

APPENDIX 4
Canal Aqueduct Survey
Staffordshire Moorlands District Council
1995

HIGHWAYS DEPARTMENT
BRIDGES SECTION

SPECIAL BRIDGE INSPECTION

FOR

STAFFORDSHIRE MOORLANDS
DISTRICT COUNCIL

THE AQUEDUCT

Staffordshire

County Council

STAFFORDSHIRE MOORLANDS DISTRICT COUNCIL

CONSULTANT - STAFFORDSHIRE COUNTY COUNCIL

SPECIAL BRIDGE INSPECTION REPORT

Bridge Name :-	AQUEDUCT
Staffordshire Moorlands Bridge No :-
Staffordshire County Council Bridge No :-
Map Reference :-	SJ 979 552
Date of Inspection :-	November 09 1995
Portion of Structure Inspected :-	Whole
Report Status :-	Special Inspection for Moorlands District Council

Ref: AQULEEK.AZJ

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APPROACH EMBANKMENTS (Refer to photos nos. 7, 12, 13, 14, 31, 32, and 39)

They are in good condition with no sign of any soil slips. The South West embankment is showing signs of erosion possibly caused by animals but it is not significant (Photo 7)

ARCH RING / CORRUGATED METAL (Refer to photos nos. 18, 19, 21, 22, 23, 24, 25, 26, 27, 28, 29 and 30)

The arch is made of sandstone blocks which are in good condition and show no signs of any distortion. There are a number of blocks that show minor damage but this is not detrimental to the structure (Photos 16, 24 and 30)

Water is penetrating the joints in various places but is unlikely to be a problem immediately. There is some moss and plant growth in the joints particularly near to the water line and in areas of water seepage.

SPANDRELS (Refer to photos nos. 11, 39, and 40)

The spandrel walls are made of sandstone blocks which are in good condition. There is a lot of plant growth through the block joints which has reached a condition where urgent removal is required. One small tree has already been cut back and currently the growth does not appear to have displaced any of the blocks (Photo 11)

DRAINAGE SYSTEM

There does not appear to be any drainage system constructed at the back of the arch.

WATERPROOFING

Originally the canal bed over this structure would have been lined with puddled clay which would probably have been left when the canal was filled in. However this would not serve as an effective waterproofing medium under current conditions, therefore the structure is effectively without waterproofing. Some water is seeping through the arch blocks, though the seepage is slight and probably does not emanate from the severed canal to the south.

SURFACING (Refer to photos nos. 1, 2, 3, 4 and 8)

The section of canal over this structure has been filled in and the surface topsoiled and grass allowed to grow. There are several footpaths radiating away from the Barnfield Road access leading along the canal and river. There is some exposed concrete on the surface possibly being fill material used when the canal was abandoned (Photo 8).

There are no details of how or when the canal was filled in so it is not known how extensive any concrete fill to the arch is, or if it acts compositely with the arch construction.

PARAPETS / HANDRAILS (Refer to photos nos. 5, 6, 7 and 9)

There are masonry parapets present which are in good condition though they show signs of their age. Some of the coping stones are chipped (Photo 7) and on the West side one block has been replaced by brickwork (Photo 5).

There is an oak paling fence in the south west corner that appears to cover the area from the end of the parapet to the bottom of the wingwall where a 3 to 4 metre drop exists (Photo 7). This fence should be replaced with something more substantial and the end fence and style should be treated in a similar manner with the fence extended to cover the open end of the canal.

SUMMARY OF CONDITIONS FOUND

1. Vegetation growing out of the masonry on both elevations some of which has been there for some time. It is not a problem at the moment but methods of removal should be investigated and implemented quickly.
2. Water seeping through the arch is unsightly but not detrimental and as the cost of preventing it would be prohibitive no further action need be taken.
3. Damaged and missing stones from the arch do not seem to be a problem and are not adversely affecting the structure but they should be replaced as soon as possible to prevent any deterioration.
4. The fences in the south west corner require improving and extending to cover the end of the canal.

PROPOSED REMEDIAL WORKS AND COST ESTIMATES

INVERTS OR APRONS (Item 9)

Repairs : Protect south end abutment from scour. Remove rubbish.

Priority: Low.

Approx Cost: £2000

WINGWALLS AND SPANDRELS (Item 6 and 9)

Repairs : Remove vegetation. ✓

Priority: Medium.

Approx Cost: £2000

ARCH RING (Item 16)

Repairs : Replace missing masonry

Priority: Medium.

Approx Cost: £2500

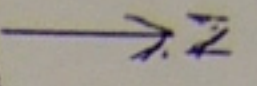
PARAPETS (Item 24)

Repairs : Remove existing fence and style, south west end and replace with a pedestrian proof fence and style and extend the fence to cover the end of the canal.

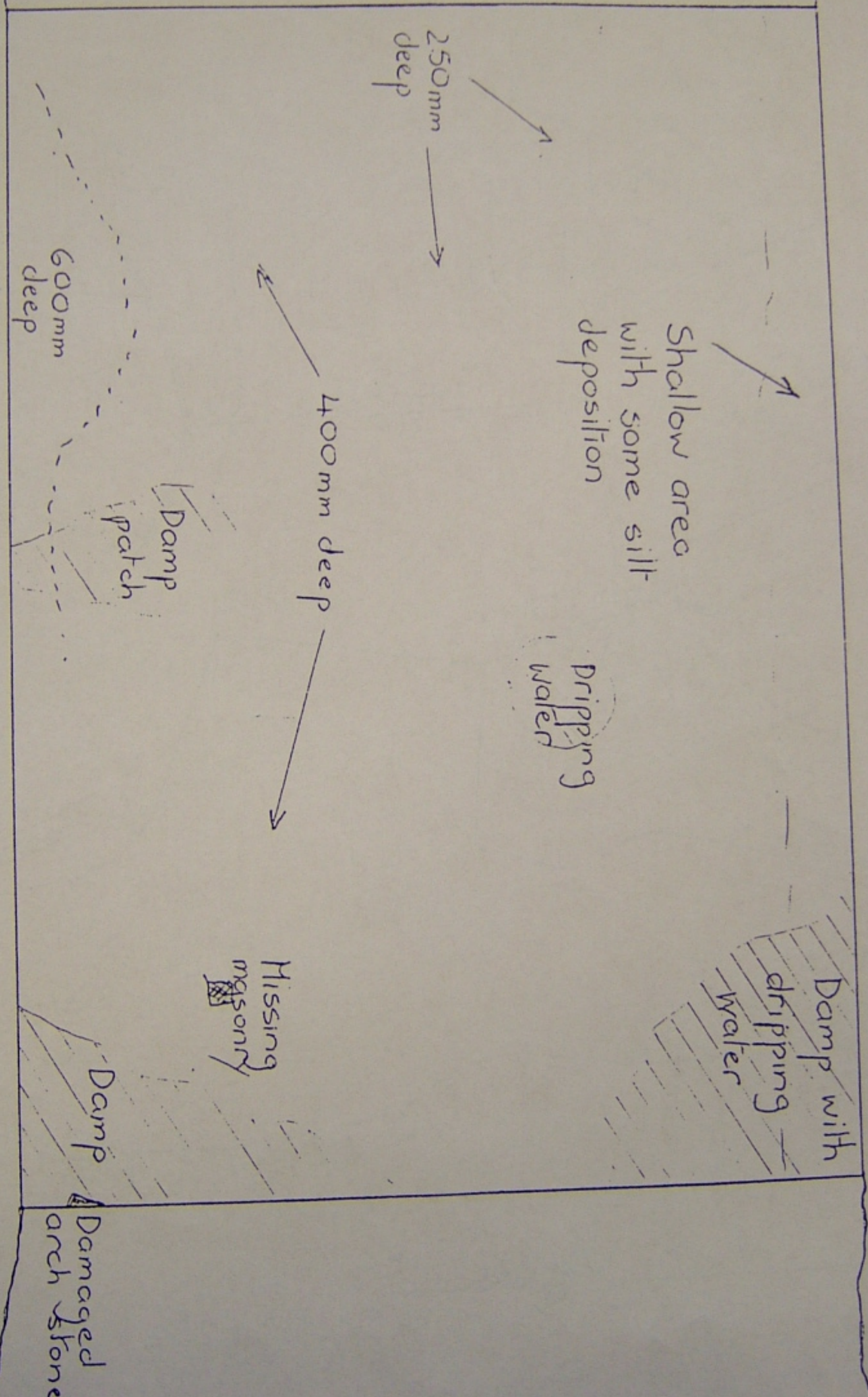
Priority: Medium.

Approx Cost: £1000

9/1/97



River
Churnel- →



Plan of Arch and River Bed N.T.S.

STAFFORDSHIRE COUNTY COUNCIL

HIGHWAYS DEPARTMENT

BRIDGE INSPECTION REPORT

BRIDGE NAME THE AQUEDUCT, LEEK

County Bridge No: NOT APPLICABLE
 Road No: NOT APPLICABLE
 Area: MOORLANDS
 Grid Ref: SJ 979 552

Date of Inspection 14/11/95 Type of Inspection SPECIAL Inspected By A. JAWORSKI

	Estimated Cost (000)	Extent	Severity	Work Rec A Priority
1. Foundations				
2. Inverts or Aprons				
3. Fenders				
4. Piers or Columns				
5. Abutments				
6. Wing walls				
7. Retaining Walls or Revetments				
8. Approach Embankments				
9. Bearings				
10. Main Beams				
11. Transverse Beams				
12. Diaphragms or Bracings				
13. Concrete Slab				
14. Metal Deck Plates				
15. Jack Arches				
16. Arch Ring	2.5	B	2	R L
17. Spandrels	0	B	3	R M
18. Tie Rods				
19. Drainage Systems		B	2	N
20. Waterproofing		B	2	N
21. Surfacing		A	1	
22. Service Ducts				
23. Expansion Joints				
24. Parapets	2	B	2	R L
25. Access Gantries or Walkways				
26. Machinery				

Report Dated 14/11/95

Structure No. N/A

Structure Name THE AQUEDUCT.

Explanatory Notes

- 2.) Scour on the south side and rubbish in the river.
- 6. & 17) Vegetation and small trees growing out of the masonry joints.
- 16) Missing masonry and water seepage.
- 24) Improved fencing required south west end.

Remedial Work Required

- 2) Prevent further scour and remove rubbish.
- 6 & 17) Remove vegetation
- 16) Replace masonry
- 24) Replace and extend fencing.

Maintenance Summary

H

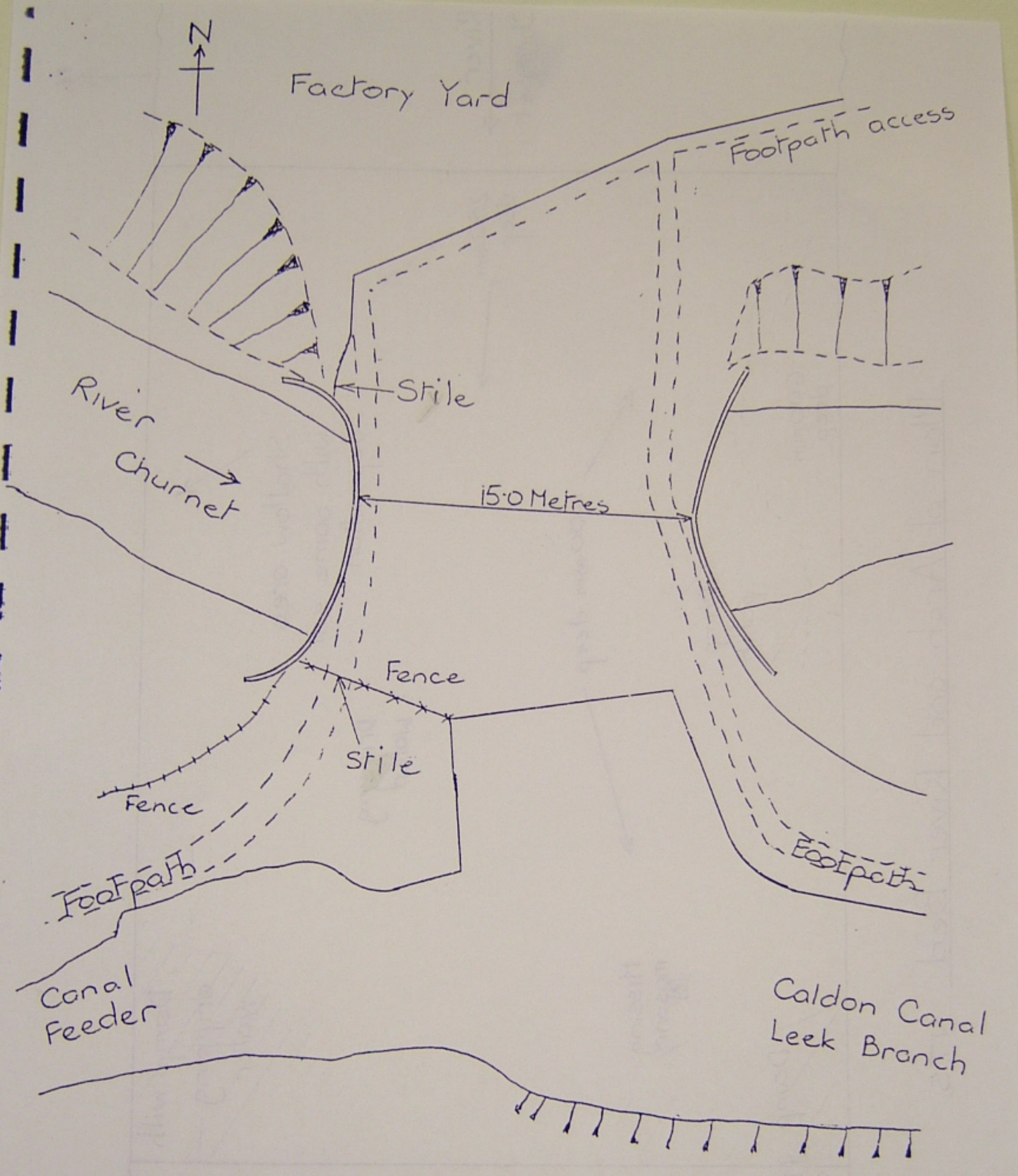
M 6, 17,

L 2, 16, 24



title

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Plan of the Aqueduct

Scale 1/250

Diagram 1

involving an annual payment, usually allow free access over the land, but may carry restrictions to protect the interests of the owner if necessary.

8.20 Management agreements under the Wildlife and Countryside Act (1981) provide another mechanism for securing access or other countryside provisions such as nature conservation. They allow payments towards the cost of managing land, either for nature conservation, enhancing its natural beauty or promoting its enjoyment by the public. Recreational provision may also arise from development proposals. Legal agreements under the Town and Country Planning Act, 1990, can be made between developers and the Local Authority to secure the best use of land for public recreation or amenity.

R10 THE DISTRICT COUNCIL WILL ENCOURAGE, PROVIDE AND MANAGE APPROPRIATE ACCESS TO WIDER AREAS OF COUNTRYSIDE.

8.21 Sites for intensive countryside recreation uses, such as Country Parks, play an important part in rural recreation. They can act as a focus for means of transport, provide related facilities, and be a starting point for walks into the wider countryside and other activities. They form part of a hierarchy of rural recreation spaces and can channel demand from more sensitive sites. They can also act as 'gateways' giving people more confidence to venture into the wider countryside. Management is often crucial to minimise conflict between differing objectives and interests such as nature conservation, environmental education and provision of recreational facilities.

R11 THE DISTRICT COUNCIL WILL ENCOURAGE AND, SUBJECT TO RESOURCES, HELP PROVIDE RECREATION SITES, DEVELOPED AND MANAGED TO ACT AS "GATEWAYS" TO THE WIDER COUNTRYSIDE.

The Caldon Canal

8.22 The Caldon Canal runs from Stoke-on-Trent, via Endon and Cheddleton to

Froghall in the heart of the Churnet Valley. A short branch runs from Hazelhurst Locks, just west of Denford, via a length of tunnel, to Leek. The canal was improved during the 1980 to 'Touring' standard.

8.23 Boating as a recreational past-time has become increasingly popular on the Caldon Canal. However, this trend is constrained due to a lack of moorings and associated facilities such as sanitation blocks, water supply points and accessible shops.

8.24 Securing the provision of extra facilities along the canal may result in problems. The canal lies within the North Staffordshire Green Belt; limiting the scale and use of any recreational development (a permitted Green Belt use). The conflict between increasing visitor facilities and nature conservation will need to be given due consideration, especially as the natural environment is one of the most appealing aspects of the canal. Access to the canal is limited with suitable access points generally only being available where the canal passes through villages. Endon and Froghall have some form of facility provision and Cheddleton seems the logical place for the location of suitable facilities.

8.25 The Leek arm of the canal suffers similar problems and the search for a suitable site should be concentrated on the Leek end, giving a destination to the branch and a place to moor and visit Leek.

R12 ALONG THE CALDON CANAL THE DEVELOPMENT OF VISITOR MOORINGS AND ASSOCIATED FACILITIES INCLUDING PARKING PROVISION, SANITATION BLOCKS, INTERPRETATION FACILITIES AND PROVISION OF FOOD AND FUEL WILL BE GIVEN SYMPATHETIC CONSIDERATION PROVIDED THAT THEY ARE LOCATED WITHIN VILLAGE DEVELOPMENT BOUNDARIES OR WITHIN EXISTING GROUPS OF BUILDINGS AND ARE IN KEEPING WITH THEIR SURROUNDINGS IN DESIGN AND SCALE.