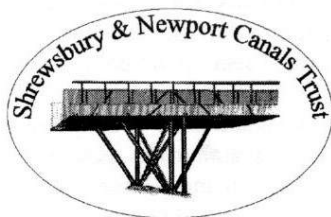
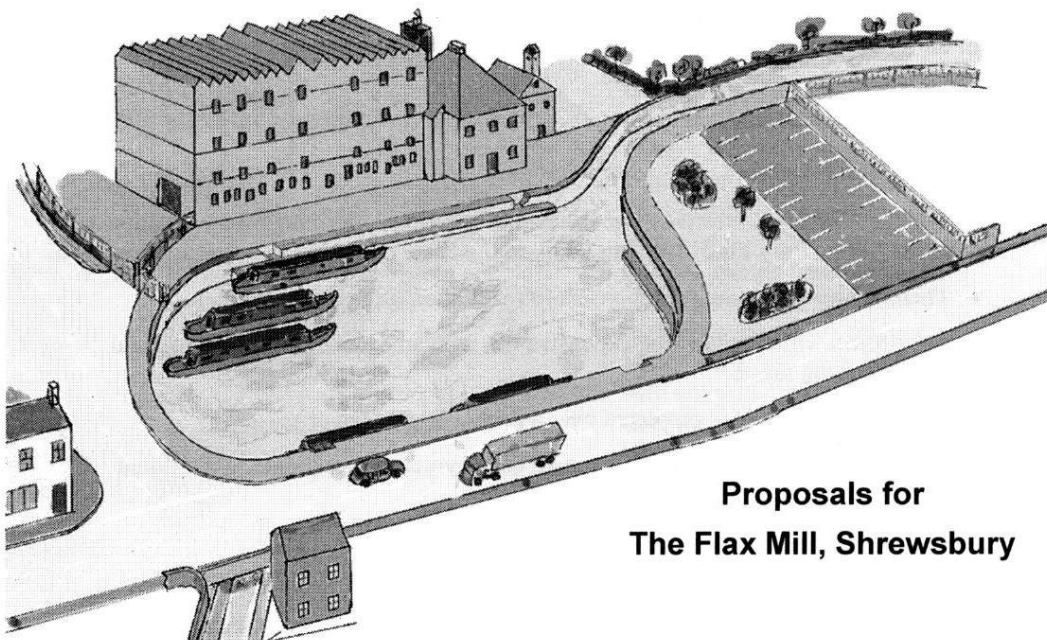


The Shrewsbury & Newport Canals Trust



Feasibility Study Summary



**Proposals for
The Flax Mill, Shrewsbury**

Introduction

This is a brief summary of a substantial study which was carried out by W. S. Atkins over the major part of 2003. The full document is very substantial, running to well over a hundred pages. This summary is intended to give the essence of the consultants' findings at this stage. We would urge readers to contact Trustees in order to obtain a fuller picture of the detail behind this overview.

It should be stressed that this summary is a representation of the views and recommendations of our consultants W.S. Atkins. This company is very experienced in work of this kind and they have been involved in implementing a number of major successful canal restoration schemes elsewhere. Nevertheless, the report is intended as a discussion document and there could be various recommendations which might be questioned by local authorities, landowners and other interest groups, thus leading to a modification and refinement of the proposals as laid out here. It will only be through an active and constructive dialogue with such individuals and groups that the Trust will obtain the widespread support and consensus essential for convincing the wider community and the funding bodies of the real benefits of this restoration project.

In support of this dialogue, the Trust anticipates that its representatives will be very busy in the months following the publication of this document, speaking in public meetings and more individual gatherings, organised through the local authorities, Parish Councils and other interest groups. The Trust is also renewing its efforts to strengthen contacts with landowners along the route in order to ensure that their wishes and concerns are well understood. Any reader of this document who would like to take part in these discussions is urged to make contact with one of the Trustees listed on the final page who will arrange a suitable opportunity for the necessary dialogue to take place.

Key Findings

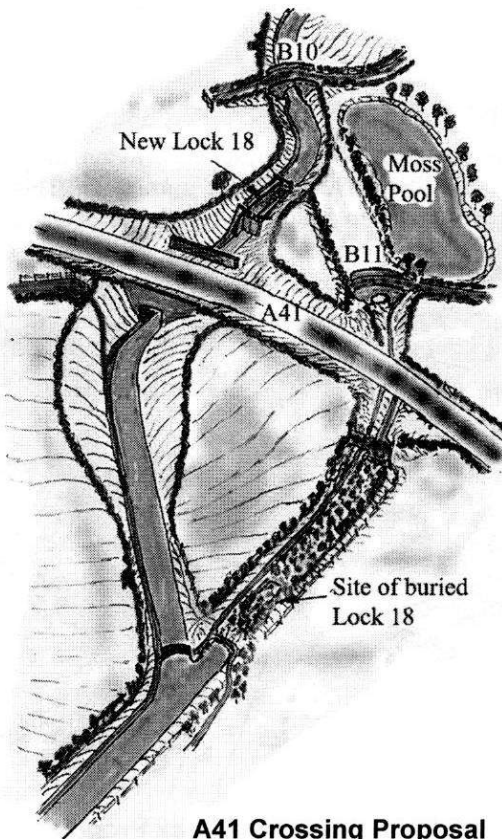
- The Shrewsbury & Newport Canals should be reopened from Norbury Junction to the Shrewsbury Flax Mill with a link to the River Severn within Shrewsbury.
- There are no insurmountable barriers to restoration on the projected line
- The project will inevitably be expensive but with an excellent level of financial return into the future
- A phased restoration is projected over a period around ten or so years
- There will be very substantial financial, employment, recreational, educational and regeneration benefits

Restoration Proposals

Norbury Junction to Wappenshall

This section of canal, which has been predominantly infilled and returned to agriculture, could be restored on the original line utilising modern lining materials as opposed to the original clay puddle. Of the twenty three locks in this section sixteen are buried and their condition is unknown but all, with the exception of locks 18 and 23, could be restored back to original condition. At the crossing of the A41 bypass to the east of Newport the road level is only marginally above water level on the original line and a localised loop diversion will be necessary to take advantage of the rising road level to the north, together with a new lock on the east side to replace lock 18

which is at present on the west side. A similar diversion is necessary at Longford where Severn Trent Water have a pumping station built on the location of lock 23 and the bridge to pass under the road to Edmond has been demolished. From this point to the terminal at Shrewsbury all road bridges have been demolished and the roads flattened and straightened. Four accommodation bridges only have survived and these may not be suitable for today's requirements. The accommodation bridges and little used country roads could be provided with manual lift bridges and the unclassified roads with traffic light controlled automatic lift bridges. Major roads are subject to their own unique solutions. In addition, the stone aqueduct at the Humbers which crossed the Dukes Drive and that at Rodington which crossed the River Roden have been destroyed and will need to be replaced by modern structures.

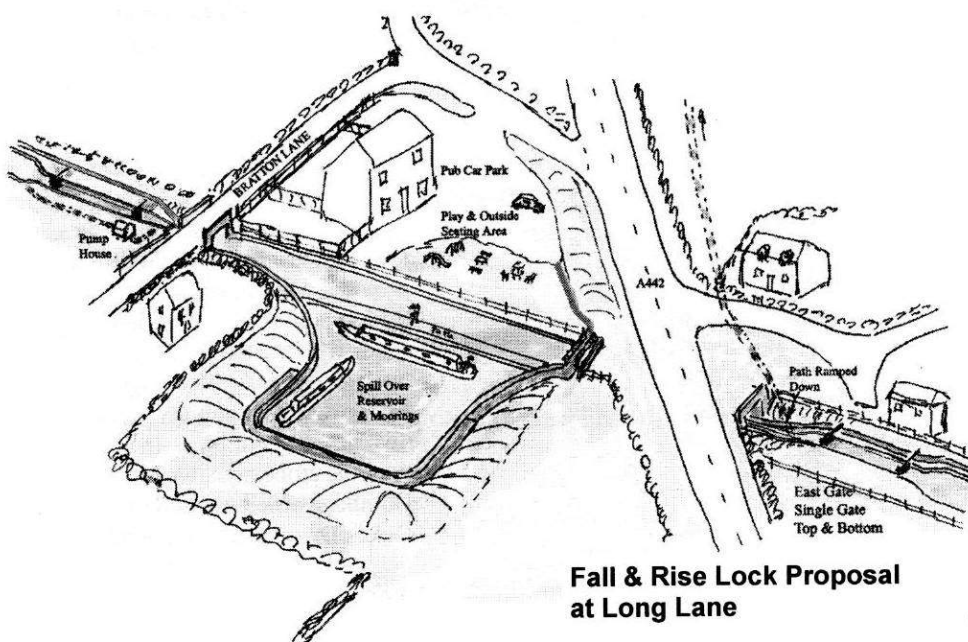


It is anticipated that the Humber Arm could be restored with the possibility of a small marina at its terminus with close proximity to Telford

At Wappenshall the original warehouse and roving bridge structures have survived and should be restored back to original condition when the buildings could be utilised for a visitor centre, study centre and canal side cafe/restaurant. The basins can be restored to original condition and a short length of the Trench Arm made navigable through the rebuilding of Wappenshall Lock. Just above this lock and to the east could be the entrance to a new marina, incorporating a waterside village development. On the remaining length of the Trench Arm up to the GKN Sankey boundary, where some of the unique guillotine gate narrow locks and bed have survived, it is the intention to restore these back to original condition, including replacement of the towpath in areas where the bed has been filled. This will create an unique heritage tourist attraction in conjunction with the Wappenshall complex.

Wappenshall to Uffington

From just above Wappenshall lock on the Trench Arm to just below Eyton, the bed of the original canal has been utilised for the Hurley Brook storm drain. This section of the drain will need to be repositioned to run parallel on the south side of the original

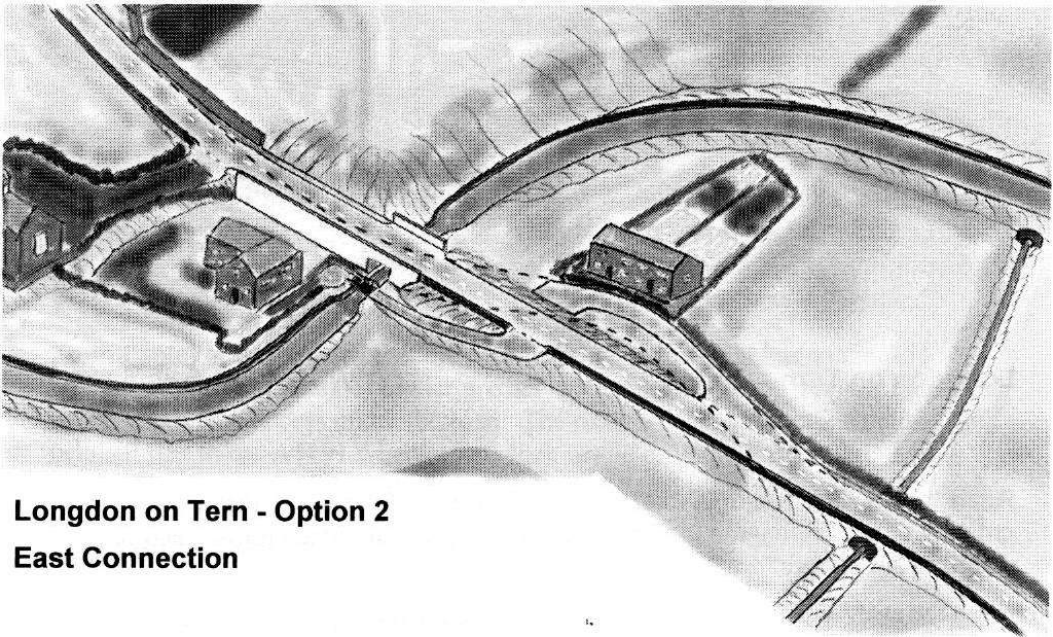


canal and this length restored back to original condition including lock 24.

From lock 25 to Long Lane the bed has been returned to agriculture. At Long Lane the crossing of the A442 and nearby Bratton Lane will present some difficulty as the road level is only marginally above water level. Two alternatives are considered, including a special "Safety Drain Fall & Rise Lock" with extended lower pound between the two locks to pass under both the A442 and Bratton Lane. Incorporated in the lower pound could be a mooring basin for boaters wishing to visit the adjacent public house. The alternative option involves a detour around Long Lane approx 900 metres to the south, where the road level rises. To take advantage of this rising ground with the Hurley Brook remaining in its present location would require the canal to pass over it in two places which would require siphonic drains under the aqueducts. To avoid the need for aqueducts and siphonic drains it would be necessary to divert the drain to the south, with the canal running parallel with it on the north side. This option will require a new lock 25 leaving the present one redundant.

This diversion would run in a cutting across open fields to rejoin, after passing under the Bratton Lane, the original line between Long Lane and Longdon on Tern.

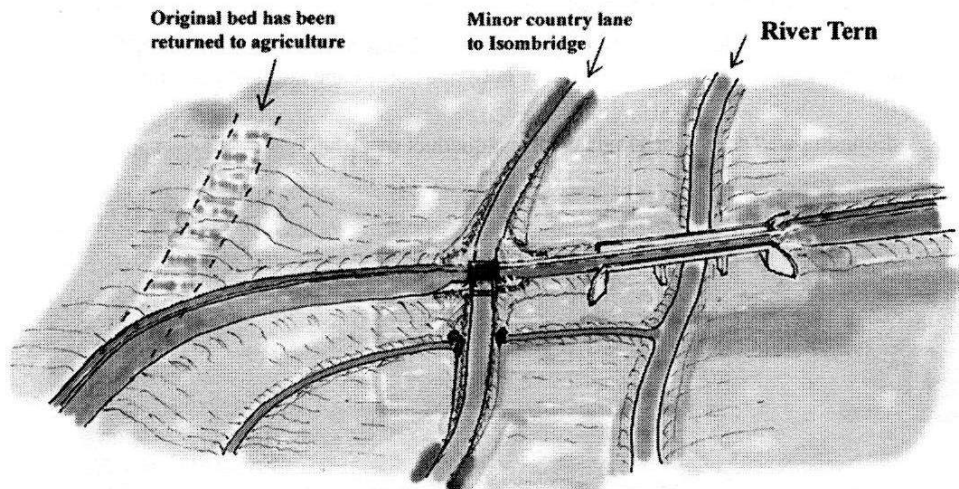
At Longdon on Tern the original cast iron aqueduct over the Tern still exists and



Longdon on Tern - Option 2
East Connection

is a preserved monument. The original route used to pass under a narrow and severe humped back bridge on the B5063 in the centre of the village. This bridge has been demolished and the road widened leaving the road level marginally above water level. A solution here takes advantage of the higher ground to the east side of the village where the road sweeps down abruptly and around two bends. Ramping the road down more gently and improving the bends will allow access under the road. The canal could then be diverted to the south under the road and then skirt around the south side of the village and across a new aqueduct over the Tern to rejoin the original route to the south west side of the village.

It is proposed to continue along the original route from the diversion and across the cast iron aqueduct to terminate at a mooring basin/turning point on the west side, where a heritage visitor centre would also be located. Because of the age and importance of this structure it would be necessary to place a steel lining within the cast iron trough to take the load and avoid any stress on the old structure.



Longdon on Tern - Option 2

West Connection

Apart from a short length at Rae Farm, the bed from this point to the original east crossing of the Wellington to Shrewsbury railway line has been infilled and returned to agriculture.

From the east railway crossing the original route curved south to Berwick Wharf and then north through the Preston (Berwick) Tunnel and back under the railway at the west crossing. Currently the new A5(T) dual carriageway runs adjacent and

parallel with the railway on the south side. Although solutions have been considered for these two crossings involving Fall & Rise Locks the length of the tunnels required to run under both the railway and road and the depth of drop required would make such a solution very expensive. Hence a proposed solution is to bypass the Berwick Loop with a new route running parallel to the railway on the north side. This would involve a "cut and cover tunnel" built wide enough for boats to pass, plus a cutting at each end. From this point to Uffington the original bed exists being still in water in some places and semi dry in others.

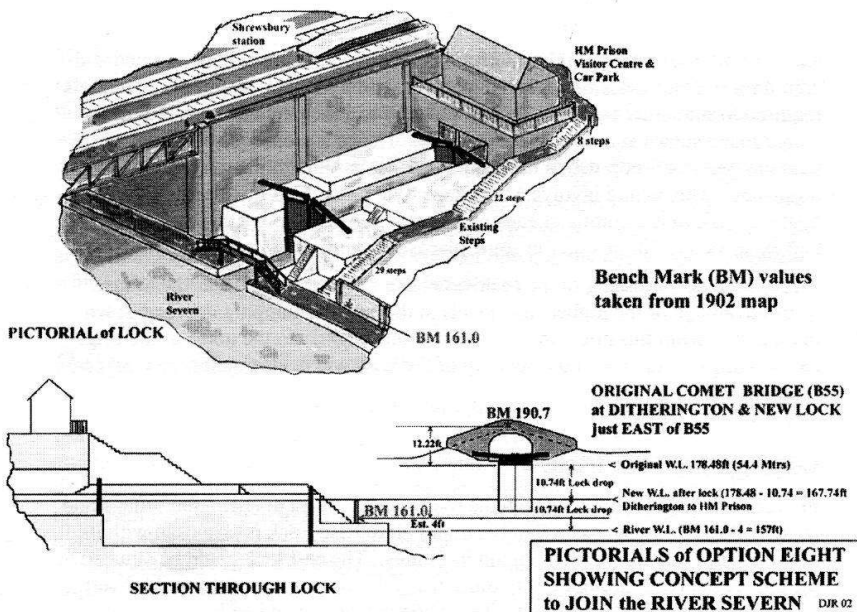
A proposed new crossing of the relatively busy Uffington road near the Manse takes advantage of the higher road levels to the east. By ramping the road down more gently from this point and following a line slightly to the north of the original crossing a reduction in the severity of the bend and access under the road can be achieved.

Uffington to Pimley

In order to have access under both the road running through Uffington village and the new A49(T) trunk road a Safety Drain Fall & Rise Lock is proposed with its lower pound running from Uffington to Pimley. The east lock could be situated to the east of the road through Uffington village. From here the route could divert slightly north and under the road. The diversion would then bend to the south, crossing the original line to run parallel with it on the south side, thus taking advantage of the ground which slopes down southwards from the original line. As the A49 is approached the original route curved around to the north but the new route could continue north west under the A49, joining first with the Fall & Rise West Lock and then the original line near to Pimley Manor. A second option proposes a crossing under the A49 further to the south to run parallel with the southern boundary of Pimley Manor grounds and with the pound set at a lower level.

Pimley to Shrewsbury - Option One

From Pimley it is proposed that the route follows the original line to the A5112 where advantage is taken of higher ground to the north allowing a minor looped diversion to gain access under the road. The route would then continue along the original line to the A5191 where a new lock would drop the level to gain access under. This level could then apply along the traditional route to the original terminal near the Butter Market in order to allow access under the southern crossing of the A5191. A basin could be built at this level in front of the Flax Mill in association with the regeneration proposals intended for this internationally famous and historic building. A continuation of this route could pass under the redundant railway tunnel near the Butter Market and join with a new tunnel under the prison car park at the end and then lock down into the river. This is a new concept as the original canal never linked

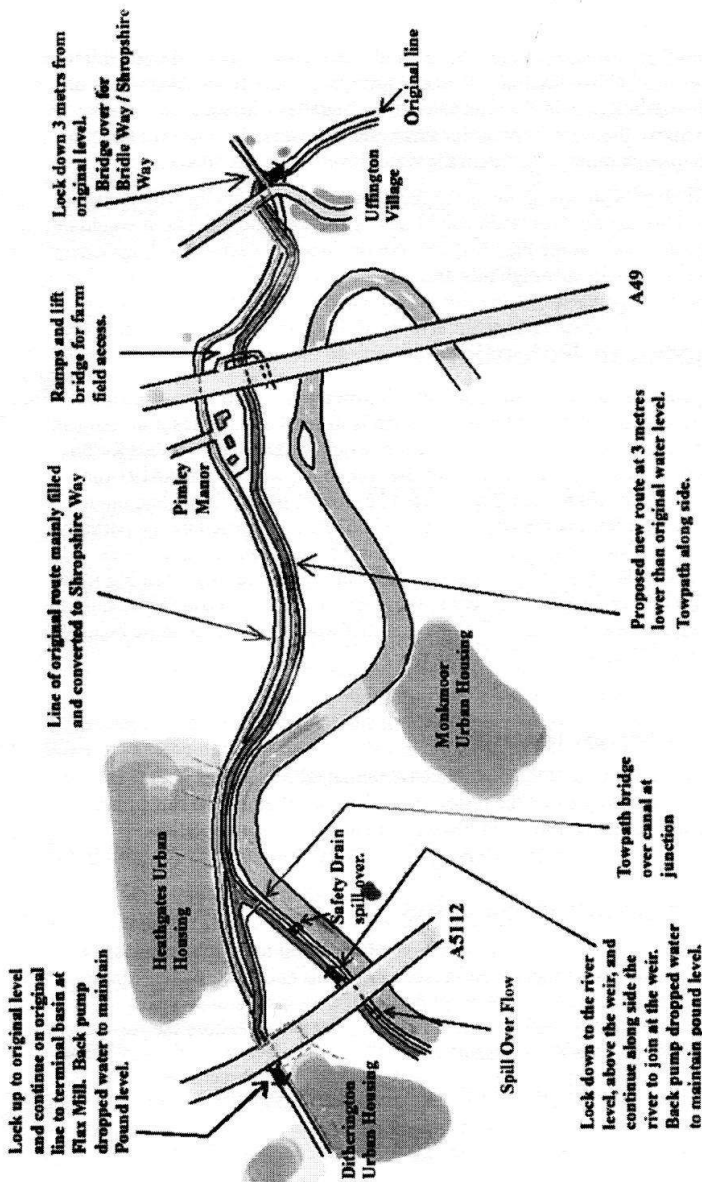


with the Severn. The disadvantage with this option, as currently proposed, is the necessity to have the route approximately three metres below the original canal level from the north crossing of the A5191 at Ditherington. This has prompted a second proposal as the preferred option.

Pimley to Shrewsbury - Option Two

From Pimley the route could continue on an embankment westwards to blend into the original route where it follows very close to the river bend near Heathgates. Due to the slope of the ground in the area of this bend and the fact that the new route is down at a lower level it will cut partially into the original bed around this bend. As the river veers south away from the canal a junction would be formed, with the northern leg continuing, adjacent to the original line and on to the A5112. The southern leg would continue on an embankment near to and parallel with the river as far as the A5112.

The northern leg would merge onto the original line just prior to passing under the A5112 and then rise up the west lock of the F&R Lock to continue at the higher (original) level to the A5191. To cross the A5191 a Semi-automatic Double Fall & Rise Lock would be installed which will allow this leg to terminate at the marina/mooring basin in front of the Flax Mill at original water level.



New Route from UFFINGTON to A5112,
including route to join the River Severn
just above the Weir.

D.J.R Nov. 2003

The southern leg, just prior to the A5112, could lock down to correspond with the normal river level above the weir. It would then pass under the northern arch of the A5112 road bridge over the river to continue parallel with the river, joining with it just above the weir. In order for this system to work the lock will have to be back pumped in order to maintain the water level in the pound above.

The disadvantage with this option is the fact that the pound joining with the weir will be unusable during river flood conditions. However, the fact that it would be at original water level at the Flax Mill and not down at the deeper level, necessary with option one, could outweigh this disadvantage.

Regeneration Potential

It is anticipated that either of the routes into Shrewsbury would stimulate significant regeneration of an area of the town which is in need of significant investment and improvement and that the reinstated canal would provide a key focus for this development. Proposals are included for the area to the west of the A5191 running from the Flax Mill to the Comet (now The Coach) public house and on the opposite side a further marina with waterside housing is proposed on the partially derelict industrial site. It is also considered that the canal running to the weir will bring benefits to the present open amenity space alongside the river running from Castle Fields to Ditherington. Access to the river would also allow Shrewsbury to be seen from the river in all its splendour and this would encourage more boating tourists to visit the town.

Environmental Issues

A detailed consideration of the possible environmental impact has not raised any major issues likely to prevent the restoration of the canal along the route planned and on balance the habitat for wild life will be enhanced on completion.

Cost & Economic Benefits

An estimate of the cost has been established which is felt to be robust and with sufficient contingency to address unforeseen problems and to allow for inflationary rises over the anticipated restoration period of perhaps ten or so years. The projected total is £86,000,000, of which £19,000,000 would restore the Newport Branch from Norbury to Wappenshall.

The economic cost benefit is summarised in the following table:

Activity		Annual Sum
Hire Boat Rental		£630,000
Hire Boat Daily Spend	Based on canal	£264,168
	Visiting	£366,900
Private Boat Spend	Upkeep	£585,000
	Daily Spend	£186,528
	Non-cruising visits	£26,160
	Visiting boats	£291,450
Trip and Restaurant boats		£69,800
Day Boats		£11,112
Canoeists		£36,600
Angling		£44,685
Informal Visitors		£1,485,000
Total		£3,997,403

This equates to a 4.65% return based upon investing £86,000,000 and generating an income of £3,997,403 per annum.

A cost analysis has been undertaken, adopting a discount rate of 3.5% and the following assumptions:

- That construction would be phased over ten years;
- 50% of construction cost would be spent in the local economy;
- No benefits from use would accrue until year five when the canal would reach Newport;
- Benefits would be 20% of forecast in year 6 and building up to 40% in year 10 and then accelerating to 60% in year 11, 80% in year 12 and 100% in year 13;
- The cost benefit model runs for 30 years from opening.

The results of the model are:

Capital Cost	£86,000,000
Annual Benefit	£3,975,000
Net Present Value	£5,815,600

Any Net Present Value over zero indicates that the scheme has yielded more than it has cost and shows that the contribution of the canal to the local economy is greater than the cost of the project. The resultant figure above should therefore be attractive to funding agencies. Many of the costs included in the cost benefit analysis however may be funded from sources that do not seek an economic return, such as the Heritage Lottery Fund. In this case these costs would not need to be included in the analysis,

but at present they are thus overstating the capital cost that must be justified.

Employment Creation

With a total capital works cost of £86 million, it is estimated that 1011 Full Time Equivalent / Year direct jobs would be generated over a ten year period, with an 80% / 20% split in favour of the local area workforce.

The construction period would also result in substantial indirect employment as it is likely that many of the building products and materials will be supplied locally. A further 2558 Full Time Equiv / Year indirect jobs could be generated, half of which are likely to be drawn from the local area. It is also estimated that approximately one third of the construction cost for materials and plant will be fed back into the local economy.

A very substantial number of permanent jobs would also be created after the conclusion of the construction period in support of the boating, maintenance, tourism and service elements that the restoration would generate.

The Way Forward

The fundamental conclusion of this report is that the Shrewsbury and Newport Canals should be reopened from Norbury Junction to The Flax Mill in Shrewsbury and that a link with the River Severn in Shrewsbury should be formed. At present it is recommended that this link should be made above the weir, having been re-routed along the river meadows but the option remains to develop a link within the town centre as originally proposed by the Trust, near the previous canal terminus at the Buttermarket. The project as a whole is worthwhile; it will link a significant tourist destination to the main canal system, open up a little visited corner of Shropshire to a wider audience, and provide a valuable amenity in the area of Telford New Town. The proposed canal restoration has strong links with other heritage assets in the area, from the world famous Iron Bridge to the smaller works of Thomas Telford which are spread around Shropshire, and of which the canals are a part.

However, achieving the restoration will take time, not least because of the scale of the capital that must be raised to realise the proposals. There is also much to be done before any contracts can be let for restoration of sections of the canal. Canal restoration can be a long process and most successful restorations involve many years of behind the scenes planning before making apparently rapid progress on the ground. The preparation of this report, and its recommendation that the canals be restored, is a major landmark in progressing the scheme but much remains to be done.

Although this report contains recommendations on technical means to implement the restoration of the canals, these are only to feasibility level and can not yet actually be implemented. The Shrewsbury and Newport Canal was listed as a long term project in the 1998 Inland Waterways Amenity Advisory Council (IWAAC) report. This reflected the lack of development of the proposals at that time. It was subsequently upgraded to a project of national importance in the 2001 IWAAC restoration priorities review. Although another review is awaited, the Waterways Trust have not yet made the Shrewsbury and Newport Canals a priority and this again reflects the amount of development work required before restoration can begin in earnest. .

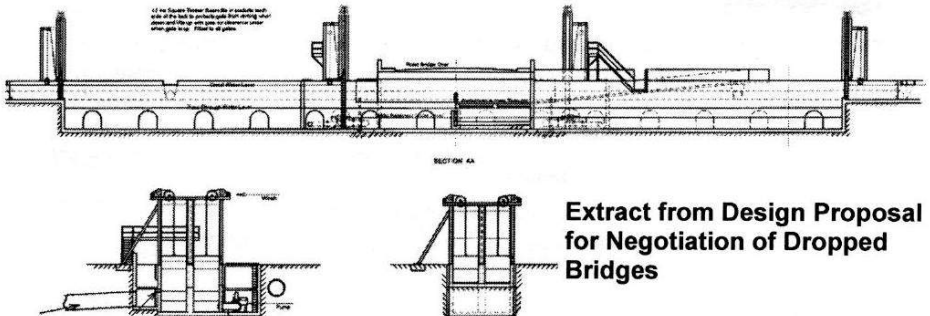
Engineering

This report demonstrates that restoration of the canal is practicable. However there are a number of key stages to complete before the scheme could be passed to a Contractor for Construction. The list below is not exhaustive but gives a useful checklist of the main aspects that will need attention:

- * Appointment of client project manager.
- * Discussions and agreements with landowners and estates.
- * Detailed topographical survey of the canal corridor and possible diversion routes.
- * Ground investigation of soils along the canal route.
- * Laboratory testing for soil properties and contamination.
- * Service investigations
- * Detailed structural assessment of all structures.
- * Consultation with English Heritage regarding renovation of historic structures
- * Consultation with the Environment Agency regarding discharge of canal water into watercourses.
- * Consultation with the Highways Agency and relevant Councils regarding road diversions etc.
- * Detailed surface water flood analysis.
- * Investigation of the existing surface water network; especially Hurley Brook.
- * Consultation with British Waterways regarding water abstraction and canal management.
- * Agreement of the final route.
- * Establishment of the canal construction easement strip.
- * Division of canal route into manageable contract sections
- * Setting aside land for contractors compound areas.
- * Land purchase and access agreements.

- * Appointment of Planning Supervisor (COM Regulations).
- * Detailed engineering design.
- * Securing planning approvals and consents.
- * Production of tender documents.
- * Seeking tenders.

By restoring the canal in stages, there will be a rolling programme allowing many of the activities to run concurrently. Obtaining funding for the early stages of investigation will be important in order to continue the momentum that the scheme has already achieved.



Non Engineering Issues

The first and most important issue is to confirm the preferred line of the restoration and to ensure that this is protected from invasive development. This will allow the canal to be incorporated into development briefs along the route and will be especially helpful around Shrewsbury, where redevelopment in the urban area and urban extensions around Ditherington are related to the canal line.

Other key items that should be moved forward are:

- * Environmental Scoping Study
- * Archaeological Assessment (especially of proposed diversions)
- * Land assembly
- * Development of funding packages
- * Political Progress

The Trust have made great strides in generating support from local politicians and local residents for the proposals. With the recommendations of this report (the

funding of which indicates a significant level of interest from local authorities) the mobilising of further political support should now be a key objective. The first requirement is that all local planning authorities protect the line of the canal within their area from predatory development that obstructs the proposals. This is only a starting point however, ideally all the local authorities, including the parish councils on the route, should be encouraged to actively and visibly support the proposals. A willingness to participate in radio and TV interviews supporting the restoration will be significant. The primary objective is to persuade any funding agency or regulatory body that this scheme is felt to be desirable (rather than just acceptable) by local authorities, parish councils, land owners and local residents, and that the proposals are popular with these groups.

A further element that should be developed is the link with local training and educational establishments. The restoration process has much to offer in the training and development of the local workforce as a range of skills are needed in the restoration, including less common skills such as stonemasonry, along with non-construction work like that involved in the field surveys for ecology. By bringing education and training establishments on board more support can be generated for the scheme and costs saved by "on the job" training.

Commentary

The restoration is a major undertaking, and a realistic timescale of perhaps ten to fifteen years should be contemplated for its completion. There is much development work to be done, but as no funding is yet in place there is time for this to be undertaken. In particular, there are some complex and expensive arrangements between Wappenshall and Shrewsbury, and in many ways these divide the restoration into two natural segments. As the lead time for through navigation between Wappenshall and Shrewsbury is likely to be significantly greater than for Norbury to Wappenshall. The proposed Marina at Wappenshall may need to be an interim terminus for the canal.

That said, assuming issues of water supply and drainage can be resolved, there is no reason why isolated lengths should not proceed in advance of the rolling restoration from Norbury to Shrewsbury. This is especially true of Shrewsbury where much of the canal route is related to Development and Regeneration. There are many examples around the UK of isolated restored lengths of canal. At Moira, on the Ashby Canal, around one mile with a new lock has been reinstated well ahead of the main canal system reaching this point, while in Lisburn, Northern Ireland, a lock and canal section have been restored as part of the regeneration of the town and the completion of new civic buildings. Other isolated lengths of canal tend to be more rural, but can nevertheless play a useful role and various examples exist elsewhere.

Management

Along with political progress, it is now time to encourage local authorities and others to take an active role in developing the restoration scheme. This really needs a full time officer to promote and develop the restoration. As five local authorities are involved it seems desirable for these authorities plus other bodies such as British Waterways (BW) to work on a coordinated single position and for this manager to be seconded to one of these authorities. Such a partnership arrangement is the key model used by the Rochdale and Huddersfield Canals, and is currently operating on the Cotswold Canals (although in this case the officer is seconded to BW).

Recommendation

It is recommended that:

- * The full restoration of the canals be pursued
- * The Local authorities and BW form a partnership with the trust
- * The Local authorities and BW between them provide a project manager
- * The works identified above are progressed to achieve full restoration

While not specifically a recommendation, it is felt likely that an interim terminus at Wappenshall will result from the phasing of restoration, and this should be considered in developing proposals.

Contact Details for the S&N Canals Trust

If you wish to meet with a relevant Trustee to discuss these proposals further or to arrange a presentation to any body or interest group please contact the following, as appropriate, and they will be pleased to make the necessary arrangements.

David Adams	Chairman	01952 810681	chair@sncanal.org.uk
Steve Bean	Secretary	01743 860488	secretary@sncanal.org.uk
Dennis Rogers	Trust Engineer & Leading Feasibility Trustee	01952 813377	drogers@sncanal.org.uk
Rodney Pitt	Liaison - Staffs, Newport, Telford & Wrekin	01952 811444	rpitt@sncanal.org.uk
Brian Nelson	Liaison - Shrewsbury & Shropshire	01743761447	bnelson@sncanal.org.uk