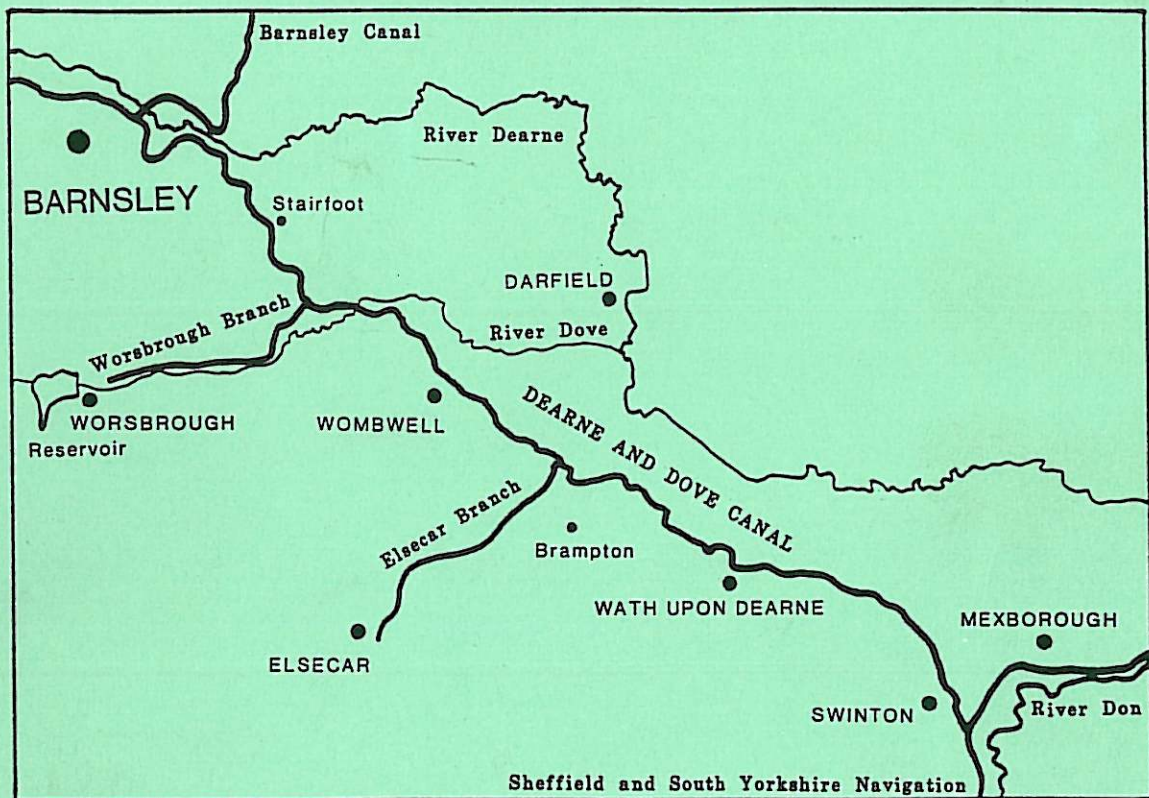


DEARNE AND DOVE CANAL

- the vital link



A survey of the Dearne & Dove Canal,
its condition, its history and its possible future

THE BARNESLEY CANAL GROUP

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Text and Maps - David Bullock
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Note:- The maps of the Dearne & Dove Canal indicate, using the symbols
— ○ — ○ — ○ — , a possible walking route along the Canal's former towpath or
along nearby paths or roads. The Group has taken great care in showing these
routes but cannot guarantee that they are public rights of way or passable at
all times. The new 'old railway' line for the rebuilt Canal should also be
walkable as it forms part of the Trans Pennine Trail sponsored by Barnsley
Council.

T H E D E A R N E & D O V E C A N A L

- the vital link

A survey of the Dearne & Dove Canal,

its condition, history

and its possible future

Second Edition

Published December 1991

by the

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BARNESLEY CANAL GROUP

The Group was formed in April 1984 and has approximately 250 members. In 1991 it became both a limited company and a registered charity

The Group began by looking at the first of Barnsley's two Canals, the Barnsley Canal. Its survey of the Barnsley Canal was published in July 1984 and, after the original 1000 copies had been distributed, the Group produced a second, revised edition in May 1988. The Barnsley Canal, particularly from the the River Calder at Wakefield to Royston, has great scenic value and its restoration, from Wakefield, through Royston and Barnsley, to Barugh would form a valuable asset for both Wakefield and Barnsley Districts.

The value of the Barnsley Canal, however, would be greatly enhanced if it could form part of a through route. The possibility of a Yorkshire Ring of canals led the Group in 1986 to turn its attention to Barnsley's other waterway, the Dearne & Dove Canal. Together the two Canals will join navigable water at the River Calder in Wakefield to the Sheffield & South Yorkshire Navigation at Swinton. In October 1987 the first edition of this, the Group's Dearne & Dove book, was published and, following distribution of the 1000 copies, it has become necessary to produce a second, revised and extended, edition. This edition also incorporates photographs which were not available in 1987.

At the end of 1986, the imminent availability of the former Mexborough to Barnsley (Great Central) railway line, as an alternative route for the difficult Dearne & Dove Canal restoration, prompted the solution outlined in this book, a solution which is probably unique. The use of five miles of abandoned railway for a new, replacement Canal has not been suggested elsewhere on other canal restorations.

In February 1990 work parties from the Group and the Cortonwood & Elsecar Project began the restoration of the Elsecar Branch at Elsecar Basin. This work was helped by the donation by British Waterways of three pairs of re-usable lock gates in 1990 and the publication in mid 1991 of an engineering survey of the Branch by engineers Ove Arup (summarised later in this book). This survey was commissioned by the Cortonwood & Elsecar Project and Barnsley Council through the Government's Urban Programme.

The Group publishes a quarterly magazine The Keel which gives up-to-date information on the Group's campaign and historical information on its Canals. This is distributed free to members. Details of Group membership can be obtained from the address on page 1.

THE REGION'S WATERWAYS (opposite page)

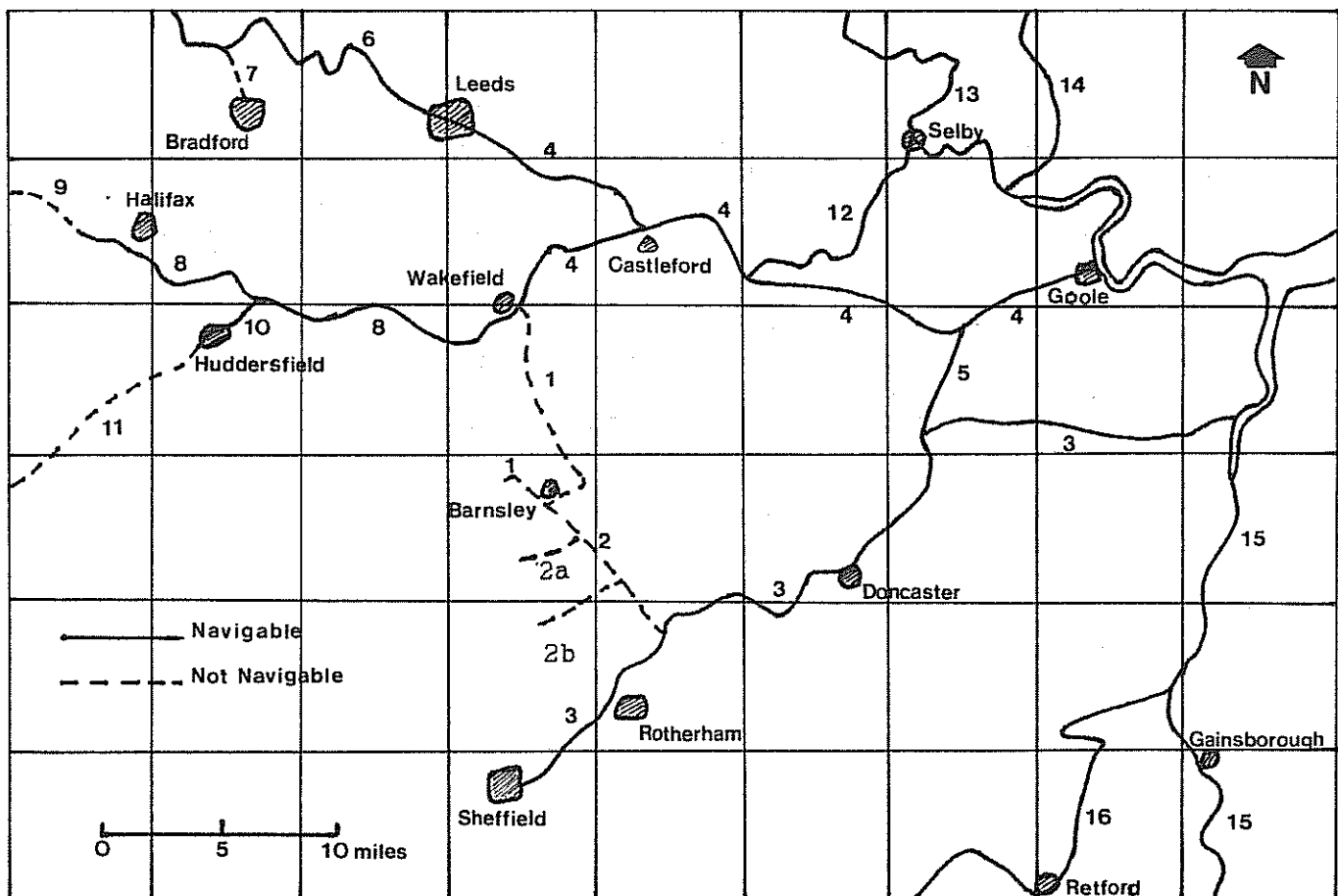
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|---------------------------------------|-------------------------------|
| 1. Barnsley Canal | 8. Calder & Hebble Navigation |
| 2. Dearne & Dove Canal | 9. Rochdale Canal |
| (a) Worsbrough Branch | 10. Huddersfield Broad Canal |
| (b) Elsecar Branch | 11. Huddersfield Narrow Canal |
| 3. Sheffield & South Yorks Navigation | 12. Selby Canal |
| 4. Aire & Calder Navigation | 13. River Ouse |
| 5. New Junction Canal | 14. River Derwent |
| 6. Leeds & Liverpool Canal | 15. River Trent |
| 7. Bradford Canal | 16. Chesterfield Canal |

CONCLUSIONS

The Barnsley Canal Group, as a result of the matters considered in this book, has concluded that:-

- a) the former Mexborough to Stairfoot railway line should be protected from development and retained as an alternative route for the restored Dearne & Dove Canal.
- b) the re-creation of a Yorkshire Ring of canals by restoration of the Barnsley and Dearne & Dove Canals is highly desirable.
- c) the Dearne & Dove Canal should be restored along the line of the railway from Adwick Road Bridge to Aldham and two sections of the old canal line should be restored, from Swinton to Adwick Road Bridge and from Aldham to the junction with the Barnsley Canal.
- d) the former Dearne & Dove Canal branches, to Elsecar and Worsbrough, should be restored.
- e) the proposed Dearne Towns Link Road, south of Wombwell, should provide bridges over the Elsecar Branch and the former rail line.

T H E R E G I O N ' S W A T E R W A Y S



WHY RESTORE THE DEARNE & DOVE CANAL?

1. Restoration of the Barnsley and Dearne & Dove Canals will recreate the Yorkshire Ring. Boaters would be able to travel from Barnsley down to Swinton using the new Dearne & Dove, and from Swinton down the Sheffield & South Yorkshire Navigation to below Doncaster. There the New Junction Canal takes boaters across to the Aire & Calder system. Upstream, almost to Wakefield, the proposed junction with the Barnsley Canal is reached. Finally the restored Barnsley Canal would take the boater back to Barnsley. All that is missing from this Yorkshire Ring is the Barnsley and Dearne & Dove Canals. Separate restoration of only one would have much to recommend it. Restoration of both more than doubles these advantages.

2. Restoration of the Dearne & Dove Canal will create a linear park in the Lower Dearne Valley, an area much disfigured by industrial and mining remains. Not only will boats be able to navigate this linear park but it will provide an attractive route for cycling and walking. Most of the five miles of old railway proposed for the new Canal also accommodate the Trans Pennine Trail sponsored by Barnsley Council.

3. Restoration of the Elsecar and Worsbrough Branches will connect the waterway to two areas of considerable historic and scenic interest, the Elsecar Project, a 'major heritage-based visitor attraction', and Worsbrough Mill and Country Park.

4. Restoration will create considerable opportunities for jobs in the short term during construction and, in the longer term, in maintenance and administration of the waterway. Further work will be created in commercial enterprises, such as marinas or chandlers, connected with the waterway. Users of the Canal will bring useful revenue to the area.

5. An independent survey for Calderdale Council of the 32 mile long restoration of the Rochdale Canal has concluded that a restoration cost of £16 million will bring in a potential £8 million per year tourist income, would create 1084 jobs and would increase property values by £4 million. There is every reason to believe that a Dearne & Dove Canal (and Barnsley Canal) restoration will bring similar benefits.

6. It is now widely accepted, throughout the country, that a navigable waterway has considerable advantages, both environmental and economic, to any area lucky enough to possess one. A channel of water is a visual and recreational asset to any landscape, urban or rural. In particular, the new Dearne & Dove Canal will be an important central feature of the Wath/Manvers Reclamation Area.

7. Finally, a waterway and its towpath provide unrivalled opportunities for many leisure activities, including walking, fishing, nature study, photography and just watching, as well as canoeing and boating.

Photographs on page 5

(Top) 26 April 1949. Locks 1 & 2 at Swinton looking down to the junction with the Sheffield & South Yorkshire Navigation. Waddington's boatyard on right.

(Bottom) 6 May 1949. Out Lane Swing Bridge at Wath. National Coal Board surveyors consult their map. Wath Brewery in background. The Wath Bypass (Biscay Way) is now built on this section of Canal.



HISTORY OF THE DEARNE & DOVE CANAL

Before the arrival of the canals, Barnsley was served by transport along very poor roads. One route ran from the wharf at Swinton on the Don Navigation, which had been completed in 1751, through the villages of Wath and Wombwell, up the Dearne Valley to Barnsley. Good coal seams had been found around Barnsley, particularly in the valleys running westwards from the River Dearne, around Elsecar, Worsbrough and Silkstone. Quite suddenly, in 1792, competing proposals were made to exploit this coal by the construction of canals.

In August 1792, the Don Navigation Company resolved to try and make the River Dearne navigable up to Barnsley. This navigation would have left the Don below Mexborough and followed the river valley, through the Darfield gap, to Barnsley and on up the valley to Barugh and to Haigh. Simultaneously, the Aire and Calder Navigation in the north put forward proposals for what became the Barnsley Canal from the River Calder at Wakefield to Barnsley and up the valley to Barugh. Very soon, the Calder and Hebble Navigation joined the fray, with a very difficult proposal for a canal from Horbury over the high watershed at Bretton and down into the Dearne valley at Haigh.

On 20 October 1792, the rival promoters from the Don and the Aire & Calder held a famous meeting at the White Bear Inn (now the Royal Hotel) in Barnsley and agreed to join their canals just south of Barnsley at Hoyle Mill and go forward with separate but complementary proposals. The Dearne & Dove proposals had now changed radically. A canal from the transhipment wharf at Swinton was suggested. This climbed over the high ground above Swinton through a 472 yard tunnel, into the Dearne Valley. It then clung along the valley side, climbing eventually to the summit at Stairfoot before emerging again into the Dearne Valley, high above the river, to reach the junction with the Barnsley Canal. There were two long branches, each with a reservoir, in the valleys leading to Elsecar and Worsbrough. The promoters of the Barnsley Canal agreed to extend their line northwards from Barugh up the Dearne Valley to Haigh. This extension, which was never actually built, was partly put forward to forestall the Calder & Hebble proposals.

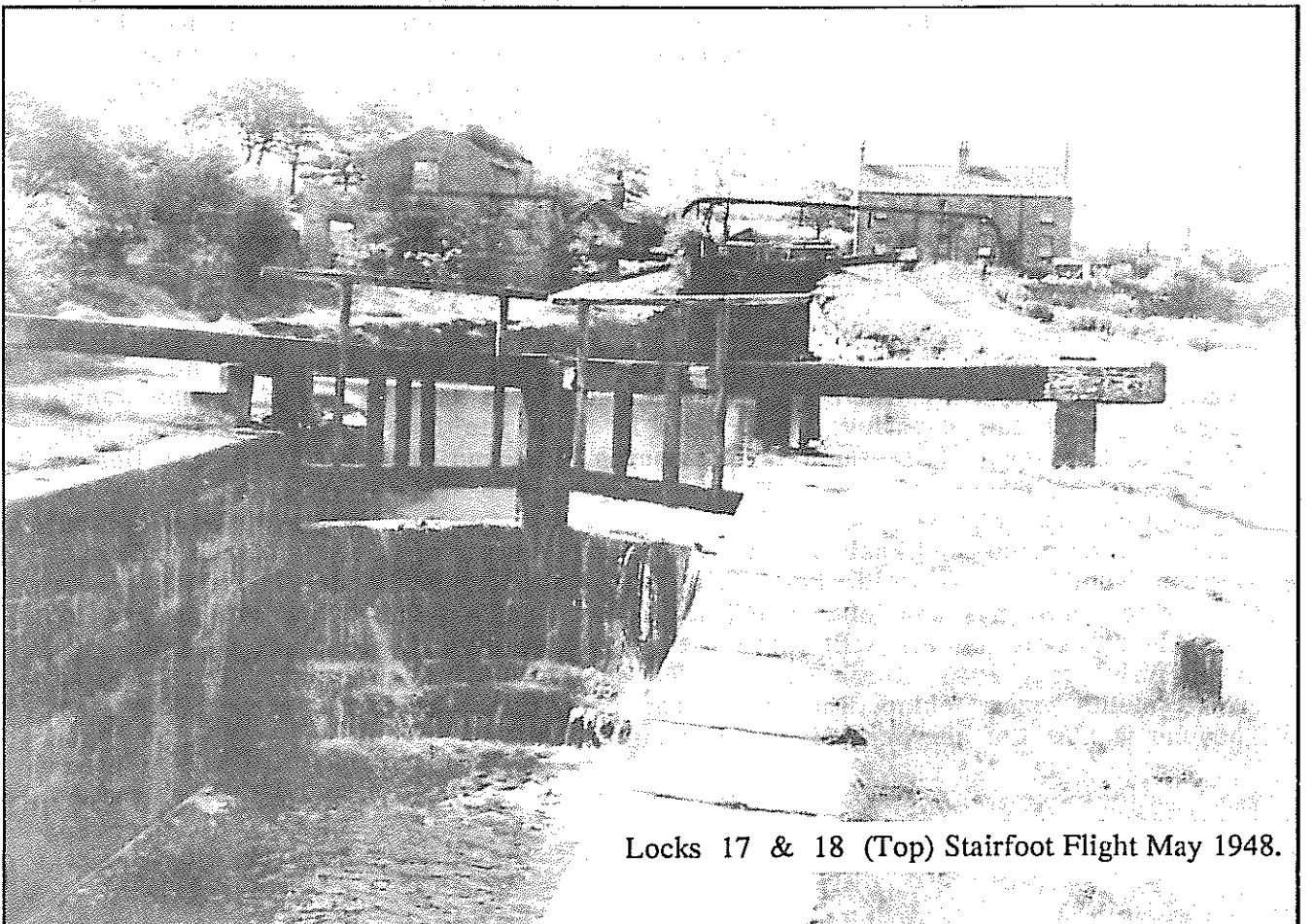
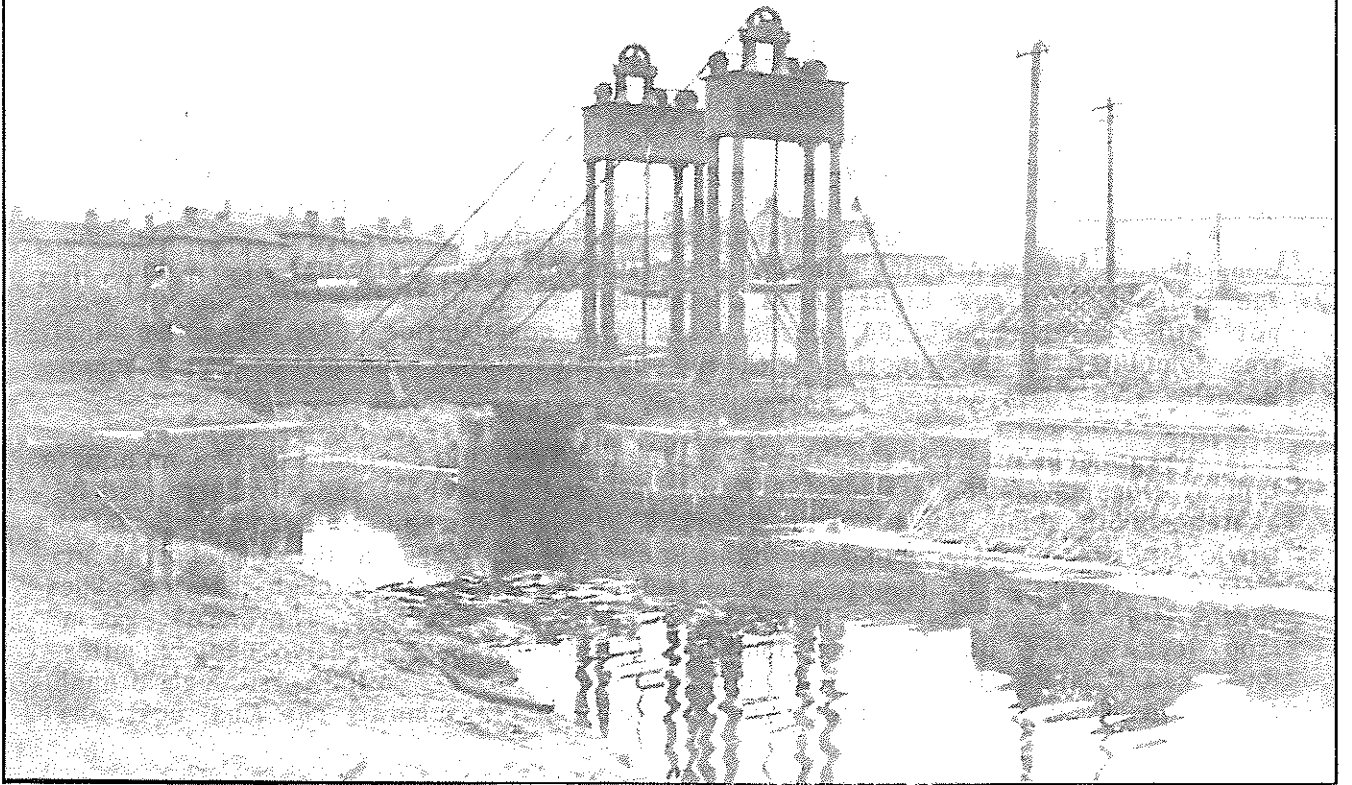
The two Acts, for the Dearne & Dove and the Barnsley, were passed by Parliament on the same day in June 1793. The Calder & Hebble had been persuaded to withdraw their proposals. Share capital of £60,000 was agreed for the Dearne & Dove and the demand for the purchase of shares was so high that a split was agreed of one third to landowners on the line of the canal, one third to residents within seven miles and one third to Don Navigation shareholders. A further mortgage facility of £30,000 was incorporated in the Act.

Construction started immediately in the charge of engineer Robert Mylne. Engineers involved at an earlier stage included John Thompson, William Fairbank

Photographs on page 7

(Top) 12 April 1948. Lift bridge carrying single rail line to Cortonwood Colliery - to the right. Looking downstream from Lock 9 towards Lock 8 with the aqueduct over Knoll Beck immediately downstream of the bridge. Brampton in distance.
 (Bottom) 2 May 1948. Locks 17 and 18 at the top of the Stairfoot Flight. Water from Worsbrough Branch was fed into this pound and pumped up to the top level above Lock 18. Pumphouse is probably the small building on the left. All the buildings have now gone and the canal and locks are filled.

Rail Lift Bridge & Knoll Beck Aqueduct Brampton April 1948.



Locks 17 & 18 (Top) Stairfoot Flight May 1948.

and Robert Whitworth. William Jessop, who had overall charge of the Barnsley Canal proposals, declined an invitation for involvement in the Dearne & Dove because of lack of time. On 3 December 1798 the canal was opened from Swinton to the end of the Elsecar Branch. This Branch was partly financed by £5000 lent by the colliery owner, the Earl Fitzwilliam. The proposal in the Act for a lockless Elsecar Branch involving deep cuttings was changed in 1796 to a more realistic line with six locks.

Construction costs by August 1797 had used up the share capital of £60,000 and the company was unable to persuade anyone to lend them money on the authorised mortgage. They staggered on until 1800 when a further Act authorised an extra £30,000 call on shareholders and mortgage facilities of £10,000. Construction was continuing slowly. On 1 January 1799 the canal was opened to the foot of Stairfoot Eight Locks at Aldham, three miles from Barnsley. It was not until 12 November 1804, eleven years after construction began, that the canal was completed to the junction with the Barnsley Canal. The latter had reached Barnsley five years earlier in 1799.

The dimensions of the canal provided locks big enough to accommodate typical Don Navigation vessels (58 feet x 14 feet 10 inches) and a rather miserly average depth along the canal of 4 feet 6 inches. The main line from Swinton to Hoyle Mill was slightly under 10 miles long with 18 locks in three groups, 6 at Swinton, 4 below the Elsecar junction and 8 below the Worsbrough junction. The total rise was 127 feet, an average of 7 feet at each lock. There was also a stop lock at the Barnsley junction. The Elsecar Branch, slightly over 2 miles long, had 6 locks rising 48 feet and a reservoir. The 2 mile Worsbrough Branch had no locks and a much larger reservoir to feed the summit. The final cost was £100,000.

The main traffic down the canal was, of course, coal. A thriving market for this coal was developed in Lincolnshire. Other merchandise included lime, limestone, pig iron, timber and, particularly, corn which increased considerably as the population increased. In 1810, 73,384 tons were carried, of which 22,395 tons (30%) came off the Barnsley Canal, 26,462 tons (36%) off the Elsecar Branch and 20,312 tons (28%) off the Worsbrough Branch. The remaining 4215 tons (6%) were presumably picked up along the main line. By 1830 the Canal was carrying 181,000 tons each year. This represents the passage of about 70 fifty ton boats along the canal each week or, put another way, some 12 boats might pass along the canal each day in each direction.

To provide water for this traffic, the Worsbrough reservoir depth was increased in 1826 by 4½ feet and its acreage from 20 to 42. However, all was not well. In 1833 the Don Navigation complained of the lack of depth in the canal compared with the Barnsley Canal. Then in 1840 the first railway arrived, the North Midland from Rotherham to Normanton. This had one benefit for the Dearne &

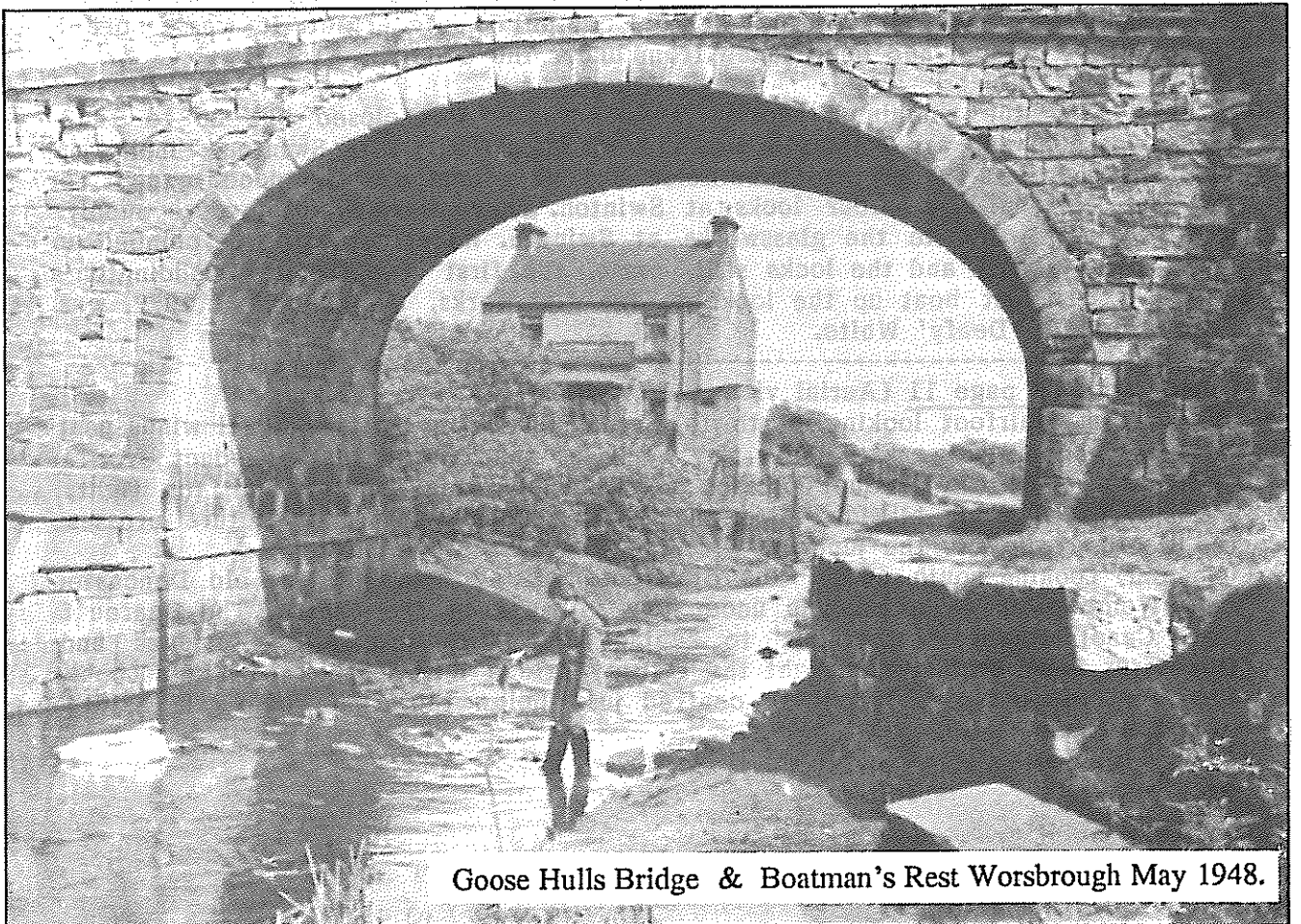
Photographs on page 9

(Top) Date unknown. Canal at Stairfoot just north of Doncaster Road Bridge looking north. Waterfield Place on left with maintenance(?) boats moored alongside. Railway, now abandoned, is Great Central line from Mexborough to Barnsley. The houses are still there with a grassed area covering the Canal.

(Bottom) 2 May 1948. Goose Hulls Bridge on the Worsbrough Branch. The Boatman's Rest public house behind. The bridge has been filled but still exists. The area beyond is now the car park of The Boatman's Rest.



View of the canal staircase from the top of the stairs looking down towards the bridge.



Goose Hulls Bridge & Boatman's Rest Worsbrough May 1948.

Dove. The railway cutting alongside the Adwick canal tunnel necessitated the re-alignment of the canal and the replacement of the tunnel by a joint canal/railway cutting.

As a consequence of the railway competition, the Canal Company reduced their tolls by one third in 1841. Then in 1846 the Don Navigation bought out the Canal Company. Four years later, in 1850, the Don Navigation was amalgamated with the South Yorkshire railway which in turn became part of the Manchester, Sheffield & Lincolnshire Railway in 1874. Finally, in 1894 the canal interests were split off to form a new company, the Sheffield & South Yorkshire Navigation.

The Dearne & Dove Canal was always, after the arrival of the railways, a liability to whoever owned it. In 1884 a 25 yard breach occurred on the Worsbrough Branch which cost £19,000 and 6 months to repair. The whole canal was expensive to maintain because of mining subsidence and traffic was continually declining. This contrasted with the Barnsley Canal where, under Aire and Calder control, the locks were lengthened to 79 feet and the headroom and depth increased to successfully encourage sufficient traffic to offset the heavy maintenance costs.

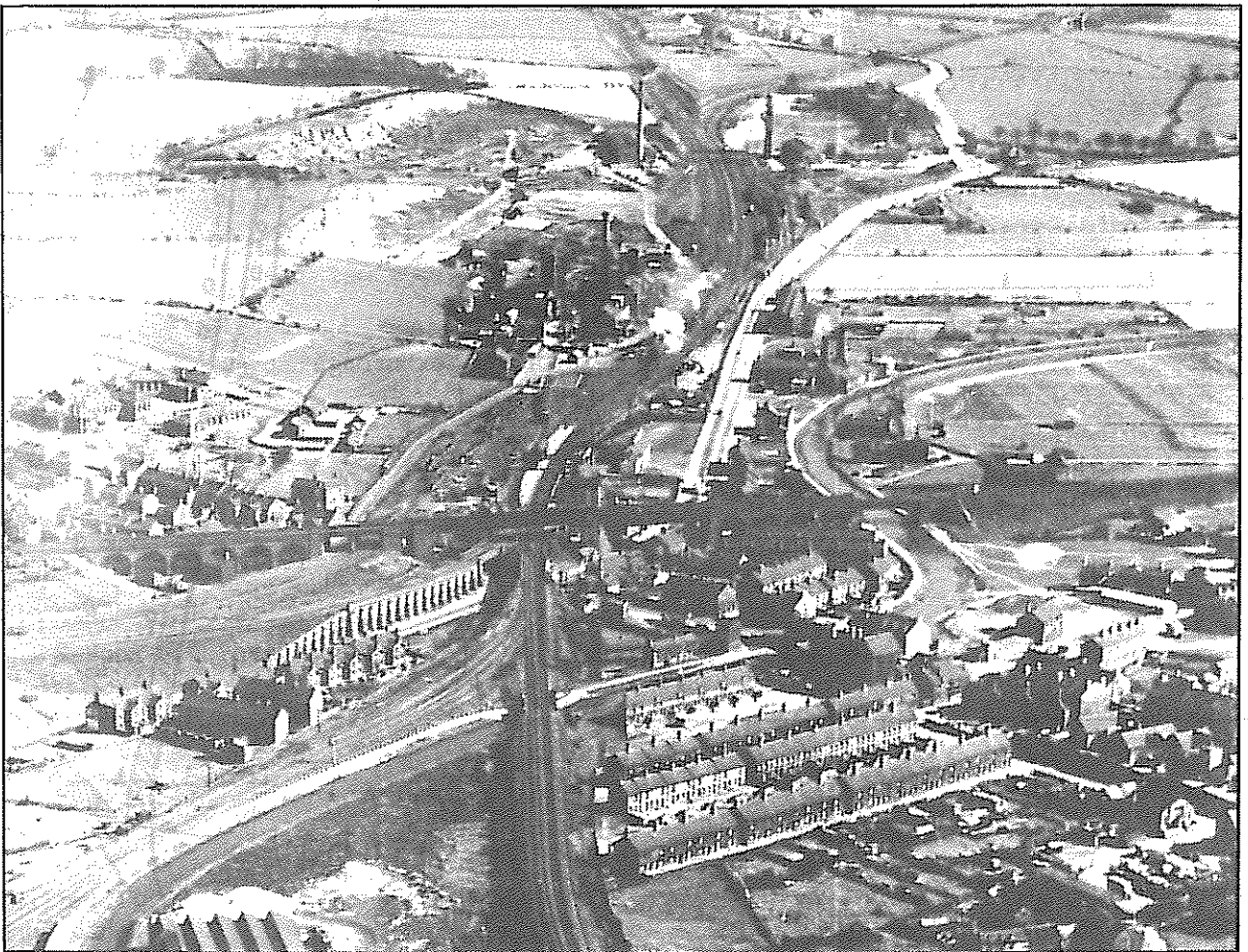
Although the Dearne & Dove's decline was continuous, small sections of it remained in existence for longer than the Barnsley Canal. Abandonment began in 1906 with the closure of the Worsbrough Branch to navigation, although water was still fed to the summit. Also in 1906, the S & SYN formally abandoned the attempt to maintain any more than 4½ feet depth on the summit. By 1909, the canal owners began to permit the mining of coal from under the canal. Vain attempts to prevent subsidence were thus ended. In 1928 the Elsecar Branch was closed following subsidence. In 1934 the last boat navigated through to Barnsley and the main line was closed except for almost a mile at Barnsley and the same distance at the other end from Manvers Main Colliery to Swinton. In 1934 the S & SYN obtained an Abandonment Bill but did not put it into effect. It was reported that 10 feet of coal had been taken from under the Canal.

In 1942 the remaining section near Barnsley was closed but up to 1952 there was coal and tar traffic from Manvers Main Colliery to Swinton. Finally, in 1961, by a British Transport Commission Act, the canal was abandoned except for the last half mile and four locks at Swinton. These were maintained to supply materials and water to the glassworks at Swinton. Water can still be pumped up from the S & SYN and the locks still exist, the first two forming Waddington's boatyard. The last boat up the locks to the glassworks, at the end of 1977, was Ablen, captain 'Deafy' White.

Photographs on page 11 (Aerial views 24 April 1951)

(Top) From Stairfoot looking north to Barnsley. Dearne & Dove Canal winds past Beatson Clarks glassworks. Below the works is the large canal aqueduct over a minor track. Railway viaduct crosses to Barnsley Main Colliery and, top right, Barnsley Canal is on hillside. Barnsley Canal Aqueduct at top of picture crosses the Dearne Valley to the junction with the Dearne & Dove Canal.

(Bottom) Looking south across the Stairfoot railway complex. The old Doncaster Road/Wombwell Lane crossing is under two railways in the centre. The Dearne & Dove Canal crosses bottom left to centre right with two railway bridges and Doncaster Road Bridge. Top right the railway bridge marks Stairfoot Eight Locks. The new Stairfoot roundabout is centred just below the right hand rail bridge over the Canal.



A6023
Wath to Mexborough

Manvers Main
Colliery

British Coal
Workshops

Adwick Road
Bridge

New canal line
joins railway

1 mile
from S&SYN

MEXBOROUGH

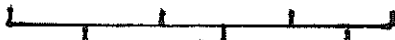
Bow Broom Bridge

Railway

Lock 6

Lock 5

Canning Town
Glass



Proposed new canal line

A6022
Swinton to Mexborough

Lock 4

SWINTON

Lock 3

Waddington's
Boatyard

Lock 2



0 1/4 1/2
mile

Lock 1

Waddington (Swinton) Lock

Sheffield &
South Yorkshire
Navigation



MAP 1

The junction between the Dearne & Dove and the Sheffield & South Yorkshire Navigation still exists, although nowadays it is filled with boats tied up at Waddington's boatyard. The S&SYN water level extends now to the foot of Lock 3. The eastern side of Lock 1 has been demolished and steel piling driven in its place. Beyond there, and up to the foot of lock 3, considerable work has been undertaken to deepen lock 2 and the pound between locks 2 and 3, in order to create a basin up to the foot of lock 3 at the S&SYN level. The eastern side of lock 2 has again been demolished and piled. There is no longer any need for water to be pumped up above lock 4 and for the gates of lock 3 and 4 to be maintained. Lock 3 and above could be dewatered and abandoned.

Only the top gates of lock 3 exist; the bottom gates are derelict. The pound between locks 3 and 4 is full to the proper level and both pairs of gates on lock 4 still exist. Above lock 4, the pump outlet is under the road bridge and the canal is in water up to the railway bridge. The canal was retained here for traffic to the Canning Town Glassworks but this ceased in 1977.

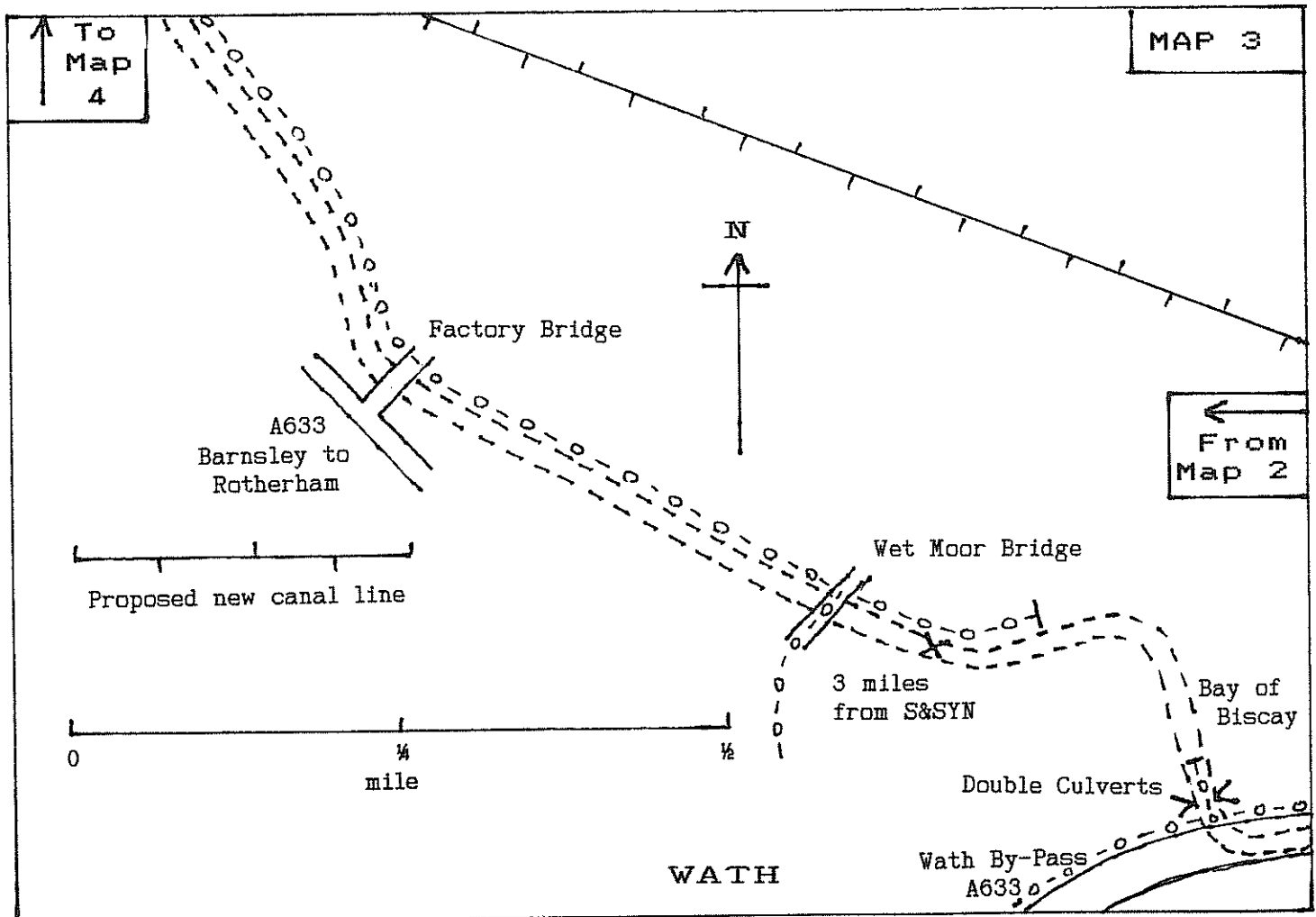
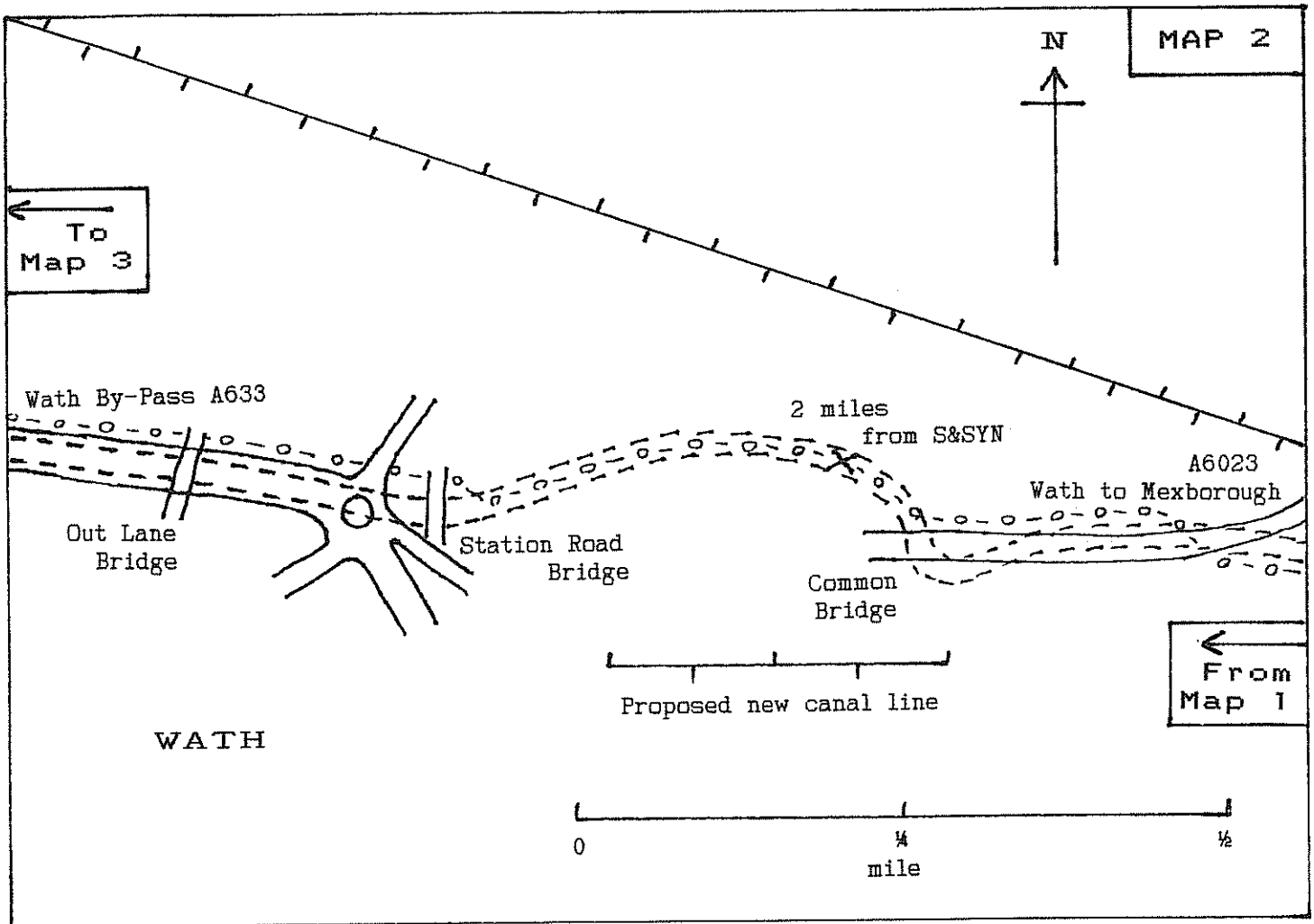
The railway bridge over the canal still exists (it was given an elaborate paint scheme not so long ago) but the canal has been filled from here onwards. All traces of locks 5 and 6 have gone, in what is now a recreation ground.

At the top of the recreation ground the canal entered a cutting alongside the railway. The modern Bow Broom Bridge carries a minor road across at a high level. Before the railway arrived in 1840, the 457 yard canal tunnel was a few hundred yards to the west of the rail cutting and may still exist, although buried.

Beyond Bow Broom Bridge the canal is roughly filled until a short section in water up to the British Coal workshops. A second railway, from Mexborough to Barnsley, now runs close to the canal. It is proposed that the new Canal line should follow the railway from this point - see 'Rebuilding the Dearne & Dove Canal'.

The vehicle park of the British Coal workshops is built on the Canal. The public footpath which follows the canal towpath is diverted around the vehicle park. Beyond the Adwick Road Bridge, which has been destroyed, the infilled canal is covered by an extensive colliery machinery store. Again the footpath is diverted around it.

(Walking the Dearne & Dove Canal - please see note inside front cover)



MAP 2

The old A6023 Wath to Mexborough Road ran along the northern bank of the canal until it crossed at Common Bridge. It survives as a service road. A new road has been built in the bed of the canal. The canal hedges and, in one place, the canal walling can be seen along the new road.

One parapet of Common Bridge, the northern one, survives. Upright paving stones were used to form this parapet.

From Common Bridge to Station Road Bridge the infilled canal bed is a public footpath, the route being partially obstructed at one point by an expanding builders' yard. This section was subject in the 1980's to a Rotherham environmental improvement scheme.

Station Road Bridge was a splendid example of an original Dearne & Dove bridge. It was unfortunately demolished in 1985 or 1986.

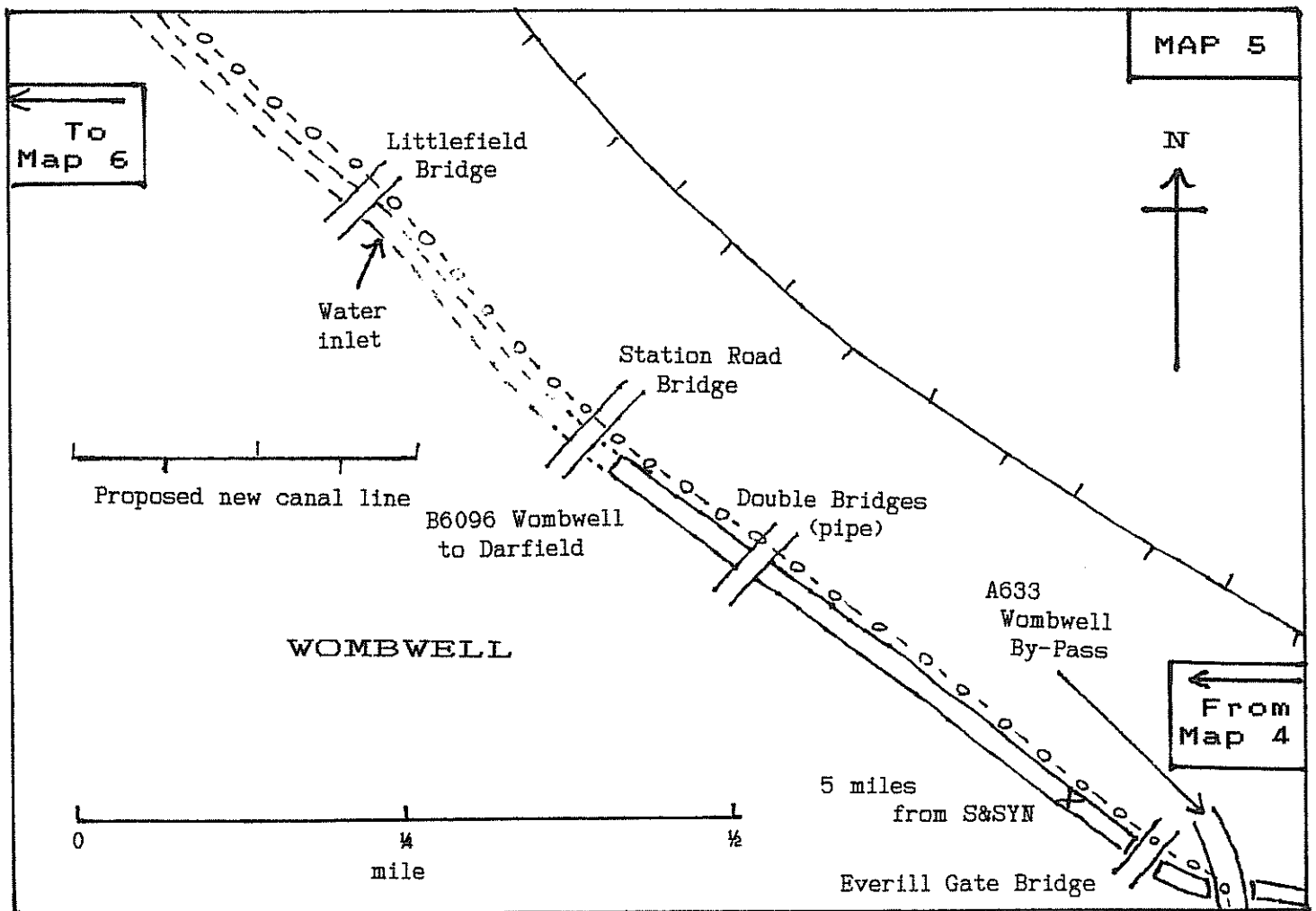
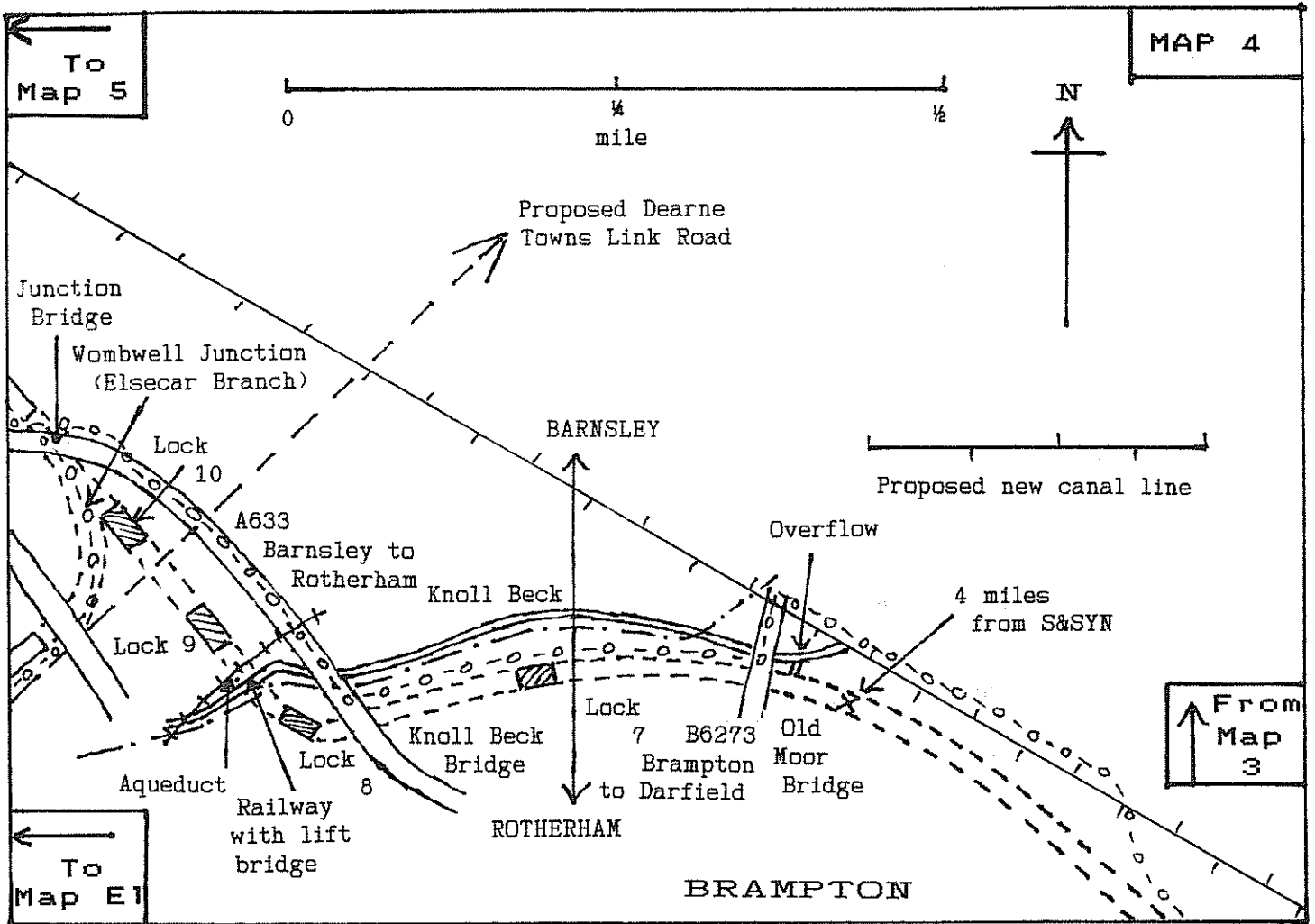
For almost half a mile from Station Road Bridge, the canal bed was utilised in 1985 for the new Wath By-pass road. Out Lane Bridge, a swing bridge, has gone. The canal here ran close to the centre of Wath before swinging sharply to the right out into the Dearne Valley.

MAP3

The Canal had to be taken out into the valley on a high embankment because the valley cutting into the hillside at this point was filled (even in the 1790's) by the village of Wath. The massive earthwork supporting the canal across the lower ground became known as the Bay of Biscay. The stream running down through Wath passed under the embankment by the Double Culverts. The former Canal line here is steadily being surrounded by an active landfill site filling the valley up to the embankment level. It is not possible to walk across the former embankment.

The Canal remains infilled but unobstructed under Wet Moor Bridge, which is now one of the few remaining original Canal bridges, to the former Factory Bridge which has gone. At this point a rough track runs along the canal for a short distance. The towpath hedges are still obvious around here. Beyond Factory Bridge, the long stretch to Old Moor Bridge is infilled but unobstructed.

(Walking the Dearne & Dove Canal - please see note on inside front cover)



MAP 4

Approaching Old Moor Bridge, the infilled canal is obstructed by parts of an industrial estate. At Old Moor Bridge, which has gone, there used to be an overflow into the adjacent Knoll Beck, this being at the foot of the four Brampton Locks, supplied by Elsecar Reservoir down the Elsecar Branch. The Mexborough to Barnsley railway is very close at this point.

Beyond Old Moor Bridge the canal, and lock 7, have disappeared in a playing field and recreation ground. Just before the demolished Knoll Beck Bridge, a petrol filling station is situated on the Canal line. Beyond the Bridge, the Canal and lock 8 have disappeared in some very rough open ground.

The former aqueduct over Knoll Beck has been demolished but the abutments remain. Immediately beyond the aqueduct the railway track bed (to Cortonwood Colliery) remains but the lines have been taken up. There was a railway lift bridge at this point until the canal was closed. Walking between the former Locks 8 and 9 is very difficult.

The Canal, locks 9 and 10 and the Wombwell Junction with the Elsecar Branch have disappeared in an open landscaped area. The only trace is a small stream of water running down the hill to the Knoll Beck along the former Canal line. Junction Bridge has gone. Between the former locks 9 and 10, the route of the proposed Dearne Towns Link Road crosses at right angles.

At the crossing of Knoll Beck the canal line passes from what is now Rotherham District into Barnsley District.

MAP 5

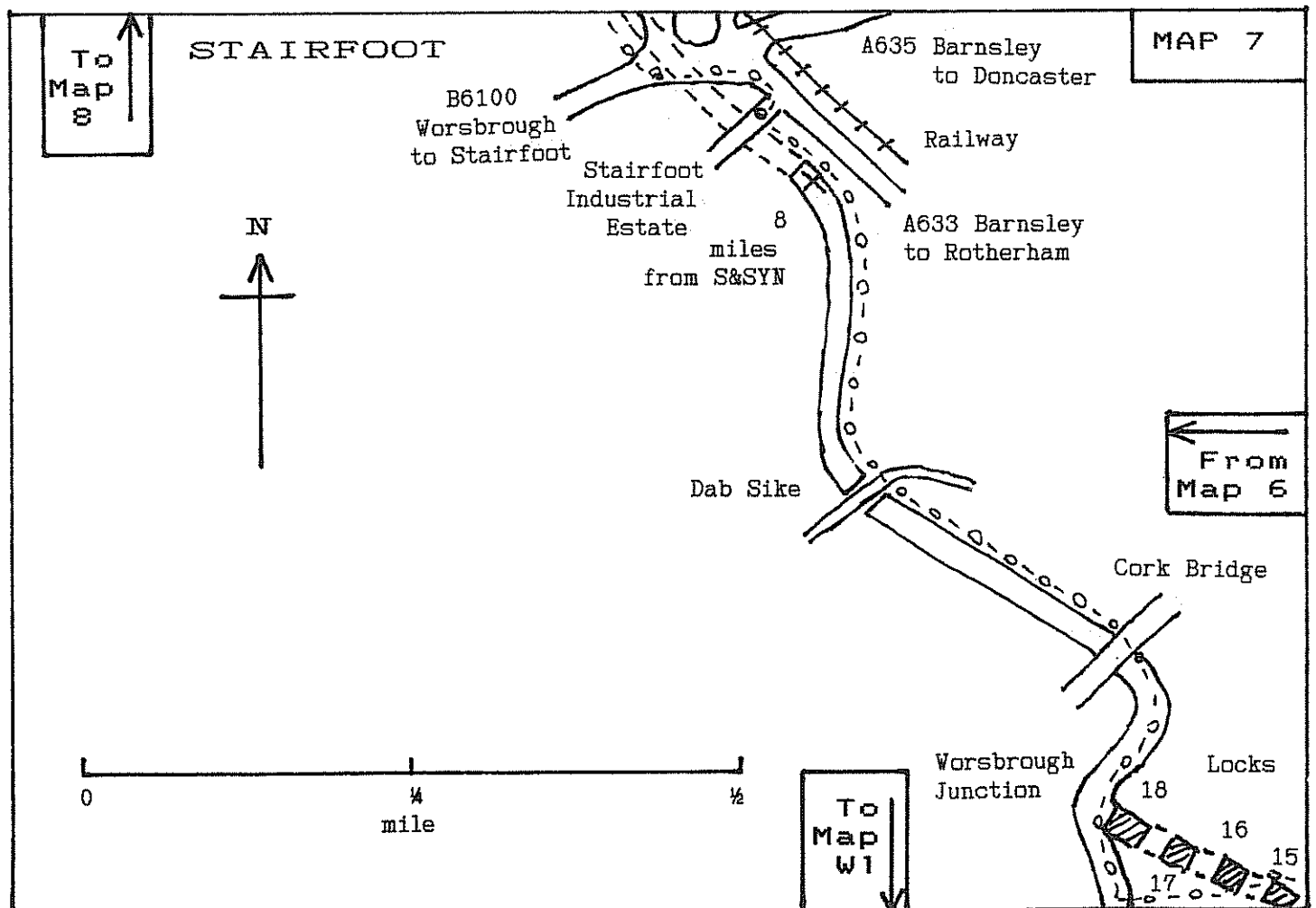
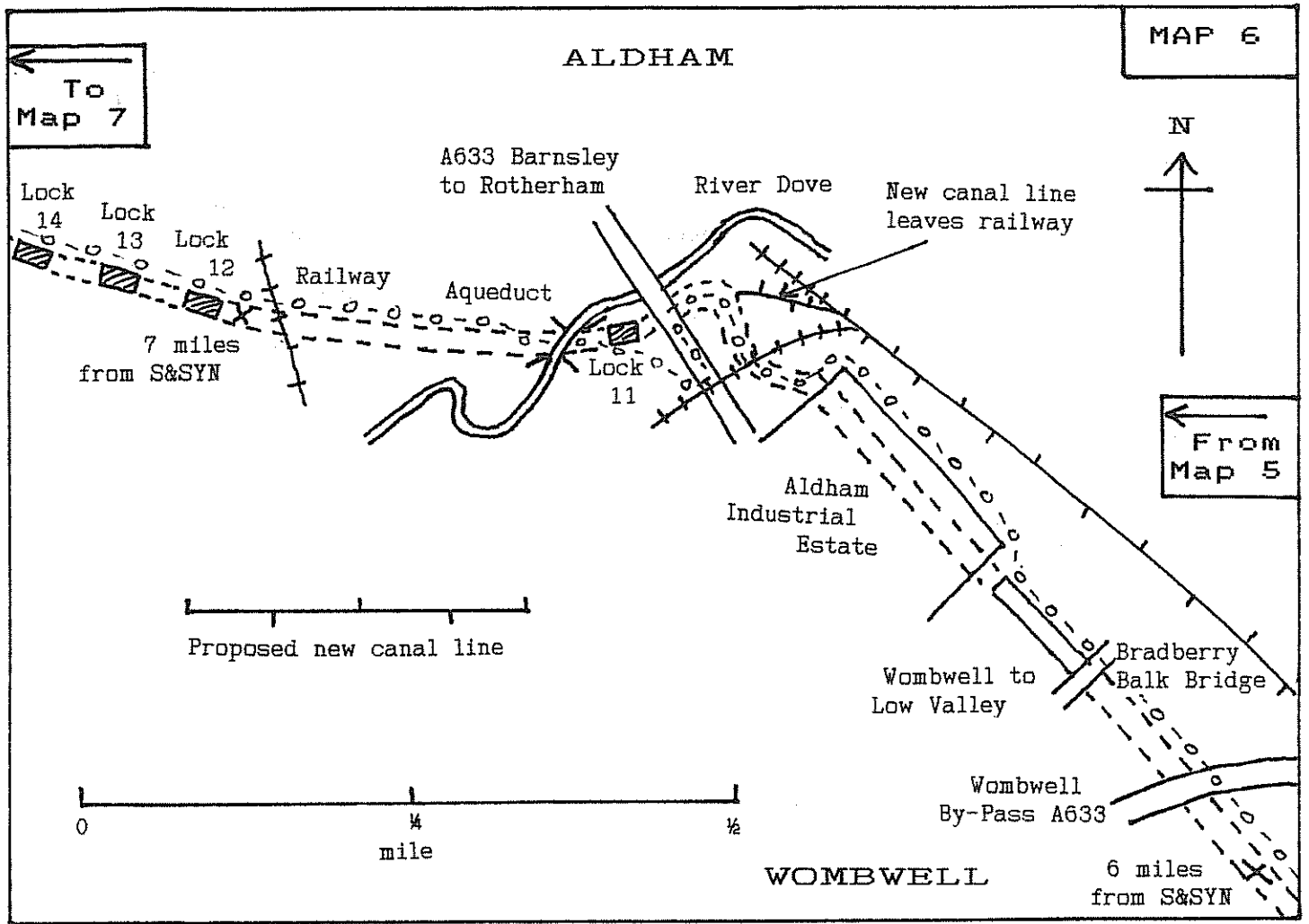
Beyond Junction Bridge, the Canal reappears in water, although very silted and overgrown, up to the new Wombwell By-pass built in 1985. Unlike the Wath By-pass, which is built on the Canal, this only crosses the canal at either end, running for the rest of its route below the Canal in the valley. At its southern end, culverts are provided to pass water along the canal line.

A culvert is also provided at the demolished Everill Gate Bridge where the new road across the Canal is now itself redundant following the construction of the By-pass. Beyond Everill Gate the Canal is in water and in good condition; indeed Barnsley Council have plans to improve this fine amenity for the town of Wombwell.

The next bridge, rather grandly named Double Bridges, consists of only a pipe crossing on stone abutments which still show the marks made by the ropes between boats and horses. From here the channel becomes less and less deep, presumably because it has subsided less than the stretch to the south. Station Road Bridge has gone to be replaced by a culvert.

Beyond Station Road Bridge and the destroyed Littlefield Bridge the channel has recently (1991) been infilled by Barnsley Council. At Littlefield Bridge, which carried a minor track, there is a water inlet. Beyond the Bridge the Canal has been infilled and planted with hundreds of small trees at considerable expense.

(Walking the Dearne & Dove Canal - please see note on inside front cover)



MAP 6

The Canal remains infilled and planted with hundreds of small trees right up to the former Bradberry Balk Bridge. Part of this section (and the tree planting) has been destroyed by the new Wombwell By-pass. Bradberry Balk Bridge, which was a beautifully built original stone bridge, was demolished in 1985 and the present low level road put in its place. Beyond Bradberry Balk Bridge the channel reappears with a flow of water down it. There is a culvert at the new road, downhill to the nearby stream. The water enters near the site of the former Mitchell Main Colliery where the remains of the old Wharf can be seen.

The next section has disappeared following the levelling of the old colliery site and the construction of the new Aldham Industrial Estate. Beyond the estate the infilled Canal again becomes obvious. The railway bridge remains, although the railway is disused, and then the canal route approaches the very complicated meeting of main road, canal and railways at Aldham Mill. At this point it is proposed that the new Canal line along the railway should rejoin the old line - see 'Rebuilding the Dearne & Dove Canal'.

As the Canal turned sharply right and left to go under the main road, a railway used to cross at a low level. Then there was a bridge carrying the main road, followed immediately by lock 11, the first of the Stairfoot 8 which lifted the Canal to its summit. Lock 11 is demolished and filled. The canal is also filled and forms part of the land surrounding the riding stables based on the old Aldham Corn Mill. The aqueduct over the River Dove remains, although filled.

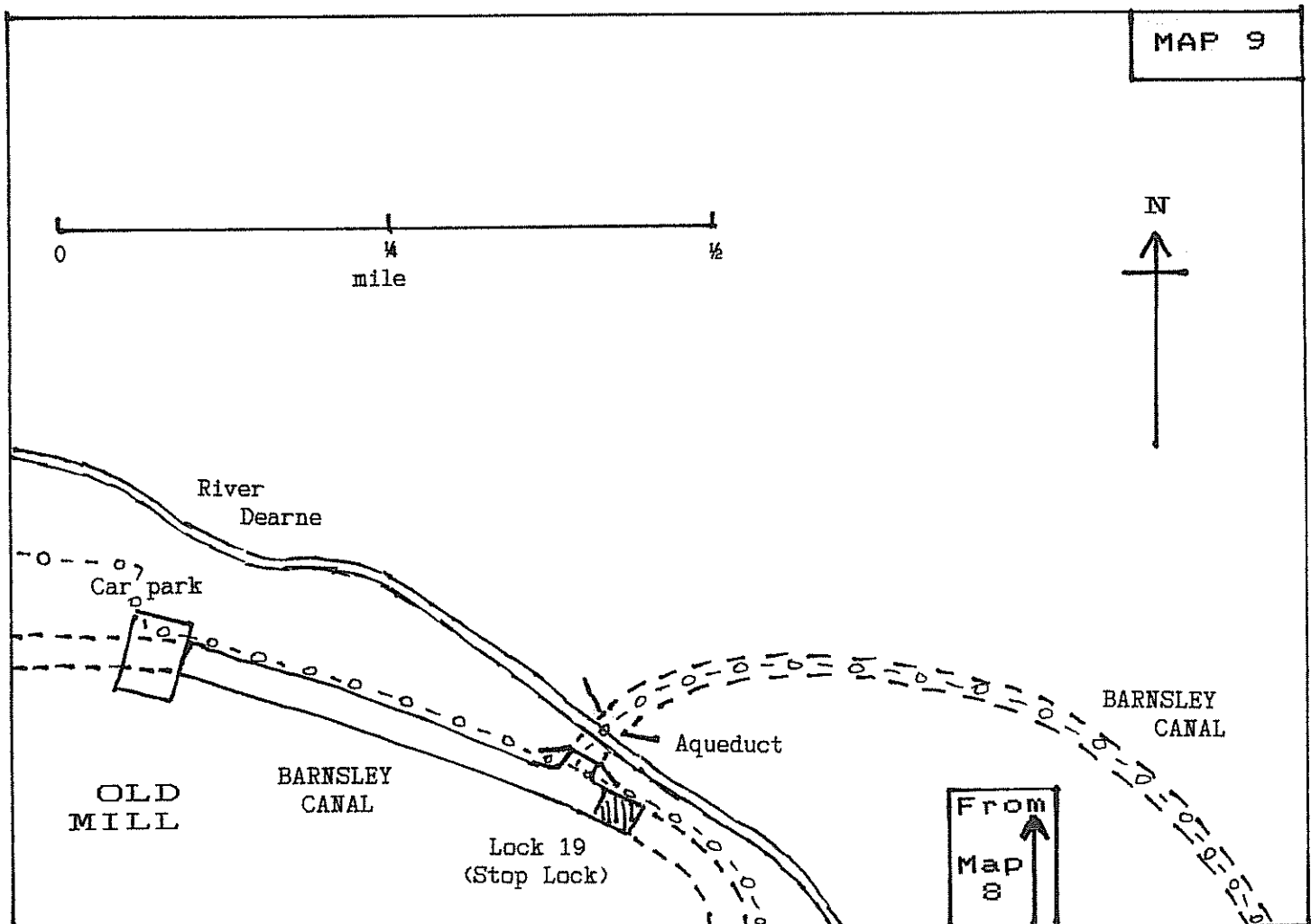
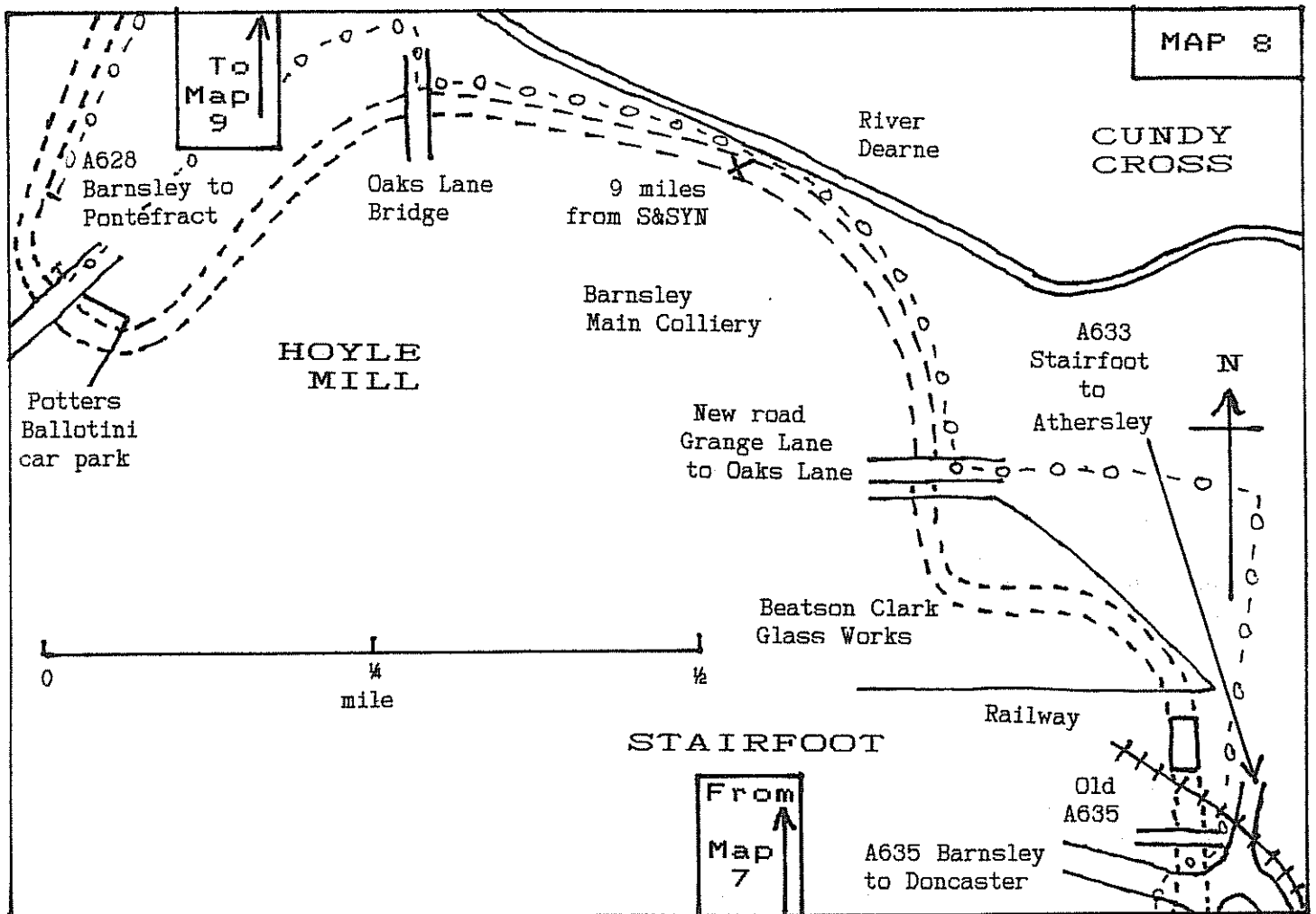
A public footpath runs from the main road up the line of the canal, to approximately lock 16 where it runs straight up to the Worsbrough Branch (see Map 7). On the route up to lock 12, a railway crossed at a high level but the bridge and, recently (1991), the embankment have gone, to fill the Canal between Littlefield and Station Road Bridges at Wombwell (see Map 5). All the locks up to the summit have been demolished and filled. This considerable operation has left a rough narrow field which looks unfinished.

MAP 7

The channel reappears at the junction although it is filled haphazardly. At the junction the abutments remain of a bridge over the Branch and a (swing?) bridge over the top lock exit. Cork Bridge, which carried a small farm road, has gone and there has been some very untidy tipping in the canal. It has been suggested that Cork Bridge should in fact be Caulk Bridge because wooden boats were apparently brought here to be caulked or made watertight. The more or less empty channel continues towards Stairfoot. Halfway along, the former Dab Sike culvert and the banks have been broken, so that the stream now runs across the Canal. In this area the building up of the Canal banks to combat subsidence is obvious. A one foot diameter cast iron pipe appears in the towpath.

The Canal becomes infilled just south of the new low level entrance road to the Stairfoot Industrial Estate. The route of the Canal has then disappeared in the construction of the large Stairfoot roundabout. Between the A633 road and the canal route, by the roundabout, The Keel public house remains.

(Walking the Dearne & Dove Canal - please see note on inside front cover)



MAP 8

At the Stairfoot roundabout, the canal line has been considerably excavated to provide the B6100 and A635 (Barnsley side) approach roads. Grassed areas between the roads are the only evidence of the canal. Beyond the roundabout the old route of the A635 (now a side road) has been lowered at the former canal crossing. Then the railway bridge has gone and the embankment is continuous.

Beyond the railway, the canal reappears in water and fishermen can be found enjoying this hidden and short stretch of waterway.

The Canal line now disappears into the extensive grounds of the Beatson Clark glassworks. The infilled Canal appears not to be built on and the new road (built 1985) beyond the glassworks crosses on an embankment. This new road follows an old track which was crossed by the Canal on a substantial aqueduct.

Beyond the new road, the Canal line has disappeared in the reclamation of the Barnsley Main Colliery waste heap. It reappears, as an almost infilled channel, high above the River Dearne on the slope of the pit heap.

The channel remains in this state through the Oaks Lane bridge almost up to the Pontefract Road A628 bridge. The Oaks Lane Bridge remains but the arch has been bricked up. Oaks Lane is a narrow, winding but fairly busy road.

The Canal is unobstructed almost up to the A628 bridge but the last 200 yards now forms the car park of the Potters Ballotini factory. The relatively new main road bridge was recently (1991) demolished during a road improvement.

Beyond the main road the Canal has disappeared in the approaches to Oakwell Brewery and the factories beyond. Part of it has also been excavated to provide space, not yet used (December 1986), for the unit factories below.

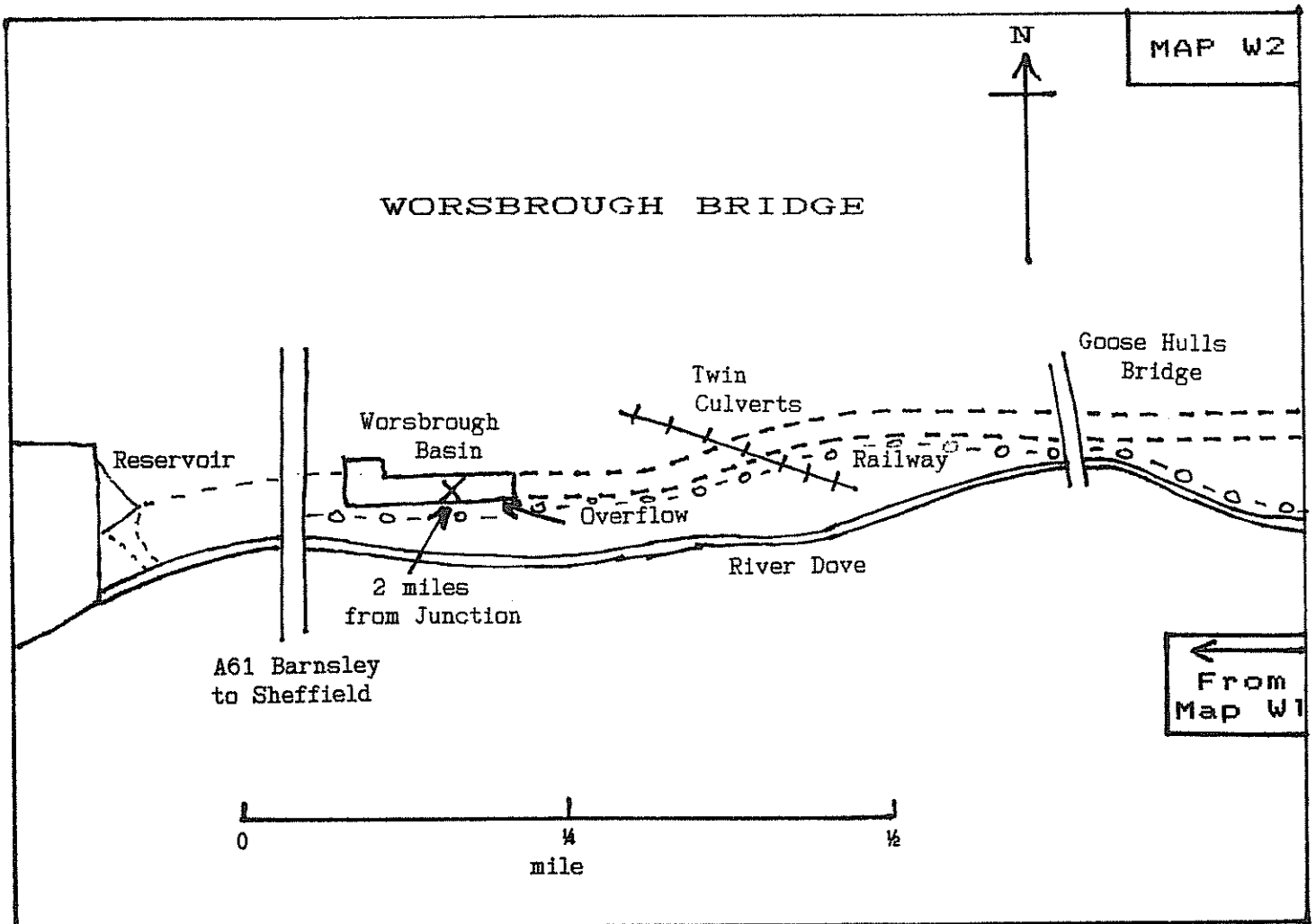
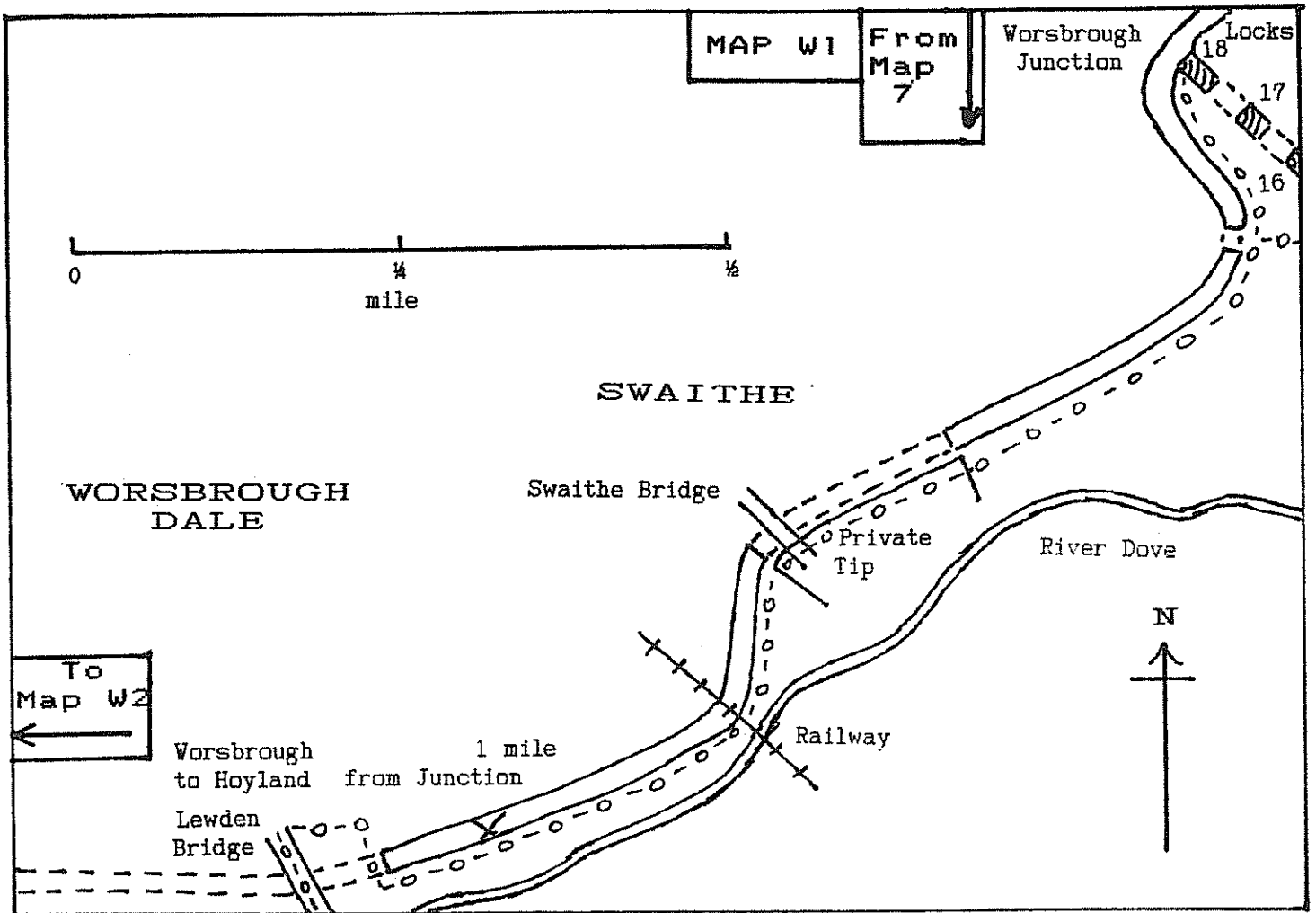
Beyond these obstructions, the channel is filled but unobstructed past allotments. Access on foot from Pontefract Road northwards back on to the line of the Canal is very difficult.

MAP 9

The short stretch up to the junction with the Barnsley Canal was re-excavated in the 1980's by a Barnsley Trades Council Community Programme team but remains dry. Similarly, the stop lock has been partially restored, without gates. It has a wooden floor and cills facing both ways to accommodate gates which prevented water flow in either direction. The Barnsley and Dearne & Dove levels were theoretically identical and the summit levels of the two Canals together formed over 16 miles of level canal, bounded by Worsbrough Basin on the Dearne & Dove and Walton Top Lock and Barugh Bottom Lock on the Barnsley. There was a lock-keeper's cottage by the stop lock and a Barnsley Canal cottage at the junction itself.

The condition of the Barnsley Canal is detailed in the Barnsley Canal Group's survey of that Canal, the second edition of which was published in May 1988.

(Walking the Dearne & Dove Canal - please see note on inside front cover)



WORSBROUGH BRANCHMAP W1

Beyond the former junction with the main line, the channel of the Worsbrough Branch remains in reasonable condition but with little water. Where the footpath up the former Stairfoot 8 locks meets the Branch, the channel is culverted. Following the closure to navigation, in 1906, of the Worsbrough Branch after subsidence, water from Worsbrough Reservoir could not be fed to the summit level which was now higher than the Branch. Instead, the water was carried by a culvert into the pound below the Top Lock and pumped through a pump house up to the summit level.

The channel remains in reasonable condition until the private tipping area at Swaithe is reached. Swaithe Bridge has gone and the Canal is filled, forming part of the access to this very remote tip. Beyond Swaithe Bridge the channel resumes, again with little water. The Sheffield to Barnsley railway crosses on a high viaduct. Beyond the railway viaduct, in the wooded area, there used to be a second pump house to lift water from west to east over the 'bump' in the Canal bed near the viaduct which had subsided less than the areas either side of it. It is understood that land around Lewden Bridge has subsided by as much as 20 feet.

One field away from Lewden Bridge the Canal is filled. The bridge has been demolished and lowered, and beyond there is an old wooden hut on the Canal line. An oil pipeline runs across the filled Canal just east of Lewden Bridge. The Canal is infilled beyond Lewden Bridge. Walkers heading for Worsbrough should leave the Canal line at Lewden Bridge and go downhill to the old railway line and follow that towards Worsbrough.

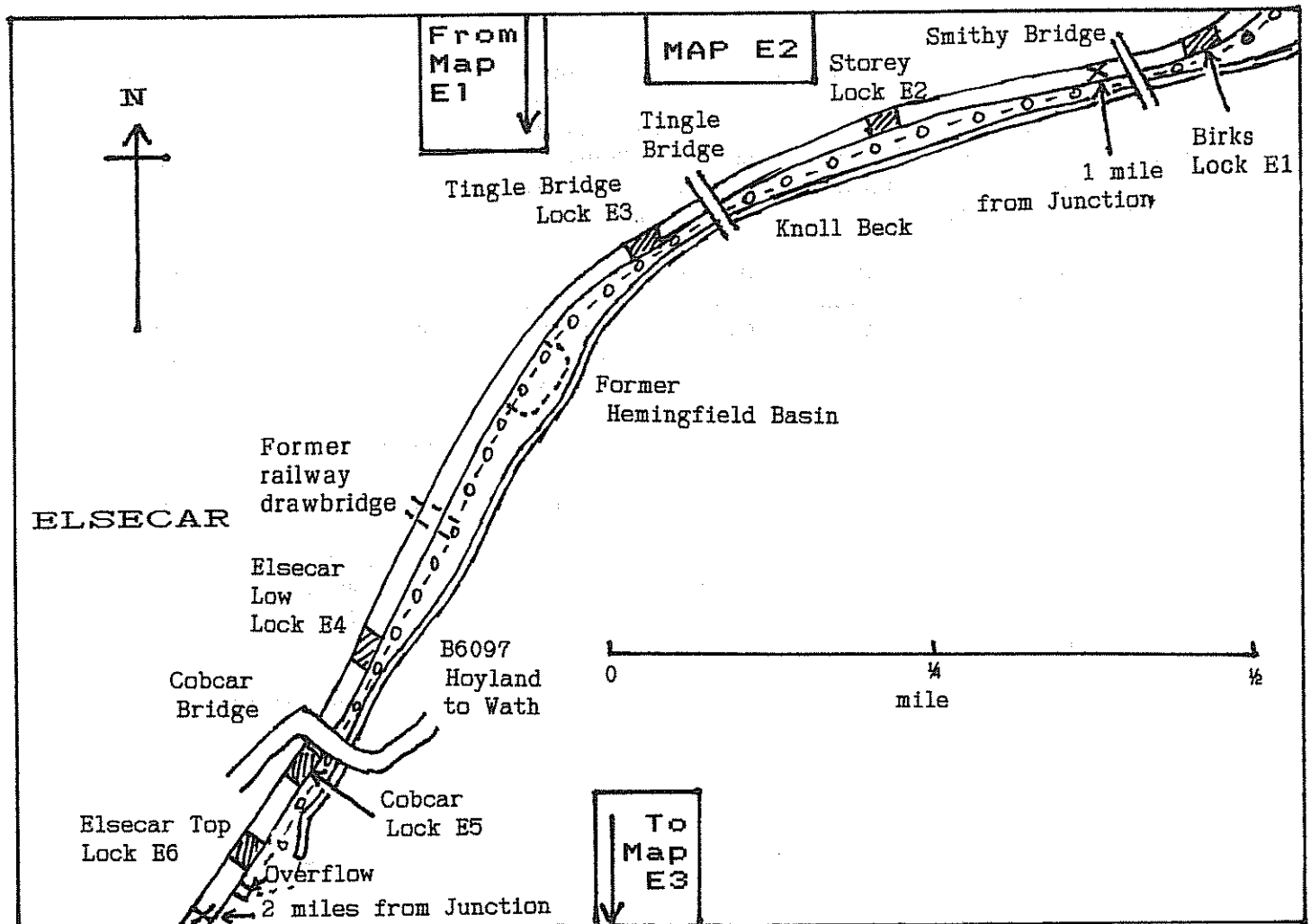
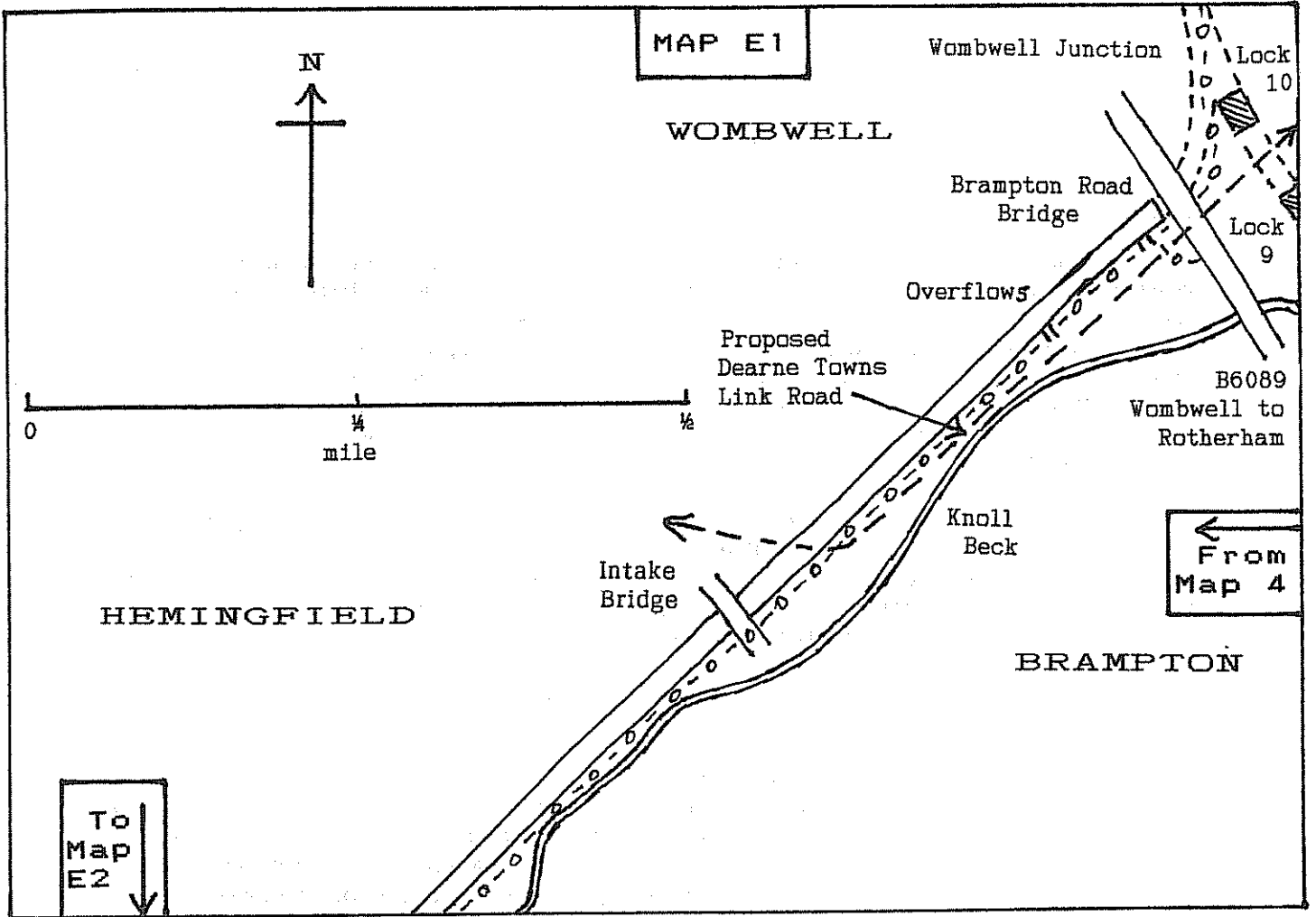
MAP W2

The Canal is filled up to the former Worsbrough Basin. Goose Hulls Bridge, which carries an unpaved track to Worsbrough sewage works, still exists but is filled and the east side of it is at the edge of the car park of The Boatman's Rest public house. The now abandoned Penistone to Wath electrified railway crossed on an almost parallel course at Twin Culverts. The remains of the railway and the filled Canal are difficult to separate in this area.

At Worsbrough Basin the last few hundred yards of Canal have been restored and rewatered within a landscaped area. The Basin is fed from the reservoir and there is an overflow into the nearby River Dove. The Basin is a popular fishing water. The Worsbrough reservoir and the adjoining Mill were made into a country park by the former South Yorkshire County Council. This very popular recreation area has now passed to Barnsley District Council. There is a subsidiary weir below the dam which ensures a water supply to Worsbrough Basin.

Worsbrough Basin, with the Worsbrough Branch and the Dearne & Dove main line to the Barnsley Canal junction, formed a summit level of 4½ miles. Combined with the 11½ mile long pound of the Barnsley Canal, this formed 16½ miles of canal at the same level, with Worsbrough Basin, Walton Top Lock and Barugh Bottom Lock at its extremities. In the hilly country around Barnsley this was a remarkable achievement.

(Walking the Dearne & Dove Canal - please see note on inside front cover)



ELSECAR BRANCHMAP E1

The Elsecar Branch is filled from Wombwell Junction up to the Brampton Road Bridge. This bridge, widened in the 1930's, remains in reasonable condition.

Beyond the bridge, the Canal is in water and in excellent condition. 200 yards from the bridge there are two overflows leading down into Knoll Beck. This stretch of water, almost $\frac{1}{4}$ mile long, is used as a fishery by Barnsley & District AAC. The first half mile of canal will be affected by the proposed Dearne Towns Link Road, as shown on the map.

Intake Bridge remains, carrying only a footpath. It is constructed of planked girders on the old stone abutments. It also carries a large pipe. Nearby is the stone edging of an old wharf. Just upstream of Intake Bridge, a Yorkshire Water sewer runs under the Canal. This will enable both sewage works adjacent to the Branch, Hemingfield and Elsecar, to be closed.

Knoll Beck forms the boundary, all the way up the valley, between Barnsley District to the north and Rotherham District to the south.

MAP E2

Birks Lock is a dramatic example of subsidence. The downstream end, but not the other end, has sunk almost into the water at the foot of the lock. Upstream of the lock, the channel remains with a strong flow of water but no depth. This flow comes down from the summit level above Elsecar Top Lock.

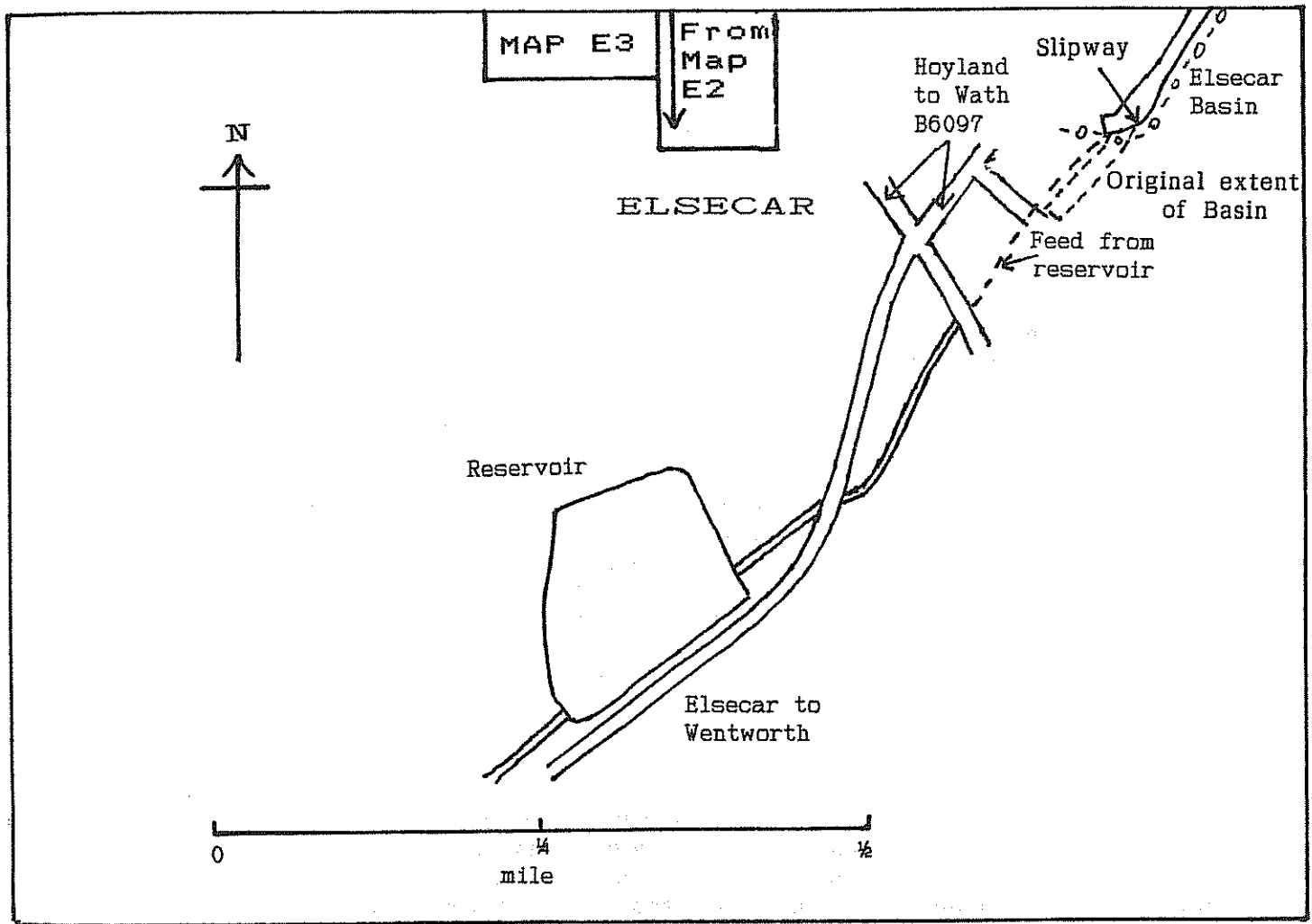
Smithy Bridge, which carries a minor road, is stone built and in good condition. As at Tingle Bridge, there was a level crossing over the old railway immediately to the south.

Storey Lock largely exists but is in a decayed condition. Tingle Bridge has been lowered and culverted and Tingle Bridge Lock, which appears very deep, perhaps 10 feet, is in better condition. A Barnsley Trades Council Community Programme team repaired the stone work of the lock and the Canal and dredged the Canal around Tingle Bridge in the 1980's.

The former Hemingfield Basin, now mainly filled, with overflows to the rear, lay upstream. Very little remains of Elsecar Low Lock. Cobcar Bridge has been lowered and culverted but the stone parapets remain. Cobcar Lock is elaborately weired but not a great deal remains of the stone work and there is a large gas pipe across the Canal at a low level just upstream of the lock. There is another, even larger, pipe similarly placed a few yards upstream. This carries storm water from parts of Elsecar across the Canal to Knoll Beck.

Substantial remains exist of Elsecar Top Lock which retains water in the Canal above by a concrete weir at its top end. Just above the lock there is an old stone built overflow weir with a sluice taking water to Knoll Beck nearby. The Canal above the lock is filled to its original level and the strong flow down to Brampton Road begins over the lock weir.

(Walking the Dearne & Dove Canal - please see note on inside front cover)



MAP E3

The Canal continues in water into the final Basin which retains its turning area. The Basin is in good condition following recent (1991) work by the working parties arranged by the Group and the Cortonwood & Elsecar Project. A slipway has now been constructed. Before the arrival of the railway, the Basin extended alongside what is now Dawson's factory up to Distillery Side.

The feed comes underground from the Elsecar Reservoir and enters at the top of the Basin but is well below the water level. Elsecar Reservoir is a popular fishing water and Barnsley Council, which owns it, in 1986 carried out considerable work to make the dam and overflow safe to modern standards. The whole of the overflow from the reservoir flows through the feed culvert to the Canal. The upstream culvert entrance is at the edge of the car park above the workshops. Knoll Beck does not start until near Top Lock.

Elsecar Village is of considerable historical interest with, amongst other attractions, an existing Newcomen steam pumping engine, listed cottages and an old colliery workshop complex. The Cortonwood and Elsecar Project Group and Barnsley Council are working for the preservation of these attractions, the running of steam trains on a restored railway to Cortonwood and the restoration of the Elsecar Canal Branch. Barnsley Council hopes to create a 'national visitor attraction' rivalling Ironbridge at Elsecar.

ELSECAR BRANCH SURVEY

In 1990/1 an engineering report by Ove Arup was prepared on the Elsecar Branch for Barnsley Council and the Cortonwood & Elsecar Project with funds from the Government's Urban Programme. Some notes and comments on this report follow:

A. Levels

1. The water level at the Basin is 51.164 metres and the level at Brampton is 35.320 metres. The rise is 15.844 metres, 52 feet 4 inches, an increase on the original 46 feet by 6 locks.

2. Approximate Lock rises now required are:-

Birks Lock	6½ feet
Storey Lock	5½ feet
Tingle Bridge Lock	16½ feet
Elsecar Low Lock	6 feet
Cobcar Lock & Top Lock	19½ feet

It appears that an extra lock is required at Tingle Bridge (making a staircase of two?) to give rises of:-

6½, 5½, 8, 8, 6, 9½, 9½ - total 53 feet

3. Allowing for a water depth of 3¾ feet, the gas pipe above Cobcar Bridge gives only 3¼ feet clearance above water level.

B. Subsidence

1. Coal seams, which have been worked to almost total extraction, progressively outcrop from west to east, with deeper, mined seams below. The deepest, Silkstone, is 500 metres, one third of a mile, below the surface. There has been no working beneath the Canal since 1980. Generally, surface subsidence has now ceased and no further activity is anticipated.

2. There are about 50 recorded mineshafts near the Canal but 40 of these are around Elsecar Basin. A small cluster of shafts at Birks Lock, worked on the possibly unsubsidised 'pillar and stall' system, need investigation.

3. There is a SW/NE fault in the strata which crosses the Canal twice, at Storey Lock and at Hemingfield Basin. This has caused a 'bump' in the subsidence at Hemingfield Basin, where there was no mining and no subsidence, contrasting with subsidence upstream and downstream. The level survey suggests that the only resultant problem is a rise in the bed of the Canal going downstream to Tingle Bridge Lock, although a reasonable depth of water is retained.

C. Water Supply & Drainage

1. Elsecar Reservoir's catchment area is small. There is a controlled outlet in the base of the dam but a second, more accurate and controllable outlet, possibly by siphon over the dam, will be required.

2. The report calculates that, using an average of 10 lockings per day, normal overflow from the reservoir is sufficient on 47 weeks of the year. In the remaining weeks, taking the very dry 1990 as an example, a maximum of 750mm (30 inches) might be drawn from the reservoir.

3. British Waterways advised Ove Arup that a depth of 3 feet 9 inches in

the Canal would be desirable. This compares with the original 4 feet 6 inches, which was distinctly miserly for laden boats.

4. Flooding over the Canal embankment near Birks Lock and at the Brampton end could be dangerous. The integrity of the banks require investigation and the capacity of the two overflows at Brampton should be increased.

5. Tree surgery is recommended on trees on or near the bank so that they do not fall. If their roots die water will escape down the resultant holes.

6. Water still goes into Hemingfield Basin through a pipe and there are overflow pipes at the rear to Knoll Beck. Methane is rising from sodden organic matter thrown into the Basin.

7. The storm outflow from Hemingfield sewage works flows into the Canal and that from Lundhill works under the Canal in a culvert. Both flows will cease when Yorkshire Water completes its new pipe to Wombwell sewage works.

D. The Culvert

1. The feeder culvert runs from the western boundary of the workshops, at the edge of the car park, to an exit well below water level at the head of the Canal. No buildings are built over it, except one corner of a building on Distillery Side. From its entrance to Distillery Side, it has stone sides and a brick arch, suggesting it was originally an open, uncovered culvert. From Distillery Side to the Basin it is completely built of stone.

2. The culvert is generally in reasonable condition. However, from Distillery Side to the Basin it is considerably silted and permanently full of water. This section is assumed to have been built when the Canal was reduced to its present terminus and railway sidings built.

3. The Basin originally extended alongside what is now Dawson's factory, almost up to Distillery Side. The Group suggests that that this filled section could be re-instated as a boatyard at the head of the Canal. The silted up part of the culvert could then be demolished and its valuable stone used elsewhere.

E. Restoration

1. The report estimates that re-instatement of the Canal from Elsecar to Brampton, using contractors, would cost £2,600,000, including fees and contingencies.

2. Restoration would be a major project and it is important to determine the details of the whole scheme before beginning selective restoration work. However, because of the now seven locks, the Group suggests that it would be feasible to 'design' the restoration lock by lock down the waterway.

3. Cobcar (Wath Road) Bridge road alignment would probably need adjusting to give Canal headroom. Both this and Tingle Bridge contain services which will be expensive to divert.

4. The gas pipe above Cobcar Bridge might cost £67,000 to divert.

5. Smithy and Intake Bridges provide headroom of 3.5 metres (11½ feet), adequate for normal navigation.

6. Hemingfield Basin which is privately owned should be re-connected to the Canal with a towpath bridge over the entrance.

7. The whole of the Elsecar Branch is owned by Barnsley Council and their Highways Department already has responsibility for the remaining road bridges.

OBSTACLES TO RESTORATION OF THE ORIGINAL LINE

Map 1

The first two locks have been partially destroyed and their re-instatement would adversely affect the Waddington Boatyard. Locks 3 and 4 require new gates, and lengthening if full size narrow boats 70 feet long are to use the restored Canal. Locks 1 and 2 would probably be more easily replaced if they were rebuilt on the spare ground on the eastern (towpath) side.

The A6022 and railway bridges remain. Beyond the railway the Canal would have to be re-excavated and two locks provided. Under Bow Broom Bridge it could be difficult to provide a 15 feet channel between the railway and the bridge supports.

Note: Just beyond the bridge, the Group proposes that the Canal should be diverted to the adjacent abandoned railway. The stretches of blocked Canal which follow, up to Aldham, would therefore be avoided by the new Canal.

The approach to Adwick Road is unobstructed until the British Coal Workshops are reached. The line here could be diverted (as is the old towpath footpath) to the south west along the workshop fence which would have the advantage of obtaining increased clearance under Adwick Road for a restored Canal. A gas bottle store would have to be removed and some land either side of the footpath would have to be acquired. The diversion could continue beyond the road, past the colliery storage area.

Map 2

The A6023 road now occupies the bed of the Canal. Farmland and allotments to the south of the road could accommodate a new line. Creating a new Common Bridge would be difficult, involving raising the new road and moving the junction with the old road, now a service road.

Beyond Common Bridge the old line is largely unobstructed and could be re-excavated to the former Station Road Bridge. From there, the Wath Bypass is constructed through a built up area on the Canal line for a quarter of a mile. The only feasible diversion is out into the valley but this would involve over a quarter of a mile of high embankment to join the old Canal embankment at the Bay of Biscay. This diversion would be complicated by the surrounding landfill site and crossing the new Station Road may involve an aqueduct.

Map 3

Beyond the Bay of Biscay, the Canal is unobstructed and could be re-excavated. Wet Moor Bridge remains but Factory Bridge would require re-instatement. Just before Factory Bridge a slight diversion would be required round some garden extensions unless they were removed from the old line.

Map 4

East of Old Moor Bridge a diversion to the north of the old line would be required to avoid the industrial estate. At the former bridge the road has been lowered to the former Canal level and reconstruction of the Canal would either involve a lift bridge (on a busy B road) or considerable earthworks to lift the road.

Beyond Old Moor Bridge, re-instatement of the Canal would involve disturbance of a well kept playing field and recreation ground. Lock 7 would have to be rebuilt. A bridge under the A633 road is feasible, provided the Canal can avoid the filling station at this point. The proposed Dearne Towns Link Road would have to provide sufficient clearance for a restored Canal.

The approach to Wombwell Junction (Elsecar Branch) is unobstructed but requires Locks 8, 9 and 10 and the former aqueduct to be rebuilt. Rebuilding the bridge under the A633 above the Junction would involve raising the road slightly.

Map 5

From the A633, the Canal channel re-appears and, apart from two lowered bridges, exists for almost one mile up to Station Road Bridge. The new Wombwell Bypass, although culverted at the Canal crossing, would have to be raised to give headroom for a restored canal. As this would be very near a large roundabout, this would be difficult.

The lowered Everill Gate Bridge, now a culvert, could be removed as it is no longer required. The culverted Station Road Bridge crossing would involve raising the road, if it was re-instated.

Littlefield Bridge could be rebuilt if a crossing at this point is still required (the new Bypass is below the Canal). Beyond Littlefield Bridge re-excavation of the Canal line would involve either diversion of the line into the higher ground to the southwest or the destruction of hundreds of trees planted on the Canal line in a massive environmental improvement scheme.

Map 6

Both the Wombwell Bypass, and the road which crossed at Bradberry Balk Bridge, cross the Canal line at water level and would require raising. More newly planted trees would be destroyed if the old line was followed between the Bypass and the former bridge.

After a small section of existing channel, the line would have to be diverted to the north east across the old colliery site to avoid the Aldham Industrial Estate. Beyond the Estate, the line is unobstructed and the railway bridge still exists. The wide cutting between the railway and the A633 road could be re-excavated.

Note: At this point the Group proposes that the new Canal, on the old railway since below Manvers (see Map 1), should rejoin the old route. The Canal from here is therefore proposed for restoration.

There is reasonable headroom to rebuild the Canal bridge under the A633 road. Lock 11 would have to be rebuilt and re-instatement of the line beyond would mean that the riding stables would have to give up a lot of their land.

The aqueduct could be restored fairly easily and the line is filled but unobstructed all the way up to the Worsbrough Junction. The seven locks 12 to 18 would have to be rebuilt.

Map 7

The channel from the junction to Cork Bridge remains but various small filled sections would have to be removed. Cork Bridge would have to be rebuilt.

Beyond Cork Bridge, up to the road to Stairfoot Industrial Estate, the channel remains, although repairs would be required where the banks have been broken. The estate road crosses at water level and either a lift bridge or an aqueduct across a lowered road would be required unless the "lowered canal" solution to the Stairfoot problem (see below) is used. The infilled canal then encounters the large new Stairfoot roundabout.

Map 8

Restoration of the Canal across the Stairfoot roundabout presents considerable problems. It appears to be impossible to use the old line at its former level without unacceptable interference with the road system now built on it. Long aqueducts over the B6100 and A635 (Barnsley side) roads would be required and the roads (very near the roundabout) would have to be lowered to provide headroom. The construction work required would also be considerable.

Another solution to the Stairfoot problem might be to use the adjacent railway bridges across the A635 (Doncaster side) and A633 (north side) roads. Access to the now disused railway line could be achieved easily to the north and, less easily, to the south. Unfortunately a check on the levels concerned shows that use of the A635 (Doncaster side) bridge is impossible. The canal bed would be 3 metres (10 feet) below the deck of the present bridge, reducing the clearance above the road to an unacceptable $2\frac{1}{2}$ metres ($8\frac{1}{4}$ feet). As the bridge is very near the roundabout, lowering the road would be very difficult.

The best solution to the Stairfoot problem involves lowering the Canal and taking it under the B6100 and A635 (Barnsley side) roads a little to the west of the old line. The Canal could be lowered by omitting one (or possibly two) locks on the Stairfoot flight and taking the canal from the Worsbrough junction to the roundabout at the lower level. There is a reasonable route across open ground near the present line and between Cork Bridge and the roundabout the Canal banks have been raised in the past to combat subsidence.

The canal could be taken under the roads (including the access road to the industrial estate) using box culverts of a suitable size, as in a number of other restoration schemes. A new lock or locks would then be required beyond the roundabout to lift the canal to its summit, these locks being situated in the field to the north of the road system. The now abandoned railway embankment would then have to be broken to take the canal.

The canal reappears in water for a short distance beyond the railway but is soon infilled. It is then included within the extensive fenced grounds of Beatson Clark glassworks. Excavation of a restored, or slightly diverted line across the glassworks grounds appears to be feasible although one or two buildings would be cut off by the Canal from the main works.

There is an alternative route around the glassworks by following the old railway between the works and the nearby colliery. This would, however, involve extensive excavations to achieve a level.

The Canal could be taken under the new road beyond the glassworks without much difficulty. Beyond the road, the Canal line would have to be recreated along the contours of the levelled colliery tip, involving careful excavation of filled land, or better, cut along approximately the old line across the tip in a shallow cutting.

Beyond the tip the old line, now largely filled along the hillside above the River Dearne, could be re-excavated provided a substantial retaining bank is created on the downhill side. Oaks Lane Bridge could be unbricked provided it is safe. A better solution may be to create a new road line here with a new bridge to avoid what is a hazardous section of a fairly busy road.

Just before the A628 road crossing, the Canal would have to cross the car park of the Potters Ballotini factory. It should not be necessary to take more than a channel width along one side of the car park and to move some apparatus by the bridge. The bridge, which was modern, was recently demolished and infilled and would have to be re-instated.

Beyond the bridge, the entrance to Oakwell Brewery and other factories could be moved to the Barnsley side of the bridge and the Canal taken across the excavated ground beyond on a new infilling to rejoin the old line by the allotments.

Map 9

The Canal could be re-excavated up to the junction with the Barnsley Canal, indeed part has recently been dug out. The junction, at the same level, with the Barnsley Canal could be quickly re-instated. The stop lock is in good condition apart from lacking gates.

Map W1

The whole of the Worsbrough Branch has suffered severe mining subsidence. Indeed it was the first part of the Dearne & Dove Canal to be closed to navigation, in 1906. A detailed level survey, related to the required water level in the main Canal, is required.

From the junction, the Worsbrough Branch is in reasonably good condition, the open channel being interrupted in a few places by short infilled sections. Near Swaithe Bridge, the channel would have to be re-excavated where access has been provided to the adjacent tip. Continued access to the tip would mean the provision of a new bridge. A lift bridge would probably be appropriate.

From Swaithe Bridge the channel is in reasonable condition, requiring only dredging and making waterproof. Just before Lewden Bridge, the filled Canal would have to be re-excavated. Replacement of the bridge would be very difficult and would probably be best effected by rerouting the Canal down into the valley to the old railway on an embankment, with an aqueduct over the road. Beyond the bridge, the old wooden hut on the Canal would have to be moved if it was on the line of the new Canal.

Map W2

From Lewden Bridge up to Worsbrough Basin, the Canal would have to be re-excavated. The only obstruction is the filled Goose Hulls Bridge. The bridge approach now forms part of the Boatman's Rest car park so a diversion on to the nearby old railway will probably be required.

The Basin has been restored and turning space is provided. The water from the reservoir which at present supplies the Basin will be adequate to supply the restored Branch.

Map E1

Note:- Connection of the Elsecar Branch to the Group's proposed new line along the old railway (please see Map 4) will be effected by taking the Branch under the A633 road at the old Junction Bridge. Two or three new locks would then be required taking the new Canal directly downhill to the old railway in the valley below.

From the junction, the Elsecar Branch could be re-excavated up to and under Brampton Road Bridge. The bridge appears to be in good condition. Beyond the bridge the Canal is in excellent condition, and well supplied with water, right up to Birks Lock. Intake Bridge is in good repair. The proposed Dearne Towns Link Road is to cross the Canal on a sufficiently high and wide bridge.

Map E2

All the locks on the Elsecar Branch have to be rebuilt, some to a greater extent than others. Following the extensive subsidence along the line, it is necessary for six to be rebuilt and an additional lock built at Tingle Bridge (see survey details on page 27).

Smithy Bridge is in good condition. Tingle Bridge is culverted but has adequate headroom. Cobcar Bridge is similar to Tingle Bridge. Above Cobcar Bridge the two large pipes across the Canal would have to be diverted, although the upper one only carries storm water from the village across the Canal to Knoll Beck. It could be altered to feed into the Canal with an overflow opposite to the Beck.

Apart from the bridges, the channel of the Elsecar Branch is unobstructed although silted. It carries a strong flow of water but the low weirs at the locks currently prevent the build up of any depth.

Map E3

The terminal Basin of the Elsecar Branch is an extensive and deep arm of water, including a turning area. Some dredging is required in places. There is a substantial water supply from the reservoir.

General Comments

- a) The whole line (including the two Branches) of the Dearne & Dove Canal has been affected by subsidence. Any restoration proposals will have to be based on an accurate level survey of its remains and of any proposed diversions.
- b) Ownership of the line of the Canal has not been ascertained but it is expected that significant parts are now in private hands following the original transfer to the local authorities.
- c) If it was proposed to increase the water levels in the many sections of existing channel which are now dry or almost dry, the waterproofing (clay puddle) of these sections may have to be extensively repaired.

SUMMARY

<u>A. Main Line</u>	9.8 miles long, 18 locks (omitting stop lock)	
Channel obstructed	1.3 miles	(13%)
Channel filled but unobstructed (except at bridges)	6.5 miles	(67%)
Channel exists but not in water	1 mile	(10%)
Channel exists in water	1 mile	(10%)
New or reconstructed bridges required	20	
Locks to be rebuilt	16	
Difficult areas	Wath, Wombwell, Stairfoot	
<u>B. Worsbrough Branch</u>	2 miles long, no locks	
Channel obstructed	NIL	
Channel filled but unobstructed (except at bridges)	1 mile	(50%)
Channel exists but not in water	0.9 miles	(44%)
Channel exists in water	0.1 miles	(6%)
New or reconstructed bridges required	3	
Locks to be rebuilt	NONE	
Difficult area	Lewden Bridge	
<u>C. Elsecar Branch</u>	2.1 miles long, 6 locks	
Channel obstructed	NIL	
Channel filled but unobstructed (except at bridges)	0.1 miles	(6%)
Channel exists but not in water	1 mile	(47%)
Channel exists in water	1 mile	(47%)
New or reconstructed bridges required	4	
Locks to be rebuilt	7 (+ 2 or 3 at junction)	
Difficult area	NONE	
<u>D. Whole Canal</u>	13.9 miles long, 24 locks (omitting stop lock)	
Channel obstructed	1.3 miles	(9%)
Channel filled but unobstructed (except at bridges)	7.6 miles	(55%)
Channel exists but not in water	2.9 miles	(21%)
Channel exists in water	2.1 miles	(15%)
New or reconstructed bridges required	27	
Locks to be rebuilt	20 (+ 2 or 3 at junction)	
Difficult areas	Wath, Wombwell, Stairfoot and Lewden Bridge	

WAS THE CANAL BUILT IN THE RIGHT PLACE?

The Dearne & Dove Canal started at Swinton. This meant that the waterway had immediately to climb over the ridge above the former wharf where road traffic had been loaded into Don Navigation boats. Six locks were immediately required, rising straight out of the Don. Then a 457 yard tunnel was necessary through the highest ground.

The canal builders dare not go any higher to avoid the tunnel at this early stage of their route. If they had done so then their canal, when it reached the Dearne Valley, would have had to be built even higher up the hillside than they already were forced to go. By the time they reached the village of Wath, they were in difficulties. The village, even in those days, filled the side valley where a stream descended and, instead of following the contour around the side valley, the canal had to be taken across the lower ground by the massive embankment which became known as the Bay of Biscay.

Across that side valley, flatter ground was regained but this was soon left to reach the Elsecar Branch junction by climbing the side of the Dearne Valley by four locks. Then all the way past the village of Wombwell, the canal was built on the slope of the valley until the higher ground approached on the climb to the Stairfoot/Ardsley gap.

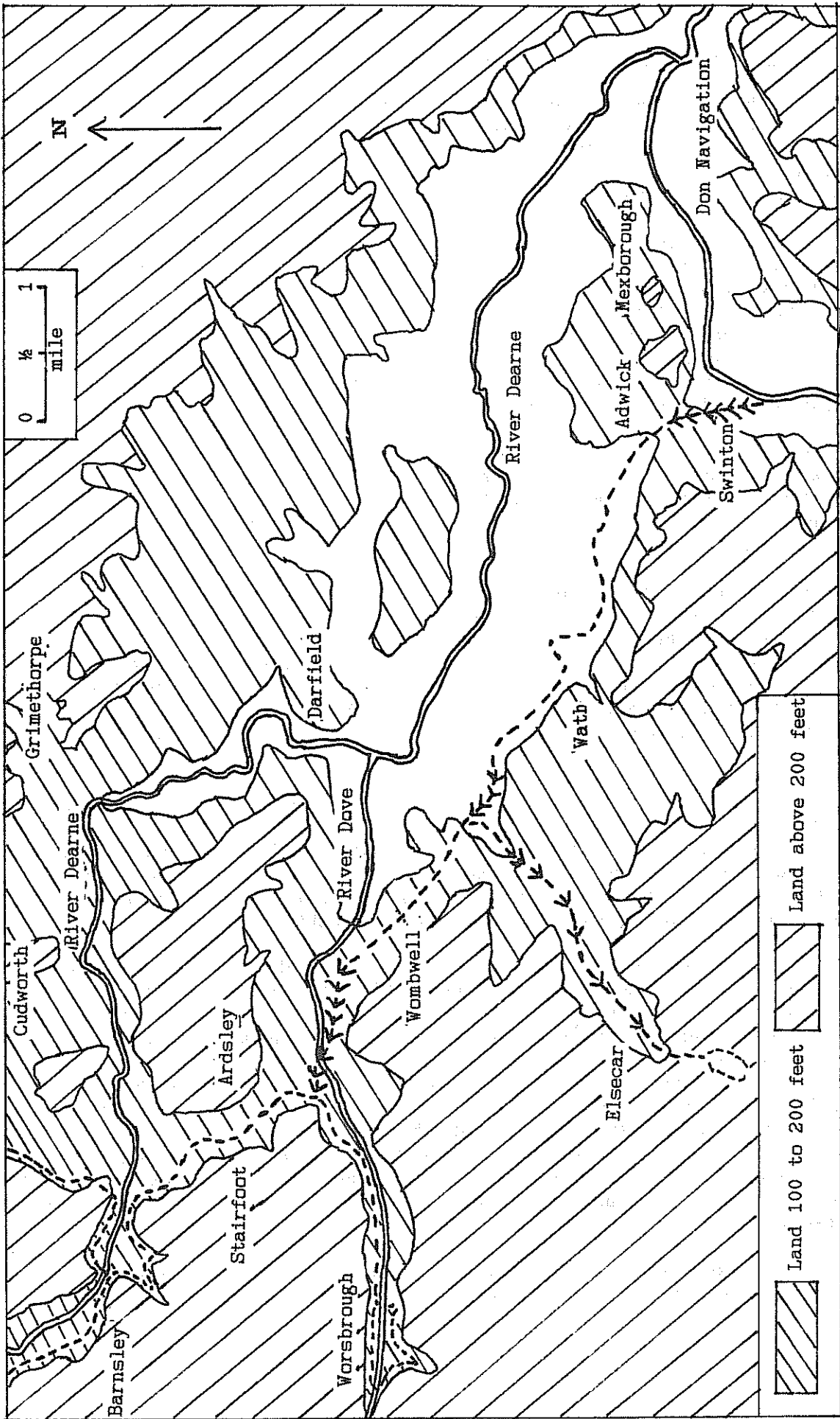
At the top of the Stairfoot Eight Locks, the summit and the water supply from the Worsbrough Branch were reached and an easy route ensued across the gap. Problems restarted, however, when the Dearne Valley was regained beyond. Retaining the height gained to cross the gap necessitated $1\frac{1}{2}$ miles of some of the most spectacular contour canal in the country. The canal twisted and turned high on the hillside above the River Dearne. No doubt it was with some relief that the Dearne & Dove engineers reached the junction with the Barnsley Canal at Hoyle Mill.

The engineers had created their canal and no doubt it was a splendid waterway when built. It had one flaw, however. A contour canal on steep hillsides is always difficult (the Llangollen canal and its problems for British Waterways is a modern example) but building such a canal in a mining area is asking for trouble. Increasing the height of the banks to retain the level after subsidence is doubly difficult if the canal is perched on a hillside.

Of course, the Dearne & Dove engineers probably did not anticipate that their canal would be undermined. In the 1790's, the mines were to the west of the canal, up the valleys at Elsecar, Worsbrough and Silkstone (beyond Barnsley). The engineers were not to know that, as mining techniques improved, the mines would move steadily eastward until, at the end of the 20th century, they have migrated as far east as Selby. The canal builders can hardly be blamed for not foreseeing this development. Their choice of route probably lay in a more fundamental decision; the decision at the famous meeting in Barnsley on 20 October 1792 to join the Barnsley and Dearne & Dove Canals at Hoyle Mill and the agreement that the Barnsley Company would build the section northwards through Barnsley to Barugh, the only section duplicated in both companies proposals.

The Barnsley proposals included the necessity to cross the watershed around Notton and Royston at a certain level and, when the canal reached the Dearne

GEOGRAPHY OF THE DEARNE & DOVE CANAL



Valley, the Barnsley Canal had its own contour hugging problems. A canal cannot go up and down and up again. Except on the longest canals, one summit is more than enough. The result was that the Barnsley Canal at Hoyle Mill was at a certain high level governed by the Notton to Royston section.

The Dearne & Dove could have climbed up over the last few yards to the Barnsley level but then it would have had no independent summit. Water would have had to be supplied from the Barnsley and rival companies just did not do that. Added to this fact was the very convenient co-incidence that the Stairfoot/Ardsley gap and the Worsbrough terminus were at exactly the same height as the Barnsley level. An independent 4½ mile summit with a reservoir at Worsbrough was irresistible. The decision about the junction made the difficult Stairfoot to Hoyle Mill section inevitable.

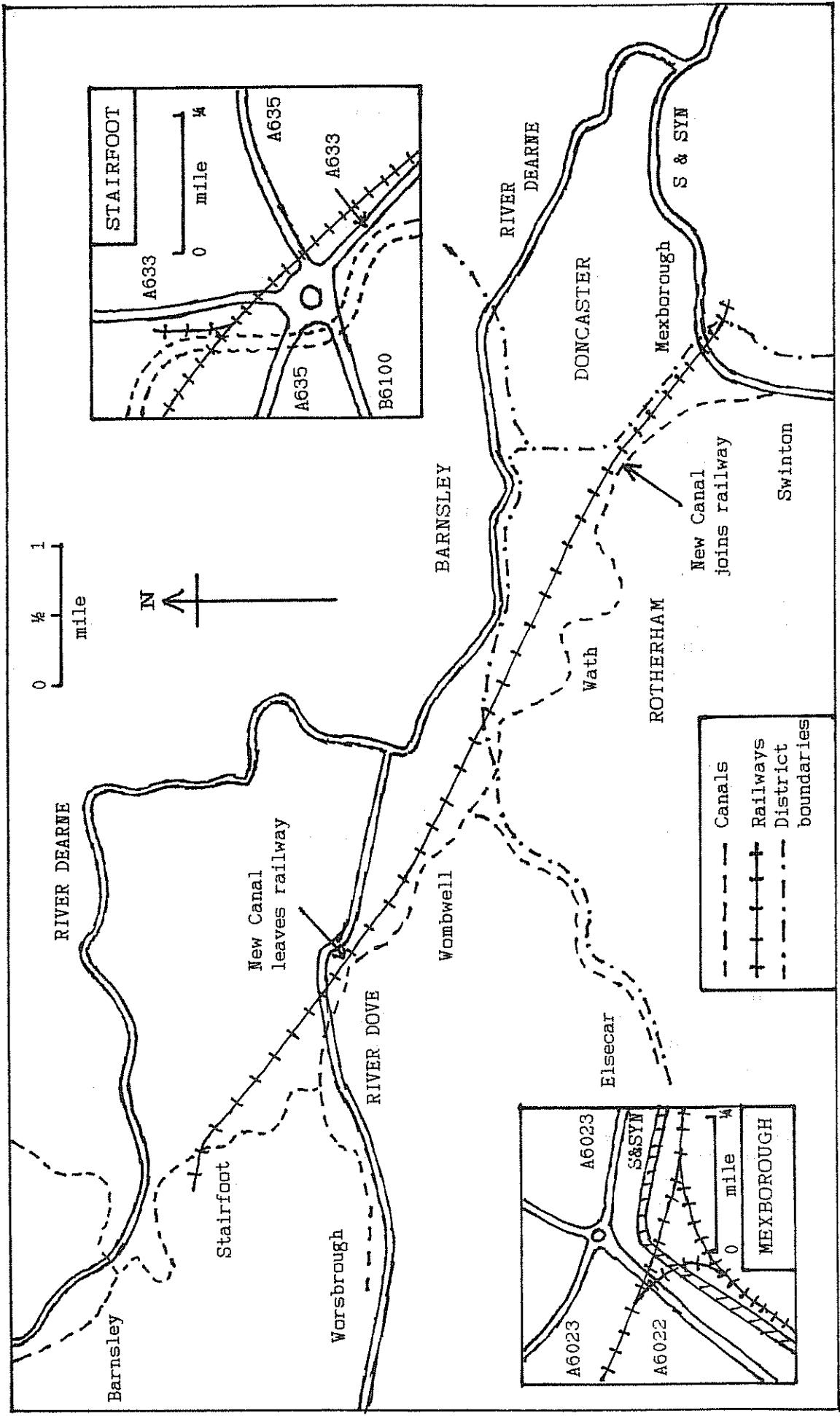
The original proposals by the Dearne & Dove promoters had suggested canalisation of the River Dearne. Above the Dove/Dearne junction, this would have involved a tricky passage through the narrow Darfield gap and a somewhat circuitous route to Barnsley but it would have been a far better engineering solution than the canal as built. A water supply would have been possible from the Dearne itself or from a reservoir above Barnsley. But no, the Barnsley Canal proposals and company rivalry over water made this impossible.

Why then, did not the Dearne & Dove take the River Dearne route below the Dove/Dearne confluence? This is much more difficult to explain. Possible reasons for placing the junction near the old road wharf at Swinton would be long established tradition and the avoidance of three extra locks. The junction was three Don locks above the confluence of the Don and the Dearne below Mexborough. These reasons are not, however, particularly persuasive.

Perhaps the canal builders were thinking that a line along the south side of the Dearne Valley was nearer to the collieries which the canal was being built to serve. But these collieries were up the side valleys so the Branches could have been extended without much difficulty a short distance down to the Dearne and the Elsecar Branch also had its independent water supply. Perhaps there is a clue in the original proposal for an ambitious level Branch to Elsecar. For that, the main line had to come near the Elsecar Valley on the south side of the Dearne Valley. Again this is not a particularly persuasive reason for the Dearne & Dove Canal being built where it was.

At this distance in time, we can only speculate on the canal engineers' reasons. What we can be certain of is that the chosen route was a problem for their successors who had to keep it open. The canal would undoubtedly have been easier to maintain and have lasted longer had it been built along the course of the Dearne, either by making the river itself navigable or by building an independent canal nearby. And there is less reason now to consider restoring the old line in its entirety, thus recreating some of those old problems. The restorers have one other advantage. The subsidence caused by the old mining has largely been completed and a restored line would be considerably less affected. This is one situation where the restorers could make a much better job of it than the original engineers.

RESTORING THE DEARNE & DOVE CANAL



REBUILDING THE DEARNE & DOVE CANAL

Analysis in the section on 'obstacles to restoration' has shown that there are considerable difficulties in restoring the old line of the Dearne & Dove Canal, difficulties which are in part a reflection of the way it was built. In particular there are almost insuperable difficulties in the central section around Wath and Wombwell, each with its destructive bypass road. Fortunately, there is an alternative to restoration of the old line in these areas.

British Rail has completed abandonment of the Mexborough to Barnsley railway. From the junction above Stairfoot down to Mexborough the line has been lifted. Most of the line is also to accommodate the Trans Pennine Trail and it is understood that Barnsley and Rotherham Councils may be negotiating with British Rail to purchase the line for that purpose. What better future could there be for this line than providing a new route for the Dearne & Dove Canal and the Trans Pennine Trail which could happily co-exist?

It would in theory be possible, as shown on the adjacent map, to use the entire railway line from the Sheffield & South Yorkshire Navigation at Mexborough right up to Stairfoot, beyond the roundabout. However, at each end there are problems. The analysis under Map 8 shows clearly that it is impossible at Stairfoot to use the A635 (Doncaster side) road bridge as a canal aqueduct. The headroom for road traffic would be insufficient. At the other end of the railway, near Mexborough, there are also problems. The deep cutting north of the S&SYN contains a number of high bridges very badly affected by subsidence and a difficult aqueduct over a road would also be involved. These difficulties would greatly increase the cost of converting the line to a canal in this area.

However, restoring the centre section of the Canal would be greatly assisted if the redundant railway line was used. One mile from the junction at Swinton (see Map 1) the railway and the canal run side by side. A diversion here on to the railway would avoid the obstacles immediately to the north and enable the only existing section, near the junction, to be re-used. All three bridges up to the diversion still exist. However the destroyed locks 1 and 2 could not be re-used and new locks would have to be provided on the towpath side.

Further north, the new Canal might leave the railway and return to the old line at Aldham (see Map 6). The old line could be regained just north of Aldham Industrial Estate and, after a bridge under the A633 road, would begin the ascent up the Stairfoot Locks and over the existing Dove aqueduct. At Stairfoot the 'lowered canal' solution, outlined in 'obstacles to restoration', could be readily adopted. To complete the rebuilt Canal, it would be necessary to restore the 1¼ miles to the Barnsley Canal Junction at Hoyle Mill.

Conversion of the railway line to a Canal would involve excavation of a channel in the bed of the railway and the construction of probably four locks (equivalent to those formerly near Elsecar Junction) at appropriate places along the line. In the central section there are 6 existing bridges over the railway and 2 bridges carrying the railway over roads. Converting the railway to a canal would be straightforward, even repetitive, work on an unobstructed route. There are three major level crossings on the railway, two near Manvers Main Colliery (one the A6023 road) and one near Brampton carrying the B6273 near the former Old Moor Canal bridge. There are also a number of minor level crossings. If the locks are sited appropriately, the Canal could be taken at a low level under new road bridges at these crossings. The railway embankment near Wombwell appears to be unstable and this short section would require investigation. The new Dearne Towns Link Road will have to include a bridge over the Canal south of Wombwell.

It is desirable to restore the two Branches of the old canal, to Elsecar and Worsbrough, which both end in attractive and historic areas. Connection of the Elsecar Branch would be most easily achieved by taking the Canal from the former junction under the A633 road at the old Junction Bridge (see Map 4). Additional locks would then be required to drop the Canal from Junction Bridge to the railway line in the valley below. Alternatively, the connection could follow the old line down from the former junction to the former Old Moor Bridge. This would necessitate rebuilding four locks, an aqueduct over Knoll Beck and the A633 bridge by the petrol station and building a bridge under the proposed Dearne Towns Link Road and cannot be recommended.

Reconnection of the Worsbrough Branch would be affected by the proposed 'lowered canal' solution to the Stairfoot problems. It could no longer feed water directly into the summit of the Canal and, if this water supply was considered to be vital, it would have to be pumped up the new lock or locks north of the Stairfoot roundabout. In addition a new lock or locks would have to be inserted into the Branch to drop it to the now lower junction unless the drastic subsidence on the Worsbrough Branch enables the old Branch line to feed directly into the now lowered main line without locks.

Converting the railway to a canal would be a straightforward engineering operation, ideally suited to relatively unskilled labour after a proper design has been completed. Ownership of the new line could be acquired in a single package from British Rail without the complication of multiple ownerships presented by the relevant section of the old line. As all the locks would have to be new or rebuilt, it is suggested that they be made long enough to accommodate full size 70 feet long boats (the original locks were 58 feet long).

Building the Canal on the railway in its central section would be considerably less expensive than attempting to restore the old route. It is a simple solution which is irresistible.

ALTERNATIVE SOLUTIONS

(Readers may find the map 'Geography of the Dearne & Dove Canal' useful in considering the following comments.)

The Dearne & Dove Canal is perhaps unique among canal restorations. The difficulties inherent in its original route, and the frequent obstacles in the way of restoration of that route, make it quite unlike other derelict canals in that a number of possible solutions can be considered. The Barnsley Canal Group has considered these problems and solutions very carefully and has concluded that the best solution is that advocated by this book; the original line from Swinton to Manvers, the old railway line from Manvers to Aldham and back to the original line from Aldham to Barnsley. The Group is convinced that this remains the best solution.

However, it was felt worthwhile to include some discussion of other solutions to particular problems on the Canal:-

1. The River Dearne below the Dove confluence
2. The River Dearne north of the Dove confluence
 - (a) direct to Barnsley
 - (b) to Cudworth and the Barnsley Canal
3. Diversion at the Stairfoot/Ardsley gap
 - (a) along the Dearne Valley to Barnsley
 - (b) to Cudworth and the Barnsley Canal
4. An Hoyle Mill Aqueduct.

1. The River Dearne below the Dove confluence

The River Dearne joins the River Don, and the Sheffield and South Yorkshire Navigation, below Mexborough Low Lock at the end of the long Mexborough/Swinton cut. This is three S&SYN locks downstream of the present Dearne & Dove junction at Swinton. In the 1970's British Waterways gave some thought to the creation of a canal along, or at the side of, the River Dearne up to Grimethorpe. This would have enabled 700 tonne barges to take colliery waste to reclaim land from the sea on the East Coast. The proposal came to nothing.

Leaving the Don, the Dearne immediately enters a large nature reserve through which it would be difficult to create a waterway. Above the first bridge at Adwick, the river is too narrow and winding to simply canalise and a new cut would be required. There are six road bridges and a railway bridge up to the Dove junction near Darfield. This would be a remote waterway, away from the centres of population, and would be partially in Doncaster District. The present route in Rotherham District would be excluded. A new River Dearne navigation might assist the National Rivers Authority in their problems with flow and subsidence on the river but would not be in any sense a re-creation of the historical Dearne & Dove Canal. The simplicity of the Group's solution on the old railway has more to recommend it.

2. The River Dearne north of the Dove confluence

Above the confluence near Darfield, the River Dearne flows through the narrow Darfield gap. It would be difficult to create a new canal in this narrow and largely built up valley. Upstream, in the more open valley the new canal

would have to follow the river as it bends in a long curve past the higher ground on which Ardsley stands. From this point there are two possible solutions.

(a) Direct to Barnsley

The new Canal would follow the River Dearne right into the centre of Barnsley, climbing by a series of locks, perhaps near Cundy Cross or perhaps nearer to the old junction, to join the Barnsley Canal. Joining the Barnsley Canal is of course an important, vital part of the Group's proposals. The through route from Wakefield to Swinton, of which the Dearne & Dove is 'the vital link', is essential justification for restoration of both Canals. However, another important plank in the Group's campaign is the connections by water to Elsecar and Worsbrough with their tourist attractions. It is difficult to see how a Worsbrough Branch Canal could connect with these River Dearne proposals. At best the Branch Canal might descend the Dove Valley, through additional locks, to a junction near the Dove/Dearne confluence. Here its important water supply from Worsbrough Reservoir would be largely redundant. The new Canal would have to rely at its top level for water from the Barnsley Canal and most of this would come from the Dearne upstream at Barugh. Even though a proposal like this would avoid the undoubted problems at Stairfoot roundabout and smaller problems near Hoyle Mill, the water supply arguments make this proposal unpromising.

(b) To Cudworth and the Barnsley Canal

The long curve north of Ardsley along the Dearne Valley would take the new Canal near Cudworth and near the course of the Barnsley Canal towards Barnsley. It would be possible to make the junction between the two Canals near here by taking a new Canal from the Dearne northwards between Cudworth and Monk Bretton to the Barnsley Canal. This would have two advantages. Firstly it should be possible for the restored Barnsley Canal to avoid its considerable problems at Redfearns Glassworks at Monk Bretton. Secondly it would create, between Wakefield and Swinton, a single Canal with a single top level, that between Walton and Cudworth. It would, however, create water supply problems. The Barnsley's reservoirs near Cold Hiendley were never sufficient to feed that Canal with a single lock flight to the north down from the top pound. Two lock flights, north and south, would be even more of a problem. The new, more direct, Canal would be cut off from the Dearne at Barugh. There is also a larger problem. The more direct Canal would be remote from the centre of Barnsley. Historically, the Barnsley's two Canals were built to the town and for the town, It would be unfortunate if the new Canal avoided Barnsley altogether.

3. Diversion at the Stairfoot/Ardsley gap

There are two possible approaches to the Stairfoot/Ardsley gap from the south. There is the original route up the Stairfoot Eight Lock Flight, joining the Worsbrough Branch and its water supply. This remains the Group's recommendation. It is also possible to continue along the old railway from Aldham up to Stairfoot roundabout where there are two railway bridges across the roads. However, measurements have shown that one of these bridges, if converted to a Canal aqueduct, would provide insufficient road clearance and connection of the Worsbrough Branch across the A633 road would also be difficult. Beyond the Stairfoot/Ardsley gap there are two possibilities which need to be considered.

(a) Along the Dearne Valley to Barnsley

In a sense the recommended old line does just this. The alternative arises in the possibility of turning right at Stairfoot rather than left, like the old

line, is considered. There are a number of old railway lines which might be useful (Stairfoot was impressively endowed with railways). There is even an existing railway tunnel for conversion. However, these suggestions would all place the Canal on the wrong side of the Dearne Valley. A massive aqueduct across the valley, or undesirable down and up locks, would be necessary. In addition, if the new Canal was to head for a junction near Barnsley, this route takes it in the wrong direction. Water supply from Worsbrough, unless it was pumped down and up the locks, would become less useful to the whole system.

(b) To Cudworth and the Barnsley Canal

This suggestion brings in elements of the proposals outlined at 2(b) above. Again, the Barnsley Canal might avoid Redfearn's Glassworks. However, there would not be a single summit; there would be two, the Barnsley's from Walton to Cudworth and the Dearne & Dove's from Worsbrough to Stairfoot. Both would have a water supply but the sump in the middle would nullify that advantage. And again, the new Canal would be remote from Barnsley.

4. An Hoyle Mill Aqueduct

This is a relatively minor diversion from the Group's recommended proposals. The Canal at Hoyle Mill, in order to retain the high ground, makes a long diversion into the valley. The proposal is that this diversion should be considerably shortened by striking straight across the valley's mouth by a long high aqueduct and/or embankment. This would be an impressive piece of engineering and would avoid the relatively minor problems at the head of the valley with the factories and brewery. There is also the possibility that such an aqueduct, instead of heading northwards, could head eastwards across the main Dearne Valley to the Barnsley Canal on the opposite side. This again raises the problem of cutting off the town of Barnsley from its Canals. The expense of such an aqueduct or embankment makes the group retain its original recommendation to use the original line.

AND FINALLY

Taken together, restoration of the Barnsley and Dearne & Dove Canals, as proposed by the Barnsley Canal Group, presents an opportunity for three councils, Wakefield, Barnsley and Rotherham, to work together to a single end, the re-creation of a waterway. The Group suggests that the practical problems inevitably involved in such a widely spread project could be best tackled by the creation of a joint committee of the three councils. This committee may perhaps be called the South West Yorkshire Canals Joint Committee.

The Group sees the restoration being carried out by the local authorities in whose areas the waterways lie. The cost would, of course, be offset by the various grants available. The land required would be purchased by the local authorities and the work would be carried out under their direction. There are a number of precedents for this arrangement throughout the country, notably Surrey and Hampshire County Councils' long-standing involvement with the Basingstoke Canal.

The Group therefore commends the creation of a joint committee as a solution to the inevitable difficulties which will arise in the restoration of the Barnsley and Dearne & Dove Canals.



THE EDMUND MAIN COLLIERY, NEAR BARNSELY.—SKETCHED FROM THE BANK NEAR THE MASONS' ARMS.

Worsbrough Basin

Wakefield Library HQ ; John Goodchild Loan Collection