

# Public Perception of Rivers and Flood Defence:

## Flooding and Flood Defences in York

Flood Hazard Research Centre

R&D Project Record 345/2/T



**NRA**

*National Rivers Authority*



# Public Perception of Rivers and Flood Defence:

## Flooding and Flood Defences in York

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This Project Record contains a full account of project 345. The essential findings of the research are documented in R&D Note 213.

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## SUMMARY

The York Research and Development Project forms an extension to a collaborative research project (Operational Investigation) between the National Rivers Authority (NRA) Thames Region and the Middlesex University Flood Hazard Research Centre (FHRC) on the public perception of rivers and flood defence. The project extended over two years and covered both qualitative and quantitative research methods. The study was also the first attempt at a post project appraisal on the public perception of four of the York schemes.

One of the specific objectives of the study was to allow comparison to be made, where legitimately possible, between the York R&D Project and the Thames Region OI studies, which comprise catchments of differing features and deal with flood defences of varying characteristics. It is hoped that the findings will prove to be broadly applicable to other NRA regions.

Differences in attitudes and perceptions were observed regarding flood experience, flood risk and satisfaction with schemes between respondents in the York and Thames Regions. Results indicate that the perception of the level of flood risk among York respondents has been reduced since the flood defences have been completed and that York respondents see the likelihood of future flooding lower (in some cases considerably lower) than respondents in some of the Thames Region studies, who remained unconvinced of a flood risk in their areas.

Although the findings for individual schemes were varied, the results generally revealed positive attitudes regarding the individual schemes that have been constructed and covered in the study, as well as satisfaction with the flood defences generally. York respondents showed the highest percentages who felt that the level of flood protection afforded by their schemes was satisfactory.

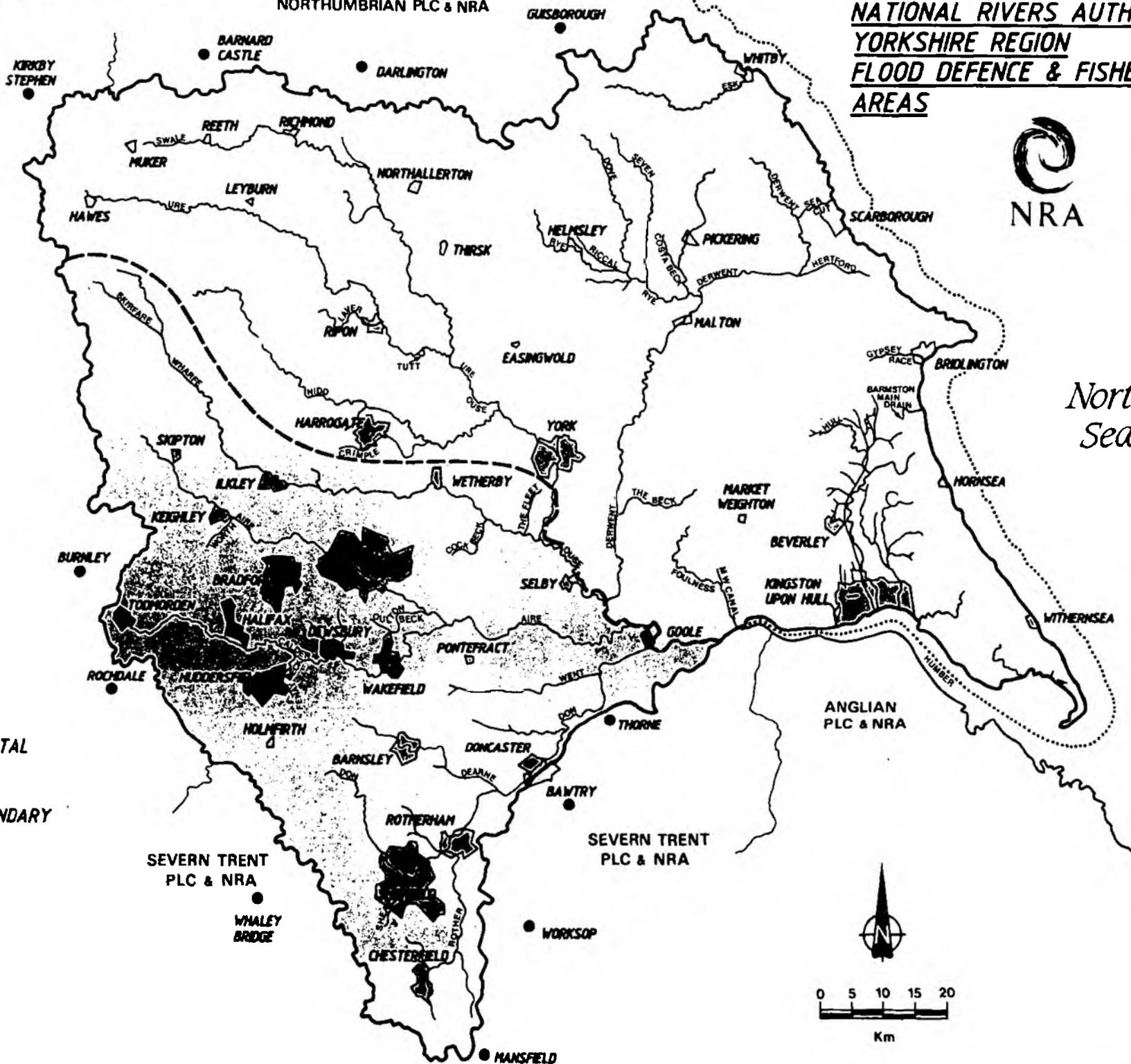
Many similar patterns and responses were observable regarding respondents' attitudes to and perception of the consultation process. A perceived lack of information regarding proposed flood defences and flooding generally was highlighted in the York study and also reflected in some of the Thames Region studies. Findings reveal general agreement among respondents in all areas studied regarding public consultation, with the majority in favour of consultation at an early stage in the process of scheme implementation. The results highlight the need for a revision of consultation practices if scheme development is to deal adequately with the conflict it may arouse.

Response to the surveys revealed a general satisfaction with the NRA and a feeling that large numbers of respondents feel they can trust the Authority to make decisions regarding flood defence. Little was generally known about the NRA and its responsibilities and results do suggest that there exists a certain amount of confusion between the functions and responsibilities of the NRA and other water companies, particularly in York. The NRA in all regions therefore needs to establish a separate and distinct identity for itself.

Findings from the study should contribute to an understanding of the public's perception and use of river corridor environments that will enable river management and flood defence options to be selected which will be acceptable to the public. In order to ensure that delays and costs of schemes are kept to a minimum, the NRA needs to select options for schemes, where possible, to maximise public acceptability and minimise opposition.

NORTHUMBRIAN PLC & NRA

# NATIONAL RIVERS AUTHORITY YORKSHIRE REGION FLOOD DEFENCE & FISHERY AREAS



NORTH WEST  
PLC & NRA

North  
Sea

ANGLIAN  
PLC & NRA

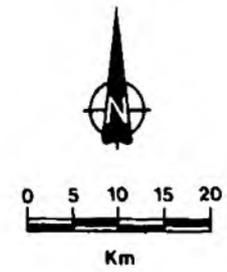
SEVERN TRENT  
PLC & NRA

SEVERN TRENT  
PLC & NRA

### KEY

- ..... NRA CONTROLLED COASTAL WATERS (3 MILES)
- MAIN RIVERS
- YORKSHIRE REGION BOUNDARY
- AREA BOUNDARY

- NORTHERN AREA
- SOUTHERN AREA



## Leeman Road Scheme

The scheme consists of an earthen floodbank which blends with playing fields and a park. There were also associated sewage improvements. York District Council, as sewerage agent, installed penstocks and a small pump to evacuate local drainage when the sewerage system is surcharged by the main river and Yorkshire Waterworks diverted a water main.

Engineers: Derek Helliwell and David Rooke (original engineer has now retired)

Cost: ~~£61,000~~ £84,000 + extra protection = £92,100

Date: Earthen embankments completed in 1980 but subsequent works undertaken after 1982 flood due to seepage. Other works scheduled to take place in the summer (1992).

The area was prone to flooding from both the River Ouse and the adjacent Holgate Beck. According to the NRA, it was the 1978 flood which initiated this scheme as 225 houses in the area had been flooded. This had been the worst flooding since 1947 when 332 houses had been flooded.

Design for the scheme was done in-house and it was Yorkshire Water (NRA) who initiated the scheme due to the seriousness of the flood risk in the area.

The tidal influence (high tides) is often cited by local people as a major factor in causing flooding in York. People ring the NRAs offices to ask when is high tide; the NRA have to try to convince them that the river system in York is not tidal. So far they have not been very successful in this!

A public meeting was held after the 1978 flood. Some local residents were being flooded every year or two and there was an 'outcry' about the seriousness of the flooding. In those days the public would not have been given a choice of schemes but would have been presented with the scheme Yorkshire Water (later NRA) thought best. Senior officers from the Authority would have attended a meeting of this sort. According to maintenance engineer David Wilson, public consultation was carried out through the local working man's club and the vicar of a local church (St Barnabus). He thought that there had probably been a newsletter circulated but there is no other information on this available. Mr Wilson said that he did not remember any objections to the scheme and, in fact, the local milkman had told his wife that he should be given a medal for what the Authority did regarding the flood defences.

In the past schemes considered above ground defences only but it was subsequently decided that to be effective they had to take into consideration the sewerage system too. The York Flood Study Group was set up in 1979 by Yorkshire Water to co-ordinate the various authorities involved in providing flood defences. The Group is still in existence today but appears to almost have outlived its use.

It appears that MAFF and York City Council (as the property and landowners) would have been the main consultees for this scheme although the utility companies such as British Telecom, British Gas etc. would be consulted for any scheme that was to go ahead.

Due to the fact that there was a large electricity cable running along the line of some of the floodbanks, it meant that works had to be carried out around it, which caused some problems.

The only slight problem with the construction of the earth floodbanks was that the Local Authority wanted to be able to mow the grass at the top of the banks. This involved flattening the top of the banks (standard floodbanks a crescent shape) which slightly increased the cost of the scheme. Soil from a nearby sugarbeet factory was used to construct the earthbanks but due to a disease in sugarbeet since then this would probably not be possible now, except perhaps in a totally urban area. The NRA would certainly not use sugarbeet soil in any agricultural areas.

There have been problems with mole infestations in the earthbanks (letter from York City Leisure Services in file). Traps were put in the banks but people complained that they were dangerous for dogs and children. It was suggested that other methods were used to trap the moles.

The NRA are required to obtain a General Development Order if new flood defence works are proposed. However, this did not apply with Leeman Road and no planning permission was necessary as the scheme was seen as improving existing defences. No Environmental Assessment was carried out as the scheme was constructed before this was mandatory.

Defences in Leeman Road were almost overtopped in the 1982 flooding and had to be sandbagged. The water was literally a few inches from the top of the floodbank and upstream of Clifton Bridge the road embankment was almost overtopped. It was felt that this was partly due to the by-pass ring road that had been built 'settling down' which slightly reduced the height of the embankment. As a result of this the defences were made higher. The scheme was designed for a 1:100 year event such as that of the 1947 flood.

A few houses were flooded in 1991 when some seepage occurred from the defences. The flooding had been under the floorboards and had also lifted the tarmac outside the houses. Some residents raised the matter with York City Council and further protection works are to be carried out this summer. The NRA did not think there had been any bad publicity for them regarding this flooding. Although residents were obviously concerned, there did not appear to have been any real complaints. Although the NRA are responsible for above ground defence works, it is the Local Council's responsibility to provide works below ground.

There has been no follow-up consultation or post project appraisal regarding this scheme. It is believed by some residents however that the Leeman Road scheme deflects the current of the Ouse and makes flooding worse in other areas of York.

#### Issues:

The only current issue so far known is that of seepage from the floodbanks.

There was a letter on file (see file), however, which referred to a comment by an NRA employee that the floodbanks may not have been high enough. The banks have been raised since the original scheme was completed but it is uncertain whether this was before or after the matter was raised.

Possibility that Leeman Road scheme has increased flood risk in other parts of York.

**Individuals/groups involved:**

Working mans club

St Barnabus' Church - local vicar

## Lower Ebor Street Scheme

The lower Ebor Street scheme consists of 148 metres of brick faced concrete floodwalls with steel trench sheeting cut-offs and 90 metres of earthen floodbanks. These have been constructed on the line of previously existing brick boundary walls and fences. As sewerage agent, York District Council installed penstocks to isolate the sewerage system as well as a small pump to evacuate sewerage when the system is surcharged by the main river.

Engineers: David Rooke and Derek Helliwell

Cost: £130,000

Date: Completed in 1982. Works were completed after the 1982 flood and were subsequently delayed because of it.

The Lower Ebor Street scheme was initiated after the 1978 flood by Yorkshire Water (NRA) through the York Flood Study Group. Designs for the scheme were completed and construction had just started when the 1982 flood occurred. 28 19th century terraced houses on one side of the road had been flooded while 31 houses on the other side of the road were surrounded by flood waters. Local residents, particularly those whose homes had been flooded, were obviously concerned about the flood risk and took it seriously. Those residents whose houses had not been flooded but had been surrounded by water were also concerned because of the inconvenience this caused them. All designs for the scheme had been carried out in-house by Yorkshire Water engineers.

The consultation process involved delivering letters to local residents and businesses explaining what the scheme involved and when it would be carried out; there was no public meeting.

Consultees included MAFF, York City Council, landowners in this case: the Council, individual home owners, the caravan park, Shepherds (a local factory), the Co-Op and local tenants. Utility companies would also have been consulted. (Note: the factory is now empty and the Co-Op is no longer there.) The names of key individuals in the consultation process are not known.

It was felt that the scheme was welcomed by local residents who were relieved that the threat from flooding had been considerably reduced. There were 4 options initially put forward for the scheme:

- a) A scheme that would protect the whole area, houses and businesses.
- b) A scheme that would protect all concerned with the exception of the caravan park.
- c) A scheme that would only protect housing and the factory.
- d) A scheme that would only protect the housing.

After consultation with the landowners it was finally decided to only protect the housing as on a cost-benefit ratio this would prove to be the most beneficial. The owners of the caravan park were concerned about the amenity value of the park which might have been reduced if a floodwall had been built surrounding the park. They did however say that they would want

to be provided with a means of escape in case of flooding. This was provided as well as access for emergency services. Shepherd's the factory moved away from the area shortly after the 1982 flood and it is believed that they knew about the proposed move before hand and that this was why they did not protest very much about being protected. They presumably received compensation.

Houses in River Street are still evidently at risk from flooding and it is not known what the reaction of the residents there is.

Evidently the houses in Lower Ebor Street are classified as a Special Housing Area (or something like this) which means that the residents are able to apply for grants for upgrading works.

The area of the scheme was not a conservation area. No planning permission was seen to be necessary as the area was next to the river. There was also a fear that if they applied for planning permission for this scheme that it would set a precedent and that they would then have to apply for all other schemes (which they did not want to have to do).

The main problem as far as the construction was concerned was access to the site and working in such a constricted area. Because of this the scheme was the first to use pumped concrete. The brick faced concrete floodwalls were built using old bricks in keeping with the housing in the area. The factory wall was also strengthened and incorporated into the floodwall. The entrance to the factory was moved to the next street where an alternative access road had to be built. The factory itself was not protected as this was not considered to be cost effective. An old air-raid shelter, which was quite large, also had to be demolished before construction on the scheme could commence. The works are said to have disrupted people's lives in the immediate area for some considerable time.

The houses have not been flooded since the scheme was complete although the caravan park and factory were flooded in 1991. There is a lot of new development in the area, but this has all been built above the 1:200 flood event level.

No post project appraisal or follow-up consultation has been carried out.

## Lower Bootham Scheme

Engineers: Bob Parry, York

Cost: Phase I £696,000 Phase II £840,000

Date: Works commenced May 1983 and were substantially complete by June 1986.

The scheme comprised the provision of earthen floodbanks and brick and concrete floodwalls to the Ouse frontage from Westminster Road downstream to the Museum Gardens. The local sewerage network was modified so that it could be isolated and pumped at times of high river levels. The scheme was split into two phases:

### **Phase I (works upstream of Scarborough Railway Embankment)**

This comprised a 650 metre long earthen floodbank extending from Westminster Road to the boathouse on the Ouse frontage at Almerly Terrace, a 24 metre long floodwall at the frontage of the boathouse and a 24 metre long transition wall at the end of the floodbank. In addition, a 96 metre long floodwall with flood gates at the frontage of Almerly Terrace was constructed.

### **Phase II (works downstream of Scarborough Railway Embankment)**

This comprised the construction of a 130 metre brick clad concrete floodwall in front of Earlsborough Terrace and across Marygate with a steel floodgate in the Marygate wall to allow vehicular access to the river and esplanade. It also provided a 110 metre contoured and landscaped earthen floodbank in Museum Gardens to link the Marygate wall with high ground and to protect the Hospitium building. The realignment and raising of the riverside esplanade in front of Earlsborough Terrace and the lower end of Marygate was also necessary.

The scheme is designed to provide defences 460mm higher than the 1982 flood level, which is estimated had a return period of 1:80 years.

The area was prone to frequent and serious flooding which included direct inundation at high river levels and was also affected due to surcharge of the local sewerage system. It was the 1982 flood event which initiated this scheme, with concern expressed by both local residents and Yorkshire Water (NRA). 134 properties were flooded in 1982 at the cost of around £1.2m. Local residents generally accepted that flooding occurred in York and many cited high tides or flood defence works in the upper catchment as possible contributing factors.

This was the first scheme where everyone who may be affected by flooding or have an interest in it were consulted. It was the first scheme to employ landscape architects and in fact won an award in 1987 from the Institute of Civil Engineers for excellence in design and execution of the works.

There were 1 or 2 public meetings after the 1982 flood (St Olafs Church) as well as exhibitions. The consultation process was said to have continued throughout the scheme with local residents being individually consulted by the landscape architects who designed the front gardens for each house affected. The landscape architect who was involved in these meetings has now eft (Vic Hawsley - he is now an associate for Bullen and Partners Consulting

Engineers in Bradford. It is not sure how Mr Hawsley would take to being contacted). It was thought that two or three options were put forward for the scheme and all of these were modified in light of comments from consultees. One original option was to build a floodwall close to the river but this was rejected on the grounds that it would obstruct the view of the river from the nearby houses.

The consultees for this scheme included MAFF (who were concerned about the landscape aspects but were not willing to contribute to the cost themselves); York District, City and County Councils, York Civic Trust, York Archaeological Trust and the owners of Museum Gardens; English Heritage; local residents and homeowners; local commercial interests (2 hotels and a restaurant); a school whose boathouse would have been affected. The only key person recalled in the consultation process was Councillor Whitehead who was active in one of the local residents associations and lived in Almerly Terrace.

The majority of the local residents were in favour of a scheme but negotiations took place before there was an agreement on the exact nature of the scheme, in other words there was early consultation. There were a couple of residents who were not flooded in 1982 and who protested about the scheme but they were evidently placated by other local residents.

There were small problems with design and construction as there are with all schemes but all of these could be overcome. A number of routes were proposed in Museum Gardens and these had to be amended due to protest about the possible loss of a number of mature trees. The wall in Museum Gardens was incorporated into the flood defences. York Archaeological Trust excavated the site for 3 months before the scheme went ahead. Bob Parry, the project engineer, was not completely happy with the design of the floodgates for the houses. He felt they were very obvious but that the residents had rejected the idea of having them in a different place, again because of the view. He thought that the residents were very pleased with the results and that in the end the design for the final scheme had been the result of a compromise between all concerned in order to try to satisfy everyone.

There were problems with obtaining planning permission and the Ancient Monuments groups and English Heritage had to be consulted.

So far as is known no-one was flooded in the 1991 flood but the scheme has not been tested to the 1982 flood levels. There has been no follow-up consultation or post project appraisal.

## River Foss Scheme

The River Foss scheme consists of a turnover barrier gate 8 metres wide by 7.5 metres high; a large pumping station with a capacity of 29 cumecs which lifts the flow from the River Foss into a culvert 5 metres wide by 5 metres high and discharges it downstream from the pumping station; a 200 metre long brick clad concrete floodwall; and sewerage works undertaken by York City Council.

Engineers: Derek Helliwell, Frank Grace. Civil engineering consultants Mott MacDonald (formerly Mott, Hay and Anderson) and architects and landscape consultations Brian Coulston and Partners.

Cost: £2,100,000 Civil and building works 1986  
£1,000,000 Mechanical and electrical works 1987  
£ 240,000 Pumps 1986

Date: Feasibility began in 1983. An Act of Parliament was approved in 1986 to close the Foss Navigation and construction began in November 1986. The barrier was opened in February 1989.

The scheme was initiated by the NRA, although other consultant groups were involved in the design and construction processes. The public in York recognised the very serious flood risk in the area having experienced major flooding in 1947, 1978 and 1982. However, the issue of what causes the flooding in York is less clear among the public. Many people think that it is due to high tides and development works or flood defences at the top of the catchment. Even if flood defence works in other parts of the river system do not actually cause the flooding, many believe that they increase the severity of it. Evidently there have been comments by residents of South Esplanade that the Foss scheme had increased their flood risk from the river Ouse.

There does not appear to have been a public meeting to discuss the original scheme proposed (near to Blue Bridge). Press notices and site notices seem to have been the only form of public consultation. However, due to this publicity about the scheme and subsequent protests, a public meeting was called and an exhibition was set up. Over 200 people turned up at the public meeting on 22.3.85 and gave the "thumbs down" to the siting of the barrier near to Blue Bridge.

One of the main protests concerned 'New Walk', an old Georgian walkway which extends past Blue Bridge down to Fulford. Local residents were also concerned about the loss of trees along the footpath. Mr and Mrs Derbyshire, local architects, were among the 'ringleaders' in the protests about the footpath. As they live in South Esplanade they would not be protected from flooding by the Foss barrier. There appeared to be conflicts between local residents like the Derbyshires who would not be protected by the scheme and did not want it to go ahead, and those that would be protected and did want it to proceed eg Huntingdon Road Flood Action Committee. There were letters in the local press in respect of the objections raised by local groups, many people such as those in the HRFAC writing in to defend the scheme.

The Council objected to the original scheme proposal and they were not prepared to help

with the cost of the scheme. They rejected the first designs and planning permission application. (According to one of the NRA engineers, the Council were generally obstructive regarding the barrier but since it has been completed they now speak of it as 'theirs'.)

Another problem concerned the pumping station. At the feasibility stage the pumping station was planned to be underground and people were told that this would be the case. However, as the plans were revised a control room was added and much of the building was built above ground (although the pumps are mostly underground). This raised other objections as the building would be an 'eyesore' and would block some of the view for local people. A petition signed by 520 people was sent by C Middleton and J Rendall of 29 New Walk Terrace asking the Authority to reconsider the siting of the pumping station.

The local constituents contacted their local MP, Conal Gregory, who blocked the Bill in parliament and hence the original site proposal. As well as protesting about the siting of the barrier and the damage to New Walk, residents were also concerned about what they saw as a lack of consultation by the NRA. Due to the Act of Parliament in 1986 there was plenty of press coverage on the scheme and copies of letters from the public are available on file at the NRAs offices.

The scheme was therefore re-designed as a result of the protests and the site for the barrier was moved 50-60 metres upstream. This caused some accusations to be directed at Yorkshire Water Authority as they had initially said that the Blue Bridge site was the only place where the barrier could be built. They were therefore accused of lying when the new site was proposed. They were also accused of trying to blackmail the public by saying that if the original proposal was not agreed then they would not do anything.

The Bill was blocked for a second time in Parliament, this time by Halifax MP Roy Galley, on the grounds that Yorkshire Water failed to give adequate assurances over the long-standing sewerage problem, in particular the smell from sewerage in Halifax. Yorkshire Water offered to draw up plans for a solution to these problems within a year and to implement them as speedily as possible.

The list of consultees for the Foss scheme is not completely clear but is thought to have been the following:

- MAFF
- York City Council, the landowners in this case
- Foss I.D.B.
- the navigation authority ?
- York Archaeological Trust
- North Eastern Electricity Board
- British Gas Corporation
- Yorkshire Water Authority - for sewerage
- British Waterways Board
- York Waterworks Company - mains and pipes
- English Nature and Yorkshire wildlife Trust (possibly)

The Royal Fine Arts Commission also approached the NRA when it heard about the scheme. Meetings were also held with the Commission for Historic Buildings and Monuments to

determine procedures to be followed to comply with the Ancient Monuments and Archaeological Areas Act (1979). One group of local residents who became active in campaigning for flood defences were the Huntingdon Road Flood Action Committee. The Foss Amenity Society enquired about the scheme but in the end appeared to hold no objections.

A Mr Howard who lived/lives (?) on a boat moored in the Foss basin was concerned about being able to run his pleasure cruiser business as he needs to be able to get his boats in and out of the mooring area. An agreement was reached with him through his solicitor agreeing that he would (where possible) be given ample warning if the Foss barrier is to be closed. It is unclear however what happens to his boats in the case of the barrier being operated for long periods of time such as in a flood situation.

No Environmental Assessment was carried out prior to the scheme going ahead. This was not required by legislation at that time. Although the site was not a particular conservation area it is believed that it falls within the area of archaeological interest in York.

Since the scheme has been completed there has only been one significant flood, that of 1991. This was not on the scale of the 1982 flood and, although a model was built to test the scheme, strictly speaking it has not really been tested to its full capacity. There has been some seepage under the floodwall adjacent to St George's Field car park "in excess of that deemed to be acceptable". Remedial works are to be carried out.

There has also been some concern regarding fish mortalities when the pumps are in operation ie when testing as many fish were mutilated by being sucked into the pumps. The Authority commissioned some research into how the mortalities could be reduced. The most effective idea suggested was a fish scaring device such as a loud noise; at present, however, it is not clear what has actually been done about this.

### The issues:

One of the main protests concerned the likely loss of part of 'New Walk', an old Georgian footpath which extends to Blue Bridge and beyond as well as the loss of trees along the footpath.

Conflicts were evident between local residents who would not be protected by the scheme and did not want it to go ahead, and those that would be protected and did want it to proceed.

Another problem concerned the pumping station. At the feasibility stage the pumping station was planned to be underground and people were told that this would be the case. However, as the plans were revised a control room was added and much of the building was built above ground (although the pumps are mostly underground). This raised other objections as the building would be an 'eyesore' and would block some of the view for local people.

The scheme was therefore re-designed as a result of the protests and the site for the barrier

was moved 50-60 metres upstream. This caused some accusations to be directed at Yorkshire Water Authority as they had initially said that the Blue Bridge site was the only place where the barrier could be built. They were therefore accused of lying when the new site was proposed. They were also accused of trying to blackmail the public by saying that if the original proposal was not agreed then they would not do anything.

The Bill was blocked for a second time in Parliament, this time by Halifax MP Roy Galley, on the grounds that Yorkshire Water failed to give adequate assurances over the long-standing sewerage problem, in particular the smell from sewerage in Halifax.

There has also been some concern regarding fish mortalities when the pumps are in operation ie when testing as many fish were mutilated by being sucked into the pumps.

## North Street Scheme

The scheme is to consist of flood walls and gates and flood proofing of buildings as well as a new pumping station.

Engineers: Kevin Jeynes

Cost: £200,000 (?)

Date: Works due to commence in May 1992.  
Completion date is autumn 1993.

Although the 1982 flood caused much concern the scheme was already in the NRAs flood defence programme before this. Initially it was not thought to be cost-beneficial to go ahead with the scheme but due to new developments it was decided to proceed. Basically it is mainly a commercial area and two commercial businesses, General Accident and the Viking Hotel have now offered to contribute to the cost of the scheme as they would both like to be protected. The scheme is being done in conjunction with York City Council. [The area was flooded by up to 1 metre of water in 1991.]

Businesses in the area perceive the very serious flood risk. For example, General Accident's offices house their large computer centre and is thought to be their head office, if not for the whole country then at least for the north of England. The company are also developing an extensive new site in the area which they want protected.

Not all the businesses in the area have yet been consulted about the scheme [hence the sensitivity of the project]. Numerous articles have appeared in the press and there have been radio and TV interviews. There was also an advertisement in the local newspaper outlining that was going to be done and why. The NRA have said that no-one could accuse them of trying to hide what they were doing or keeping it a secret. They have not received any reaction from the public as a consequence of this publicity.

Consultees have included MAFF, York City Council (who were in favour of the scheme for various reasons including the fact that it would reduce traffic disruption during flooding), York Archaeological Trust (through York City Council), All Saints Church, and the Georgian Society. People have not seen any drawings of the scheme although the NRA are well aware that they should have considered this (although it felt that most people would not understand them anyway). However, due to pressure to get the scheme up and running they had not had time to organise anything. They are currently thinking of mounting an exhibition.

The key people involved in the consultations included Brian Martin of General Accident (Project Co-Ordinator for the new building development) and Nigel Joyce and the Manager of the Viking Hotel. There is also an elusive landowner called Jeff Gittus who the NRA have not yet been able to contact.

No Environmental Assessment was required for the scheme and planning permission has already been obtained.

**Issues:**

Commercial interests affected by flooding such as General Accident and the Viking Hotel.

Traffic disruption due to flooding. \_\_\_\_\_

**Individuals/groups involved:**

In favour of a scheme:

Brian Martin of General Accident (Project Co-Ordinator  
for their new building development)

Nigel Joyce or the Manager of the Viking Hotel

## **SOUTH ESPLANADE SCHEME**

Works may comprise a concrete floodwall with appropriate facings.

Engineer: Frank Grace, Leeds

Cost: £200,000 (?)

Date: Undecided

The engineering feasibility has been completed and a report has recently been submitted which puts forward various options. At the moment the NRA are thinking about setting up an exhibition with a photo montage etc. They have not decided whether to open this to the public or just to local residents likely to be affected by flooding. Land owners were approached several years ago regarding the flooding but have not been contacted now for about 15 or 16 months.

Estimates suggest that a scheme would not be cost beneficial, therefore, the NRA is reluctant to raise people's hopes that a scheme may go ahead which would protect them, when the chances are that nothing will be done. If the project gets going in the next couple of months things may be less sensitive and it will be easier for FHRC to approach people in South Esplanade. It was suggested (by Derek Helliwell) that perhaps we could leave this area to near the end of the survey for this reason.

According to Frank Grace, the project engineer, some residents in South Esplanade feel that flooding from the Ouse has been made worse by previous flood defence works, including the Foss scheme.

Local residents in the area have been consulted by the NRA regarding the flood risk. Residents were sent a questionnaire a year or so ago which asked details of when they could be contacted. It also asked whether they were in favour of a flood alleviation scheme - they could only answer yes or no. Frank Grace said that most of the residents were in favour of a scheme but of course what form a scheme may take has still not been discussed. He felt that even if a scheme was judged to not be cost beneficial, political pressure may be considerable for them to do something.

## Notes on history of York

The City of York has a rich history spanning some 2000 years. Although usually thought of as a medieval city built on Roman foundations, it is traditionally reputed to have been founded in 980 BC by Ebrancus, a prince of Trojan descent (Broadhead, 1982 pp. 67). In more recent years excavations in the heart of York have revealed evidence of the true measure of Viking occupation of the City, with one of the most important Viking excavations in England in the Coppergate area. The Vikings were a community of traders and craftsmen and in fact the term 'Gate' found in so many street names in York is a Scandinavian word meaning road or way (Shannon, 1984 pp. 5). The Viking incursions into England were ended in 1066 when, at the Battle of Stamford Bridge near York, they were defeated by King Harold who then proceeded to march his army to Hastings and who was in turn defeated and succeeded by William the Conqueror, thus beginning the Norman rule over the country.

Many people still associate York (or Eboracum) with the Romans who ruled the City for over 300 years, founding it in AD 71 at the confluence of the rivers Ouse and Foss (Shannon pp 3). The Romans made a unique and lasting contribution to the character of the City and gave it the importance in English history which it has never since lost. The Romans used the river Ouse for trading, which also included the shipment of "fair haired Yorkshire youths ... to be sold in the slave markets of Rome" (Shannon pp 67).

Other well known people in history have also been associated with the City. In 521 King Arthur and his court are reputed to have kept the first Christmas ever celebrated in this country and Richard III is known to have visited the City, as popularised by William Shakespear in his play of the same name with the famous phrase:

"Now is the winter of our discontent  
Made glorious summer by this sun of York"  
(Broadhead, pp. 67)

Guy Fawkes was a son of the City, being a landowner in Clifton, and Dick Turpin the famous highway man operated nearby on the York to London road and was tried and hung in the City.

Throughout all of the above events the City of York was experiencing flooding to a greater or lesser extent and many of these events were documented at the time.

# YORK ORAL HISTORY PROJECT NEWS

## FEBRUARY 1992

Y.O.H.P. has received news that it will not be receiving funding through the City Council in the near future. This is not surprising in view of the heavy pressure which Local Councils are under.

As it receives no funding other than what it can raise itself, Y.O.H.P will just have to keep looking.  
+++++

**Meanwhile, of course, York is losing forever memories which it can never replace.**

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Look out for the Y.O.H.P. display in the City Library Feb 24th - 29th.

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Meanwhile.....

### PROJECTS

FROM Y.O.H.P.

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### RAILWAY PROJECT

This is underway now and will soon be looking at one of York's most important industries.

CONTACT: Joe Boutflower.

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### ST SAVIOUR'S PROJECT

Two meetings to discuss action have been held. Interviewing will begin after March 2nd.

We have a lot of people to interview. Helpers always wanted.

CONTACT: Philip Johnson.

This is a joint venture with the

**ARC**

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**REMEMBER THAT YORK ORAL HISTORY PROJECT RELIES ON YORK PEOPLE.**

If you would like to help preserve memories of York, contact:

**YORK ORAL HISTORY PROJECT,  
c/o COMMUNITY HOUSE, 8 - 10 PRIORY ST, YORK, YO1 1EX.**

+++++  
**VOLUNTEERS ARE ALWAYS NEEDED**  
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+++++  
Y.O.H.P books are available at

### OBLONG BOOKS

in  
Micklegate. &  
PICKERINGS

in  
The Shambles  
\*\*\*\*\*  
COMING SOON.

York Memories  
"THROUGH THE STORM"  
( Second World War York.)

In the spring depending when there is a General Election.  
+++++

**WHAT MATERIAL DOES Y.O.H.P. HAVE?**

Recordings of local people talking about life in York.

Photographs of old York.

Slide Shows.

People who have used this material with groups in York.  
+++++  
**WE ARE HOPING TO BE ABLE TO CONTRIBUTE TO THE FESTIVAL BY SHOWING OUR TAPE-SLIDE SHOW.**  
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**NOTE OF VISIT TO YORK ON 5/6 JUNE 1991**

**MEETING AT NRA OFFICES, 48 SKELDERSGATE, YORK ON 5.6.91**

Those present:

David Rooke - NRA Yorkshire Region  
David Wilkes - NRA Yorkshire Region  
John Wills - NRA Thames Region  
Gareth Llewellyn - NRA Head Office  
Sylvia Tunstall - Middlesex Polytechnic  
Maureen Fordham - Middlesex Polytechnic  
Sue Tapsell - Middlesex Polytechnic

The purpose of the visit to York was to obtain some background information on the flooding history of the area and to gain some first hand knowledge of the city and the flood problems. The meeting was also to discuss the possible issues which the NRA might want Middlesex Polytechnic to look at if a survey is to be carried out.

**FLOOD HISTORY**

At the morning meeting, David Rooke and David Wilkes outlined the history of flooding in the York area. Floods have been documented since medieval times and there has been a continuous record of river levels in York since 1885. The main flood events on record were in 1982, 1947, 1978 and 1991 respectively.

A major flood in York would reach a level of 9.8m AOD. The average summer level (which is controlled by a weir in Naburn) being 5m AOD. Although many local people feel that there is a tidal influence in the flooding, David Rooke stated that there is no suggestion of this.

The total catchment area of the River Ouse is 3,315 sq km, the main tributaries being the rivers Ure, Swale and Nidd. When flooding in York commences (when River Ouse is 4.04m above normal) much of the natural flood plain upstream is inundated. Prior to 1978, these washlands were used as storage for flood waters, however, there was not enough storage capacity to reduce the flow through the city and alleviate flooding. Two schemes have now been carried out to improve the washlands and increase and enhance the storage capacity, these are at Linton Ings (capacity now 3m cubic metres) and Clifton Ings (capacity now 2.5m cubic metres). By preventing early inundation of the flood plain at Linton and Clifton Ings, the storage capacity of the washlands can be utilised more effectively and the extent and frequency of flooding can be reduced on floods in the range.

After the flood in 1978, which affected between 700-800 properties, the Water Authority and City Council were spurred into action and various flood alleviation schemes and flood defences were constructed. The decision was taken to build frontline defences to protect properties. The Rivers Division

of the Yorkshire Water Authority (now the NRA - Yorkshire Region) were responsible for works above ground and the Water Division of the Authority and the City Council were responsible for works below ground including sewers etc. A total of 800 properties are now said to have been protected from flooding. Over 37 properties were flooded in February 1991 but schemes are planned to protect 25 of these. That leaves around a dozen properties in York that are known to be at risk but it is not thought to be economically feasible to protect these.

The various flood alleviation and defence schemes carried out since 1978 include earthen embankments and a pumping station constructed at Leeman Road to prevent flooding from the River Ouse and the Holgate Beck. Flood defences consisting of earthen floodbanks and brick and concrete flood walls and pumping stations were constructed at Lower Ebor Street and Lower Bootham. The Lower Bootham scheme (which was to protect 134 properties that were flooded in 1982) also included a floodgate at Marygate. In addition, properties along Almerly Terrace were also fitted with flood gates and their front gardens raised and landscaped. Various channel improvements were also undertaken to protect 116 properties at risk from the River Ouse extending into and beyond the Holgate Beck storage area.

The flooding in January 1982 was the worst since 1947, said to be around 700 cumecs of flow. It resulted from heavy rainfall and rapid snow melt in the Upper Pennine catchment of the River Ouse. Total precipitation in the York area between 13 December 1981 and 6 January 1982 was 60 mm. The river in York rose to its highest recorded level - 5.1m (16' 7") above normal (said to be a 1:80 event). In York 308 houses were flooded and 93 commercial and industrial premises to depths ranging up to 1 metre over a 3 day period.

The River Ouse also extended into the River Foss basin overtopping its banks flooding 87 homes (which needed to be evacuated), 23 commercial/retail premises, and 37 industrial premises. However, the completed flood defences at Leeman Road prevented around 350 houses from being flooded. (Note: difficulty getting mortgage in Leeman Road as flood defences were designed for 1978 levels)

The River Ouse also flooded local villages in the York area including Naburn, Cawood, Wistow Lordship and Selby. In Selby district 297 properties were flooded and in the York City Council and Selby District Council areas in the Ouse valley approximately 572 residential properties and 139 commercial properties were flooded in total. According to the NRA, by the 1978 flood standards, the 1982 area that was flooded was not thought to be flood 'prone'.

In some areas there were difficulties in evacuating floodwaters and freezing temperatures complicated conditions for emergency services and flood victims as the floodwater rose. Roads in York were flooded causing wide traffic disruption over a continuous period of 3 days from January 4th to 6th and only one trunk road into the city (Tadcaster Road) was not affected. Many roads remained impassable until 13th January due to silt and frozen

water with some being up to 1m deep in flood water. The armed forces had to be deployed in some areas. The police advised motorists not to travel to the city and a 3pm closure 'curfew' was imposed on commercial premises.

To prevent future flooding in the Foss basin the River Foss Flood Alleviation Scheme was implemented which drew on flood level data over the last 50 years. The scheme needed an Act of Parliament to be passed before it could go ahead as it meant closing the Foss navigation. The scheme included the construction of a pumping station capable of pumping 30 cubic metres of water (100 year flood) per second from the Foss and a moveable steel barrier installed immediately upstream of Blue Bridge. The barrier was completed in November 1988. It is controlled by a micro-processor and has won several awards. The barrier cost £4 million and has been said to have already paid for itself. (It is closed when the river is 9' 6" above normal and raised when 8' above normal.) A flood wall built of reinforced concrete clad in brickwork completes the line of defence between the pumping station and the higher ground at Skeldergate Bridge. The barrier is said to be closed approximately 5 or 6 times a year.

The Foss Flood Alleviation Scheme is only designed to protect the Foss catchment from flooding and not the Ouse catchment. David Rooke stated that some people think the barrier has protected them from floods from other areas but this is not the case. Generally people appear to be pleased with the barrier although some people in York feel that it may have made the flooding in York worse. David Rooke did say that there is some increase in level but that it is within the existing defence capacity to deal with this.

The flooding in 1991 was said to be of a similar level to that of 1978. The flooding was mainly from the River Ouse. In February the River Ouse rose 15' 7" above its normal level. This is believed to have been a 1:20-25 year event on the Ouse. Some 37 residential properties were flooded, plus an unknown number of commercial premises. The Foss barrier remained closed for 8 days. A new ultra sonic gauging station is being installed for measuring water levels on the River Ouse.

There are two possible future flood defence/alleviation works currently in discussion (both areas of which were flooded in 1982 and 1991). The first of these is that at South Esplanade which is still at the feasibility stage and there is some doubt that it will ever be implemented. The second is that at North Street which is in the detailed design stage and would be in two phases either to protect all or part of the area (planning permission has already been obtained for phase 1). This is said to be a sensitive area and people needed convincing of the flood risk. There are commercial interests involved in this scheme, the interested parties being the Viking Hotel and General Accident, both of whom it is said may be willing to contribute financially to the scheme. Only 1 or 2 residential properties are thought to be at risk in this area.

All in all it is thought that the schemes will protect 25 residential properties from flooding as well as commercial ones. Even if the two schemes go ahead there will still be 11-12 residential properties at risk from flooding but it is not considered economically feasible to protect these. (It was suggested that Middlesex Poly. could interview these people to obtain their views on the matter.)

## FLOOD WARNINGS

During the meeting the procedure for flood warnings in York was outlined.

The main risks of flooding are from October to March with the highest risks falling between December and March. The local radio station, Radio York, and the local press report on any flood warnings and carry information and interviews with the various people involved in flood defence. It is the local police who warn the public of flood risk, as much depends on knowledge of the local area. There is an arrangement with the police and local Council that if an amber warning is declared the Flood Committee will meet in the police station. The Committee was first set up after the 1978 floods and represents all the emergency services: the army, tele-communications, utilities as well as police, fire, ambulance, the Council and the NRA. The Committee meets every 6 hours during an emergency situation and this seems to work very well. There are also yearly meetings (in October) where new flood schemes are discussed. It has been recommended that Boroughbridge set up a similar committee.

The police use colour coded banded maps of the city and each band is warned when the possibility of flooding in their area looks possible.

The various flood warnings are as follows:

Yellow - early warning, least serious - warnings go to police and Council and are put up in local car parks etc. (There are said to be around 5 or 6 of these warnings a year.)

Amber - more serious - riverside properties warned.

Red - extremely serious - expect defences to be overtopped. All properties at risk are warned.

*There are also different zones within the colour coded areas.*

From the peak on upland rivers to York the flood forecasting is approximately 24 hours but the NRA do not issue flood warnings to the police until approximately 6 hours beforehand to ensure a greater accuracy of warnings.

*Before 1978 there were no flood warnings issued to residents. When flood defence schemes were completed those residents protected were taken off the warnings list. However, when the '82 flood proved to be worse than the '78 one people had to be put back on the list again.*

## ADDITIONAL DISCUSSION - BOROUGHBIDGE

Some possible ideas were put forward as to what Middlesex Poly. could look at if the York project is confirmed. One area that the NRA at Yorkshire would not like researched is Boroughbridge on the River Ure as this is a politically sensitive area at present. Parts of the town have been flooded 6 times in the last 20 years with major inundation on two occasions in 1982 and 1991 and the people feel that the York flood defence works have exacerbated the flooding in Boroughbridge. At present there is the likelihood of a court case pending as the residents would like the NRA to admit liability for the flooding. There have been 2 public meetings held in the town since the February flood when NRA defences were overtopped without warning.

A flood defence scheme at Boroughbridge was completed around 1986 by MacDonalds to allow for a 1:100 year flood protection. Sir William Halcrow and Partners are currently reviewing the scheme and are to produce a report in October, after which the local residents will decide whether or not to sue the NRA for compensation. The extent of the damage needs to be determined and it may mean that there will be a need to reassess the return period. The NRA has applied for planning permission to raise the river bank and residents claim that this implies liability. The 1991 flood level exceeded the 1893 level by 70mm rising to 15.9m AOD (equivalent flood in York is 10m AOD) due to snow melt and 8" of rain in 48 hours at the top of the catchment. Over 100 properties were flooded, some being 5' deep in water.

The NRA state that the Boroughbridge scheme was not meant to prevent all future flooding, however, local people believed that it was and therefore blamed the NRA when the flood happened. The people of Boroughbridge have therefore lost their confidence in the NRA which it is thought will take time to build up again. Some small areas in the town, however, were not flooded in 1991 since the scheme was completed. The river bank in Boroughbridge is now being built up to protect against 1991 levels. It was also stated that the river is no longer dredged for gravel which may affect the flood risk. The police and Council in Boroughbridge have produced a leaflet telling people about the flood risk and what to do in an emergency.

## OTHER DISCUSSION

It was suggested that a survey may ask people whether they understand what is meant by the terms 'design flood' and '1:100 year event' etc. The local residents perceptions of the level of protection could also be studied, whether they trust the experts ie the NRA, and preferences for public consultation. It was said that public meetings have been held when applying for planning permission and the local press kept informed throughout. It was suggested that Middlesex Poly. may want to speak to the engineer of the Foss scheme and that there are articles in Water Bulletin and Civil Engineering Journal about the scheme which would be worth reading. In York archaeologists have to excavate before a new scheme is carried out, therefore groups such as English Heritage and Civil and Archaeological Trusts also need to be consulted.

The NRA supplied Middlesex Poly. with maps showing the flood event outlines and offered use of their micro films stored in Leeds. The NRA said that they would also supply copies of:

consultation documents and correspondence  
map of the catchment area  
details of the schemes  
police/Council leaflets  
press coverage of York floods/schemes  
areas protected/unprotected

#### **REST OF VISIT TO YORK**

After the morning meeting David Rooke took Middlesex Poly. researchers to see the River Foss barrier and then put at their disposal various photographs and maps in the flood room at the NRA offices. All the properties in York that had been at risk of flooding were mapped. The rest of the visit was spent visiting the various flood defence schemes at Leeman Road, Lower Ebor Street, Lower Bootham and the Esplanade. Other parts of York that were flooded prior to the Foss scheme were visited such as the properties in Huntingdon Road, Foss Way and Fossgate. The Fulford area where roads had been cut off during flooding was also visited.

TELEPHONE INTERVIEW WITH FRANK GRACE, LEEDS ON 14.2.92

River Foss Scheme

It was decided to go ahead with the feasibility study after the bad flooding in 1982 (as well as taking into account previous flood events). Mr Grace did not know if the scheme was public lead, certainly the public perceived the flood risk. The scheme design was done in consultation with Mott MacDonald rather than in-house. Frank Grace became involved after the feasibility study. He said that there are plenty of press cuttings on the scheme in the NRA Foss file which we are welcome to look through.

Mr Grace did not know what people's perceptions were/are of the causes of the flooding in York. He said that it is often the case that NRA flood defence works are blamed for increasing the incidents or severity of flooding in other areas or downstream. In the case of the Foss he was not aware of any criticisms along those lines. There were comments on this, however, he said by residents in South Esplanade who thought that the Foss barrier had increased their flood risk from the River Ouse.

Consultation took the form of a public meeting and an exhibition. There was also a lot of press coverage due to the passing of the Act of Parliament in 1986. Copies of letters received from the public after the public meeting are on file available for us to see. He believes that the meeting was called partly because of protests by residents who lived near to the proposed barrier site. The residents were concerned about an old walkway 'New Walk' which would be affected by the scheme, plus the loss of trees along the footpath. Mr Grace did not have any other details on this.

As far as Mr Grace could remember, and with a quick look through the file, the list of consultees were as follows:

MAFF (because of the grant aid and because they need to demonstrate that the scheme will be cost beneficial)

York City Council (they were also the landowners in this case)

Nature Conservancy Council (English Nature)

Yorkshire Wildlife Trust

Foss I.D.B.

York Archaeological Trust (they excavated the site before construction begun but as far as he knows found nothing significant.)

Royal Fine Arts Commission (they contacted the NRA after hearing about the scheme)

Various local residents/community associations. He did not know any details about these except that one was the Huntingdon Road Flood Action Committee.

Mr Grace did not know if the consultation was an iterative process, he tended to think that it was not and that after the initial consultations no more were initiated.

Two other matters caused some local protest. The first concerned the actual siting of the barrier. This was originally proposed to be nearer to Blue Bridge, but due to objections was moved 50-60 metres upstream. As Yorkshire Water (as the NRA Yorkshire Region was then known) had originally stated that this was the only place it could be sited, they were accused of lying when they did capitulate and say that they would move it upstream. Mr Grace did not feel there was any real damage done to the NRAs reputation because of this.

The other problem concerned the pumping station. At the feasibility stage the pumping station was planned to be underground and people were told that this would be the case. However, as the plans were revised and updated much of the building was built above ground (although the pumps are underground), which raised some objections. Basically all of the objections were resolved.

On being asked if there were any key people involved in discussions in the consultation groups, Mr Grace could only recall one woman, Mrs Derbyshire, who lives along South Esplanade. She is an architect and according to him was the 'ringleader' of the group protesting about the footpath. As she lives in South Esplanade she would not be protected from flooding by the Foss barrier. Mr Grace said that there were conflicts between people who had been flooded and who would be protected by the Foss barrier and those who would not be protected and who protested because of the footpath being affected. There were letters in the local press in respect to the objections raised by groups. Many people who had been flooded wrote to defend the scheme.

Mr Grace thought that the site of the scheme was within the area of archaeological interest in York, but was not a particular conservation area. No Environmental Assessment was carried out because it was not required by legislation at that time.

There has only been one significant flood in York since the scheme was completed, that of 1991. This was not on the same scale as that of the 1982 flood. Models were originally built to test what would happen, ie to boats moored in the basin, in the event of a bad flood. The models showed that the scheme would work. However, according to Mr Grace, "Strictly speaking we haven't demonstrated that the scheme works yet. There hasn't been a design flood to test it."

### South Esplanade Scheme

The engineering feasibility has been completed and a report has recently been submitted which puts forward various options. At the moment the NRA are thinking about setting up an exhibition with a photo montage etc. They have not decided whether to open this to the public or just to local residents likely to be affected by flooding. Land owners were approached several years ago regarding the flooding but have not been contacted now for about 15 or 16 months.

Estimates suggest that a scheme would not be cost beneficial, therefore, Frank Grace is reluctant to raise people's hopes that a scheme may go ahead which would protect them, when the chances are that nothing will be done. If the project gets going in the next couple of months things may be less sensitive and it will be easier for FHRC to approach people in South Esplanade. It was suggested (by Derek Helliwell) that perhaps we could leave this area to near the end of the survey for this reason.

According to Frank Grace, some residents in South Esplanade feel that flooding from the Ouse has been made worse by previous flood defence works, including the Foss scheme.

Need to know what form the past consultation with people has taken:

- Who were consulted?
- How often were they consulted?
- When was this?
- What were people's reactions?

River Foss Scheme

Most of the discussion with Mr Helliwell centered around points that were not fully covered in the earlier conversation about the Foss scheme with Frank Grace (either because Mr Grace did not know or because he could not remember very much). The first of these was regarding the initiation of the scheme. Whereas Mr Grace did not know if the scheme had been public lead or initiated by the NRA, Derek Helliwell thought that it was most certainly the NRA who had initiated the scheme, particularly after the 1982 flood.

Regarding the public's perception of what causes the flooding in York. The main views are that it is due to high tides and to development works at the top of the catchment, and at Kawood Near Selby. The tidal influence evidently reaches somewhere downstream of Naburn weir.

Mr Helliwell does not remember any public meeting regarding the original proposed site for the scheme (near Blue Bridge). He does, however, remember attending a meeting which discussed the new (present) site. [This must have been after protest by local groups - so how did they find out about it?] As well as the protest by local residents, a local MP blocked the original site proposal because of the fact that it was at the end of 'New Walk', the old Georgian walkway.

As far as the list of consultees was concerned, Derek Helliwell did not think that English Nature would have been consulted, but wasn't sure. Likewise he did not think the Yorkshire Wildlife Trust would have been consulted but he did think that the Navigation Authority would have been. He could also not remember which local residents or community groups were involved in the consultation process. There were evidently initial objections about the scheme from York City Council, they were not prepared to help with the cost of the scheme at all. As planning permission was necessary they were approached for this but rejected the first designs for the scheme. The scheme therefore had to be re-designed [possibly due to the pressure by local groups]. Also, as the landowners concerned, the Council needed to be compensated for the land used for the scheme. This still has not been settled, but is said to be a 'substantial figure'.

No follow-up consultation or post project appraisal has been undertaken regarding the Foss scheme (or any other scheme for that matter).

### Leeman Road Scheme

According to Mr Helliwell the 1978 flood initiated the scheme. This was lead by Yorkshire Water (later NRA) in response to the number of properties flooded in 1978 [225 houses]. The design for the scheme was carried out in-house and no other consultants were employed.

Local residents obviously perceived the flood risk, particularly after the 1978 event. There appears to be some considerable belief among York residents that flooding is partially caused by tidal influences on the river system as well as previous flood defense works.

Derek Helliwell did not remember any public meetings taking place but was not sure. As far as consultees were concerned he felt that MAFF, York City Council and local landowners would probably have been the only ones involved on this scheme.

No Environmental Assessment was carried out as the scheme was constructed before this was mandatory. The area was not an SSSI or Conservation Area and planning permission was not necessary in this case as the works were looked upon as being an improvement to existing defences. Evidently if new works are proposed then a General Development Order is required and planning permission is necessary, but in this case this did not apply.

There was a slight problem in that the local authority wanted to be able to mow the grass at the top of the floodbanks, therefore they had to be flattened on the top. This increased the cost of the scheme slightly as the standard floodbanks are more of a crescent shape.

During the 1982 flooding the defences were almost overtopped in places, the water was literally a few inches from the top of the floodbank and upstream from Clifton Bridge the road embankment was almost overtopped. As a result of this the banks were made higher. There was still some seepage in one corner of the defences during the 1991 flood event and more work is timetabled for this summer in regards to this.

There have been no post project appraisal or follow-up consultations with local residents as far as Mr Helliwell knows.

### Lower Ebor Street Scheme

The 1978 flood event (in which 28 terraced houses in Ebor Street were inundated and 31 surrounded by water) initiated this scheme. Designs were completed and construction had just started when the 1982 event occurred. The scheme was initiated by Yorkshire Water (later the NRA) and was designed in-house.

Local residents and business people were obviously very concerned about the flood risk and took it very seriously. Tidal influences and defence works at the top of the catchment are seen by many people as being the cause of the flooding.

Mr Helliwell did not remember any public meetings taking place, although he was not certain. He felt that the land owners and local residents would certainly have been approached. He did say that the works disrupted people's lives in the immediate area for some considerable time.

As far as consultees were concerned he felt that these would have been MAFF, York City Council (they would have been involved regarding sewage, in fact he said that there was a sewage element in all of the York schemes), landowners, tenants/homeowners, the caravan park and the factory at the end of the road. He did not know of any local residents associations or groups who were involved.

Mr Helliwell felt that local people were in favour of the scheme and could not remember any protests against it. He did not know of any key people who were involved among local residents or businesses.

The area was not a conservation area and no Environmental Assessment was carried out.

Regarding any problems with the construction of the scheme, he said that the main one had been that the area was very constricted for engineering. It was difficult to carry out the work in the confined space. They had used the wall of the factory as part of the defence wall and had strengthened this. The factory was not protected by the scheme because of the technical difficulties in doing this [it would not have been cost effective].

Mr Helliwell was not sure whether planning permission had been necessary for this scheme.

There has been no flooding in the area since the scheme was completed, however, it still has not been tested to 1982 flood levels.

To his knowledge there has been no follow-up consultation with anyone regarding the scheme.

TELEPHONE CONVERSATION WITH KEVIN JEYNES, LEEDS ON 19.2.92

North Street Scheme

Although the 1982 flood caused much concern the scheme was already in the NRAs flood defence programme. Initially it was not thought to be cost-beneficial to go ahead with the scheme but due to new developments it was decided to proceed. Basically it is mainly a commercial area and two commercial businesses, General Accident and the Viking Hotel have now offered to contribute to the cost of the scheme as they would both like to be protected. The scheme is being done in conjunction with York City Council. [The area was flooded by up to 1 metre of water in 1991.]

Businesses in the area perceive the very serious flood risk. For example, General Accident's offices house their large computer centre and is thought to be their head office, if not for the whole country then at least for the north of England. The company are also developing an extensive new site in the area which they want protected.

Regarding the causes of flooding in York Mr Jeynes said that most people blame the tides or farmers gritting on the moors. He said that everyone has their own theory but most people cannot be persuaded that high rainfall and runoff etc. is the main cause of flooding. He felt that some of the 'more intelligent' local people, particularly business people, are more willing to accept what the NRA gives as the causes of flooding, however, he said that people in York are generally used to the flooding. On being asked if the NRA had received complaints from people regarding the flooding Mr Jeynes said that he felt the people who were actually residents in the area were not of the social class who would know how to go about filing a complaint.

Not all the businesses in the area have yet been consulted about the scheme [hence the sensitivity of the project]. Numerous articles have appeared in the press and there have been radio and TV interviews. There was also an advertisement in the local newspaper outlining that was going to be done and why. Mr Jeynes said that no-one could accuse them of trying to hide what they were doing or keeping it a secret. He said that the NRA had not received any reaction from the public as a consequence of this publicity. However, he said that there were a number of oddballs in York and that if you publicise a scheme fully you will always get objections [which appeared to contradict what he had just said.] He also felt that there were problems with people understanding the implications of flood return periods. Although the NRA tries to avoid using terms such as 1:20 etc. and tend to say that 'on average an area will be flooded once in say every twenty years', he said that people have trouble understanding that they could be flooded 2 or 3 years in a row or not for 30 years.

Consultees have included MAFF, York City Council (who were in favour of the scheme for various reasons including the fact that it would reduce traffic disruption during flooding), York

Archaeological Trust (through York City Council), All Saints Church, and the Georgian Society. Mr Jeynes said that people have not seen any drawings of the scheme and that he was well aware that they should have considered this (although he felt that most people would not understand them anyway). However, due to pressure to get the scheme up and running they had not had time to organise anything. He said that they are currently thinking of mounting an exhibition.

Regarding key people involved in the consultations Mr Jeynes mentioned Brian Martin of General Accident (Project Co-Ordinator for the new building development) and Nigel Joyce of the Manager of the Viking Hotel. He also mentioned an elusive landowner called Jeff Gittus who he has not been able to contact yet.

No Environmental Assessment was required for the scheme and planning permission has already been obtained.

The only difficulties Mr Jeynes mentioned regarding the construction of the scheme were that the area is in a flood plain and that the soils are poor.

Lower Bootham Scheme

It was the 1982 flood event which initiated this scheme, with concern expressed by both local residents and Yorkshire Water (NRA). 134 properties had been flooded in 1982. Mr Parry said that local residents generally accepted that flooding occurred in York and again many cited high tides or flood defence works in the upper catchment as possible contributing factors.

This was the first scheme where everyone who may be affected by flooding or have an interest in it were consulted. It was the first scheme to employ landscape architects and in fact won an award in 1987 from the Institute of Civil Engineers for excellence in design and execution of the works.

There were 1 or 2 public meetings after the 1982 flood (St Olafs Church) as well as exhibitions. The consultation process was said to have continued throughout the scheme with local residents being individually consulted by the landscape architects who designed the front gardens for each house affected. The landscape architect who was involved in these meetings has now left (Vic Hawsley - he is now an associate for Bullen and Partners Consulting Engineers in Bradford. Mr Parry was not sure how Mr Hawsley would take to being contacted). It was thought that two or three options were put forward for the scheme and all of these were modified in light of comments from consultees. One original option was to build a floodwall close to the river but this was rejected on the grounds that it would obstruct the view of the river from the houses.

The consultees for this scheme included MAFF (who were concerned about the landscape aspects but were not willing to contribute to the cost themselves); York District, City and County Councils, York Civic Trust, York Archaeological Trust and the owners of Museum Gardens; English Heritage; local residents and homeowners; local commercial interests (2 hotels and a restaurant); a school whose boathouse would have been affected. The only key person Mr Parry could recall was Councillor Whitehead who was active in one of the local residents associations and lived in Almerly Terrace.

The majority of the local residents were in favour of a scheme but negotiations took place before there was an agreement on the exact nature of the scheme. There were a couple of residents who were not flooded in 1982 and they protested about the scheme but these were evidently placated by other local residents.

There were small problems with design and construction as there are with all schemes but all of these could be overcome. A number of routes were proposed in Museum Gardens and these had to be amended due to protect about the possible loss of a number of mature trees. The wall in Museum Gardens was incorporated into the flood defences. York Archaeological Trust excavated the site for 3 months before the scheme went ahead. Mr Parry was not completely happy with the design of the floodgates for the

houses. He felt they were very obvious but that the residents had rejected the idea of having them in a different place, again because of the view. He thought that the residents were very pleased with the results and that in the end the design for the final scheme had been the result of a compromise between all concerned in order to try to satisfy everyone.

There were problems with obtaining planning permission and the Ancient Monuments groups and English Heritage had to be consulted.

So far as is known no-one was flooded in the 1991 flood but the scheme has not been tested to the 1982 flood levels. There has been no follow-up consultation or post project appraisal.

[Mr Parry has offered to look through the file to see if he can give us any further information. He will post this on.]

TELEPHONE INTERVIEW WITH DAVID ROOKE, YORK ON 18.2.92

Leeman Road Scheme

Mr Rooke said that it was the 1978 flood which initiated this scheme as 225 houses in the area had been flooded. This had been the worst flooding since 1947 when 332 houses had been flooded.

Design for the scheme was done in-house and it was Yorkshire Water who initiated the scheme due to the seriousness of the flood risk in the area.

The tidal influence (high tides) is often cited by local people as a major factor in causing flooding in York. People ring the NRAs offices to ask when is high tide; the NRA have to try to convince them that the river system in York is not tidal. So far they have not been very successful in this!

Mr Rooke said that there was a public meeting after the 1978 flood. Some local residents were being flooded every year or two and there was an 'outcry' about the seriousness of the flooding. In those days the public would not have been given a choice of schemes but would have been presented with the scheme Yorkshire Water (later NRA) thought best. Mr Rooke said that senior officers from the Authority would have attended a meeting of this sort. He also said that in the past schemes considered above ground defences only but that it was subsequently decided that to be effective they had to take into consideration the sewerage system too. The York Flood Study Group was set up in 1979 by Yorkshire Water to co-ordinate the various authorities involved in providing flood defences. The Group is still in existence today but appears to almost have outlived its use.

David Rooke felt that MAFF, York City Council and the landowners would have been the main consultees for this scheme although he said that the utility companies such as British Telecom, British Gas etc. would always be consulted for any scheme that was to go ahead. He could not be more specific without looking at the file as to who exactly was involved with the consultation process.

There were no particular problems regarding the design or construction of the scheme. Soil from a nearby sugarbeet factory was used to construct the earthbanks but due to a disease in sugarbeet since then this would probably not be possible now, except perhaps in a totally urban area. The NRA would certainly not use sugarbeet soil in any agricultural areas.

Mr Rooke confirmed Mr Helliwell's comments about planning permission and said that no permission was necessary in the case of Leeman Road and that the scheme was seen as improving existing defences.

On discussing subsequent flooding in the area, Mr Rooke confirmed that the defences had almost been overtopped in the 1982 flooding and had had to be sandbagged. He felt that this was in part due to the by-pass ring road that had been built 'settling down' which slightly reduced the height of the embankment. The scheme

was designed for a 1:100 year event such as that of the 1947 flood.

A few houses were flooded in 1991. The flooding had been under the floorboards and had also lifted the tarmac outside the houses. Some residents raised the matter with York City Council and further protection works are to be carried out this summer. Although the NRA are responsible for above ground defence works, it is York City Council's responsibility to provide works below ground. Mr Rooke did not think there had been any bad publicity for the NRA regarding this flooding. Although residents were obviously concerned, he did not think there had been any real complaints.

There has been no follow-up consultation or appraisal regarding this scheme.

### Lower Ebor Street Scheme

The Lower Ebor Street scheme was initiated after the 1978 flood by Yorkshire Water (NRA) through the York Flood Study Group. 28 terraced houses on one side of the road had been flooded while 31 houses on the other side of the road had been surrounded by flood waters. Local residents, particularly those whose homes had been flooded, were obviously concerned about the flood risk and took it seriously. Those residents whose houses had not been flooded but had been surrounded by water were also concerned because of the inconvenience this caused them. All designs for the scheme had been carried out in-house by Yorkshire Water engineers. Mr Rooke again mentioned the tidal influence on flooding in York perceived by local residents.

The consultation process involved delivering letters to local residents and businesses explaining what the scheme involved and when it would be carried out; there was no public meeting.

Consultees included MAFF, York City Council, landowners in this case: the Council, individual home owners, the caravan park, Shepherds (a local factory), the Co-Op and local tenants. Utility companies would also have been consulted. Mr Rooke could not recall the names of any key individuals who had been involved but did say that the factory is now empty and the Co-Op is no longer there.

It was felt that the scheme was welcomed by local residents who were relieved that the threat from flooding had been considerably reduced. There were 4 options initially put forward for the scheme:

- a) A scheme that would protect the whole area, houses and businesses.
- b) A scheme that would protect all concerned with the exception of the caravan park.
- c) A scheme that would only protect housing and the factory.
- d) A scheme that would only protect the housing.

After consultation with the landowners it was finally decided to

only protect the housing as on a cost-benefit ratio this would prove to be the most beneficial. The owners of the caravan park were concerned about the amenity value of the park which might have been reduced if a floodwall had been built surrounding the park. They did however say that they would want to be provided with a means of escape in case of flooding. This was provided as well as access for emergency services. Shepherd's the factory moved away from the area shortly after the 1982 flood and it is believed that they knew about the proposed move before hand and that this was why they did not protest very much about being protected. They presumably received compensation.

Evidently the houses in Lower Ebor Street are classified as a Special Housing Area (or something like this) which means that the residents are able to apply for grants for upgrading works.

The area of the scheme was not a conservation area. No planning permission was seen to be necessary as the area was next to the river. There was also a fear that if they applied for planning permission for this scheme that it would set a precedent and that they would then have to apply for all other schemes (which they did not want to have to do).

The main problem as far as the construction was concerned was access to the site and working in such a constricted area. Because of this the scheme was the first to use pumped concrete. The brick faced concrete floodwalls were built using old bricks in keeping with the housing in the area. The factory wall was also strengthened and incorporated into the floodwall. The entrance to the factory was moved to the next street where an alternative access road had to be built. An old air-raid shelter, which was quite large, also had to be demolished before construction on the scheme could commence.

The houses have not been flooded since the scheme was complete although the caravan park and factory were flooded in 1991. There is a lot of new development in the area, but this has all been built above the 1:200 flood event level.

Reeman Road

Note of conversation with David Wilson, York 24.2.92

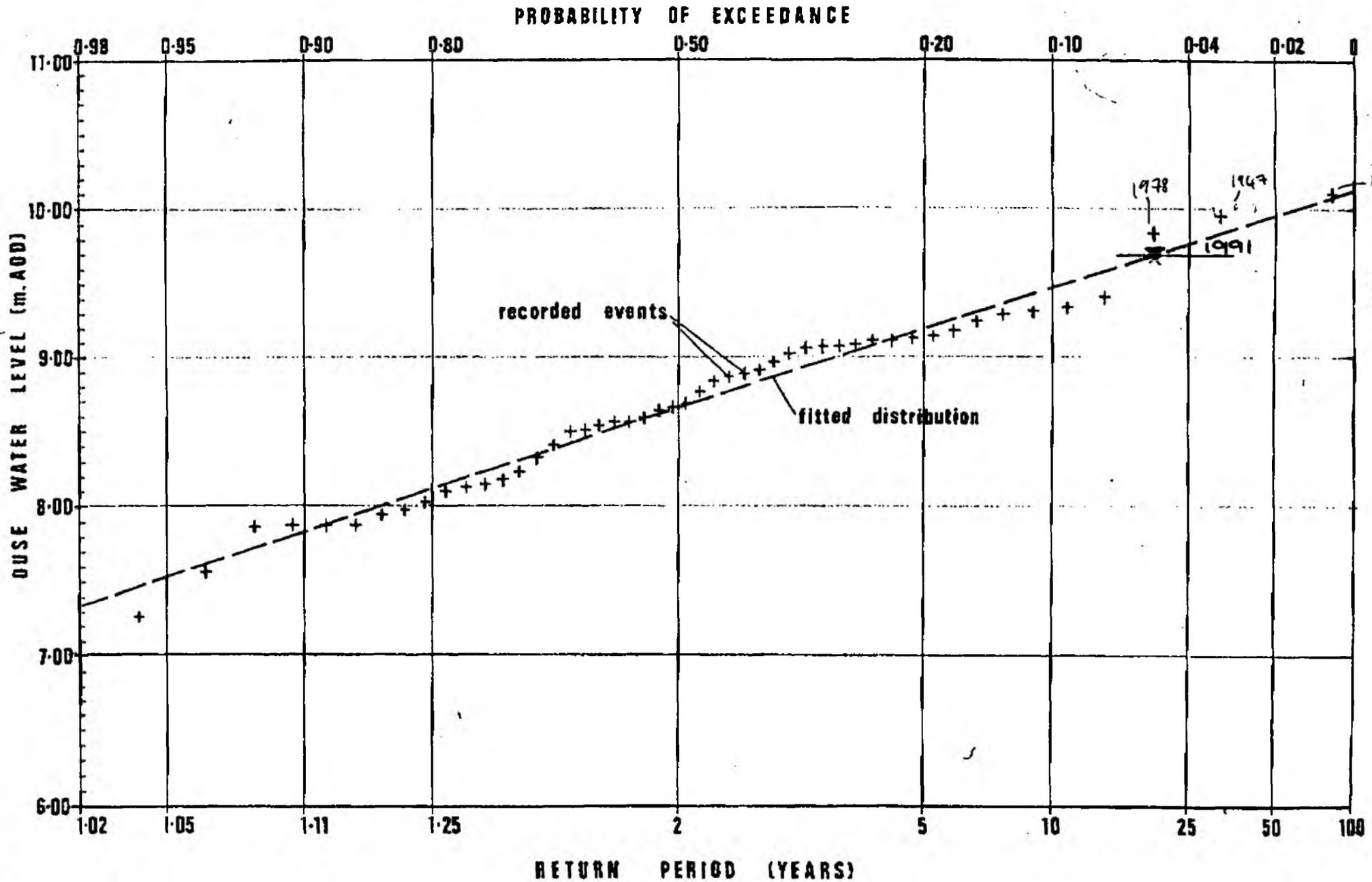
David Wilson was the maintenance engineer on the project. He came to York NRA office to talk about the scheme. According to him consultation was done through the local wateringers club and the vicar of St. Barnabas' Church. There was probably a church newsletter circulated. Mr. Wilson could not remember any objections, in fact, his millman told his wife that he should have a medal for what the Authority did regarding flood defenses.

All the properties were owned by the City Council (old railway workers cottages).

York City Council took over maintenance of the floodbanks.

One problem was a very large electricity cable which meant that they had to dig around it.

There were problems with mole infestations in the earth banks (letter from York City Leisure Services). Traps were put in bank but people complained as it was dangerous for dogs, children etc. It was suggested that other means were used to catch them.



\*\* TOTAL PAGE .002 \*\*

Fig.3

ANNUAL MAXIMUM RIVER OUSE LEVELS (1935-82) FITTED TO A NORMAL DISTRIBUTION