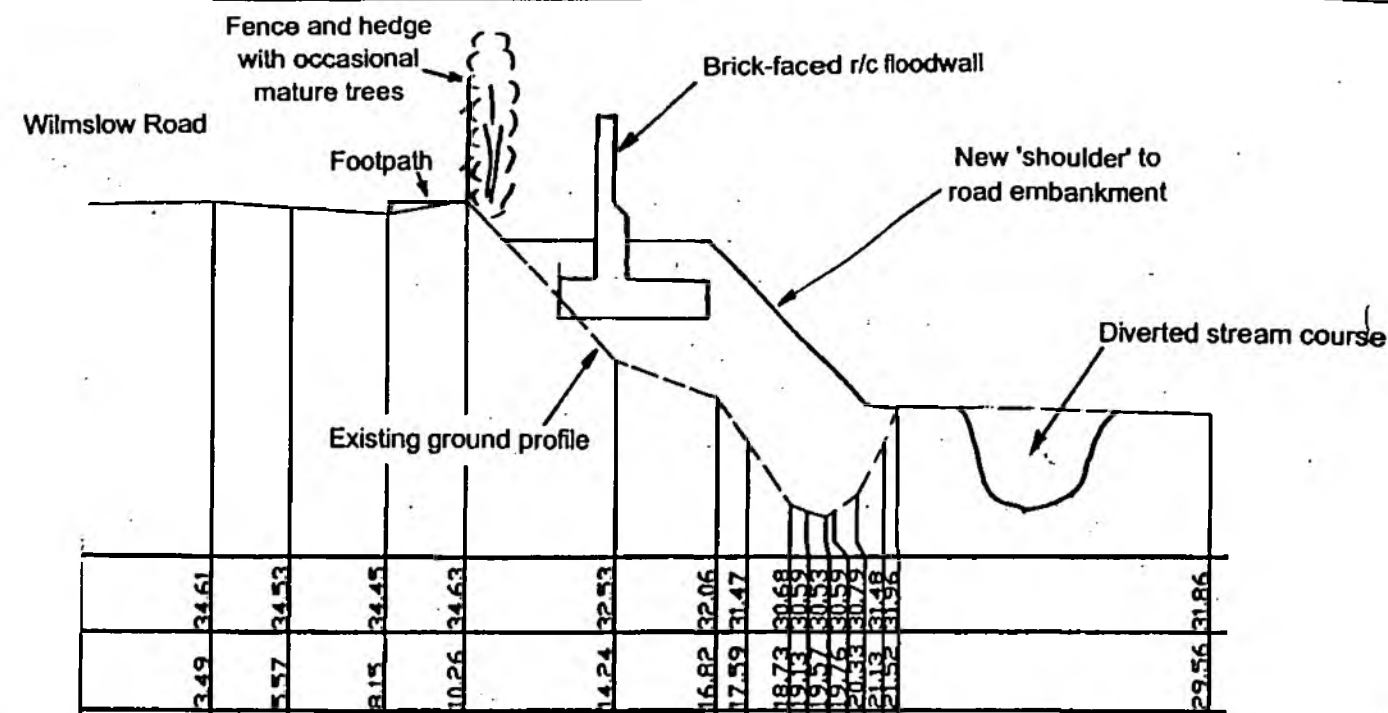
Consultation Document  
Typical Sections Sheet 3

Figure 6

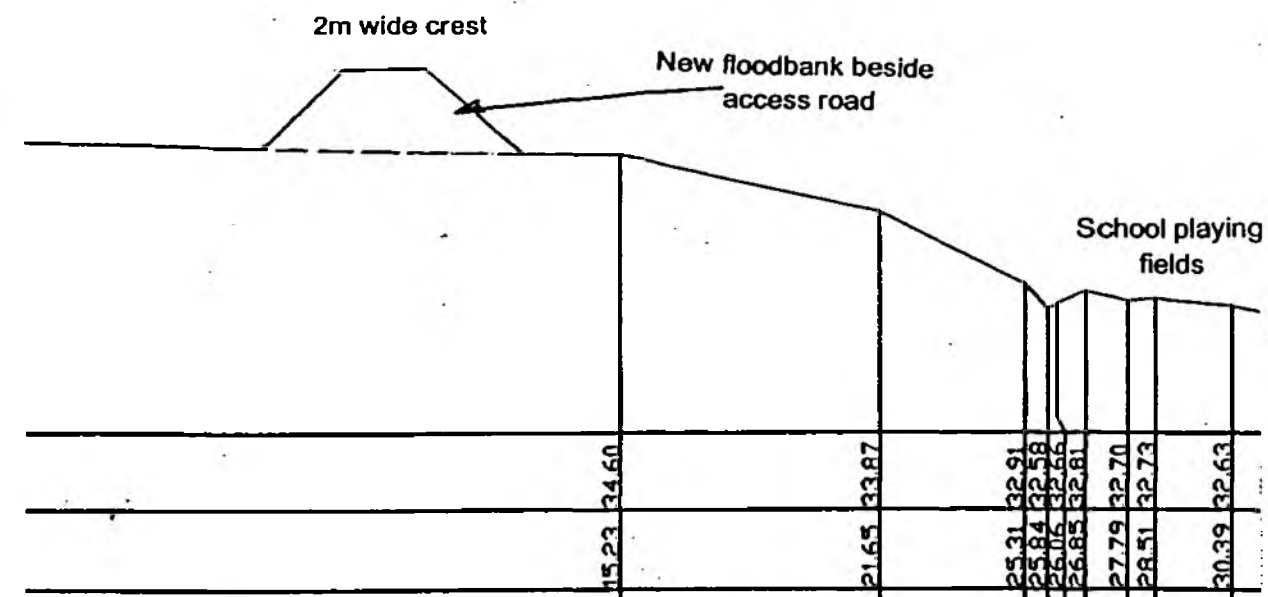
Scale : 1:200H, 1:100V

Drawn	Approved	Revised
TD		
Checked	Date	Date
AK		

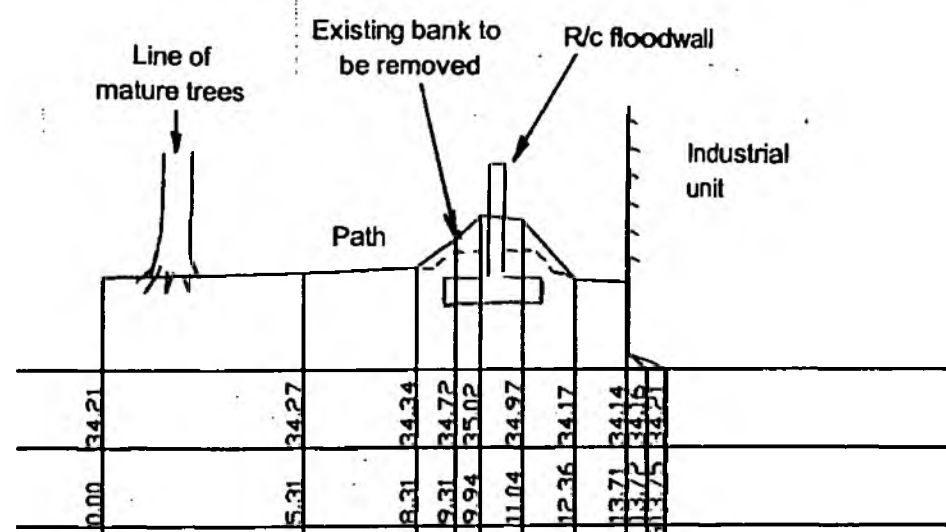




Typical section of widened embankment and new floodwall alongside Wilmslow Road



Typical section of new flood bank alongside access road to Parrs Wood School



Typical section of new floodwall at Heaton Mersey Industrial Estate

**Notes:**

- 1: Note that scales are distorted.
- 2: The two rows of figures show horizontal chainage (upper) and vertical level (lower) in m and mAOD respectively.

**APPENDIX A**  
**CONSULTATION LISTING**

## **CONSULTATION LISTING**

### **Key Consultees : Consultation Document circulation list**

- BG Transco
- British Canoe Union
- British Telecom
- Countryside Commission
- English Nature
- English Heritage
- GM Archaeological Unit
- GM Ecology Unit
- Manchester City Council (Planning)
- Manchester Ship Canal
- Manchester City Council (Highways)
- Mersey Valley Wardens
- Ministry of Agriculture Food and Fisheries
- National Grid
- Norweb
- North West Water
- Stockport Metropolitan Borough Council (Planning)
- Trafford Metropolitan Borough Council (Planning)

**Other Consultees : notified of Document's presence at Northenden and Didsbury libraries and at Environment Agency offices at "Mirwell", Carrington Lane, Sale and at Richard Fairclough House, Knutsford Road, Warrington.**

- Cheshire Badger Group
- Cheshire Bird Recorder
- Cheshire Butterfly Recorder
- Cheshire Dragonfly Recorder
- Cheshire Moth Recorder
- Cheshire Plant Recorder
- Cheshire Wildlife Trust
- GM PTE
- Levenshulme Anglers
- Manchester Wildlife Trust
- Mersey Forest
- Merseyside Naturalist Society
- Northenden Civic Society
- Red Rose Community Forest
- RSPB
- Salford & Trafford Groundwork Trust
- Trafford Canoe Club
- Wirral and Cheshire Bat Group

**APPENDIX B**  
**RESPONSES FORM**

**River Mersey Flood Alleviation Scheme  
Consultation Document Response Form**

**Authority/Organisation:**

**Address:**

**Contact:**

**Tel:**

**Fax:**

**E-mail:**

**Site(s) or Aspects of Interest:**

**Other interested parties not named in Appendix A:**

**Local information you may have which may be useful to the scheme:**

**Comments / Concerns:**

**I would like to receive further details on the following issues:**

Please continue your comments on additional sheets if appropriate. Please return your comments to :

Scott Wilson Kirkpatrick, Bayheath House, Rose Hill West, Chesterfield, S40 1JF, fao C Broome, or via fax 01246 210 349, or via e-mail to [chris.broorne@swkeurope.com](mailto:chris.broorne@swkeurope.com)