

Monmouthshire Canal – Five Locks to Newport and Cwmcarn

Canal & River Trust are seeking to appoint a consultant to review existing information regarding the engineering proposals and costs of restoring the Monmouthshire Canal between Five Locks, Cwmbran, Barrack Hill, Newport and Cwmcarn (Caerphilly CBC area) including a proposed extension to the River Usk at Crindau. The purpose of this review is to collate the information available, identify any gaps in existing knowledge, create consistency between costs and in doing so provide a robust total figure for the full restoration and for each of the individual elements. This figure, and the review report, will form part of the evidence base for the case for restoration.

Consultancy Brief – Engineering Costs of Restoration

The Monmouthshire Canal was opened in 1796 linking the centre of Newport and the Bristol Channel port with Pontypool and Crumlin. The major market for the canal was the export of coal via the Bristol Channel, with iron also forming a significant trade. The canal joined the Brecon and Abergavenny, completed in 1812, which extended trade from Pontypool to Brecon. Both canals were supported by an extensive network of horse drawn tram roads.

Following the usual cycle of prosperity, railway ownership and decline, both canals ceased to carry trade in the first half of the 20th century. The rural, and generally lock free Brecon and Abergavenny survived to be included in the Brecon Beacons National Park and is now a major tourism asset; the more urban and heavily locked Monmouthshire canal ceased to be navigable and became blocked with road crossings and other urban developments. The Brecon and Abergavenny Canal (33 miles and 6 locks) is navigable between Pontypool and Brecon, and well used for most of this length: the top two miles of the Monmouth Canal, from Pontypool to Five Locks, is navigable but little used.

Although largely unnavigable and inaccessible to boats, the Monmouth canal towpath is popular with walkers and cyclists, linking the urban communities along its route. There is a thriving and popular visitors centre at Fourteen Locks, Cefn, incorporating a café, interpretation and seasonal boat trips through the top lock.

There is an aspiration to restore the Monmouthshire Canal from Five Locks, Cwmbran to Barrack Hill, Newport, and the Crumlin Branch from Newport to Cwmcarn. Beyond Cwmcarn the Crumlin Branch is mostly lost under a new road, and beyond Barrack Hill the line into Newport is lost without trace, so there is no aspiration to extend restoration beyond these points. However there is an aspiration to link the canal at Barrack Hill to the tidal River Usk via Crindau Pill, including a new marina that would serve both river and canal.

Study Area

The study area covers the Monmouthshire canal from the top of Five Locks, Cwmbran to the mouth of Barrack Hill Tunnel, Newport, and the Crumlin Branch to the site of lock 22, Cwmcarn, north of which the canal is infilled. The study also covers the proposed link to the River Usk via Crindau Pill

- The main line of the canal from Five Locks to Barrack Hill Tunnel is 5m 6f (9.2km) in length with 30 locks
- The Crumlin Branch from Malpas Junction (0.5m/0.8km from Barrack Hill) is 8m 2f (13.2km) with 20 locks
- The proposed extension along Crindau Pill is approximately 1km long and will feature two locks between the canal and the Pill, and a tide control structure between the Pill and the River Usk.
- In the total length of canal there are 16 major crossings and at least 22 minor crossing points: not all of these form obstructions to navigation.
- There are approximately 22 obstructions to navigation, not including locks

There are major obstructions (requiring significant deviation or new locks) at:

- Five Locks
- Cwmbran Town Centre
- Manor Road, Ty Sign
- Darran Road, Ty Sign

In addition, there are a number of dropped highway crossings that no longer have navigable headroom, and minor infilled lengths through development.

Navigation of the Crindau Pill requires creation from scratch, as does the connection to the canal, as this route has never previously been navigable.

A number of locks have been restored to useable condition, mainly between Newport and Cwmbran. However these locks are not generally used as the canal remains isolated and there are still blockages between some of the locks

The accompanying map illustrates the length of canal to be studied and the key locations along the route.

Commission Requirements

A number of pieces of work have been carried out to date, which between them outline feasibility solutions for the obstacles to navigation: it is from these that the present estimate of £65 million has been derived. These individual studies are held variously by Torfaen, Newport, Blaenau Gwent and the Monmouthshire and Brecon Canal Trust

The successful consultant is required to

- Identify and collate all studies where a scheme that will form part of the restoration has been costed
- Create an electronic archive and database of all sources informing the cost of restoration: where documents exist in hard copy only scanned/digital copies are to be created
- Identify any obstacle for which no costed solution has yet been identified
- Identify any overarching studies or work that will need to be completed to enable restoration
- Review identified schemes against preferred navigation standards and for deliverability

- Review identified costings
- Create a spreadsheet that has the disaggregated costs included and aggregates them to a global sum that is based on consistent figures and indices
- Identify works which have been costed but have now been partially undertaken or completed and when this occurred
- Identify the scope of the maintenance commitment created by each set of works and devise a mechanism by which future year maintenance costs can be tabulated and presented
 - *Note the consultant is not required to calculate the maintenance costs: it is assumed that the mechanism identified will be a spreadsheet but the consultant is expected to advise on and develop the form of that spreadsheet*

In reviewing identified costs, the successful consultant shall as a minimum review the costs for

- Index year
- Appropriateness and deficiencies (*does the costed solution address the problem?*)
- Completeness within the limits of available information
- Coherence and freedom from mathematical error
- Inclusion of suitable prelims, contingency and optimism bias

The reviewed costs should then be amended such that all costs are comparable and suitable for inclusion in a grand total for the overall scheme and in sub-totals for sections of the scheme. The grand total and suitable sub-totals should be presented in the report

The reviewed costs will be entered onto a spreadsheet that aggregates the costs and that will allow recalculation at a later date. This will be given to the client along with the created archive: the successful consultant is not required to host either the spreadsheet or the archive, but they are required to give the client all relevant material at the end of the study.

Phasing

The successful consultant will, in discussion with the client prepare and present a suitable system of phasing for the works: the purpose of this is to demonstrate how works can be grouped beneficially and thus the restoration phased over ten years (which need not mean ten phases – five two year phases or three – three year phases may be appropriate for example, or indeed a rolling programme). Whilst benefits are not included in the review the successful consultant will have access to previous reports on benefits and may draw conclusions as to how to optimise benefits into a phased programme of works. In addition, amongst the factors to consider will be the opportunities opened up by each phase – for example including a structure in a phase may release a significant extra length of canal to be completed by volunteers to extend the restoration, when omission of the structure would isolate the volunteer scheme. Phasing may also reflect contractual efficiency. The key output from the phasing is that a realistic programme of works with relatively even cash flow over a ten-year period is defined.

Existing reports and documents

The basis of the study is a desk review of existing information relating to proposed restoration works and costs. As far as the client is aware, all such reports are held by the following organisations

Canal & River Trust
Torfaen County Borough Council
Newport City Council
Caerphilly County Borough Council
Monmouthshire, Brecon and Abergavenny Canals Trust
Welsh Government (Urbanists report on Crindau)

Each organisation will make available those reports held: the successful consultant is not expected to search beyond the reports offered by these organisations but will record any reports referenced that do not come to light during the study and will accept all sources offered by the above organisations as part of the review, even if the report did not originate with one of these organisations.

Reporting

The successful consultant will prepare and submit a report that includes

- A schedule of the proposals identified and reviewed
- An overview of the proposals
- A tabulated review of each proposal
- Identification of any obstacles that have no proposed solution
- Identification of issues arising from any of the reviewed proposals
- A cost for each proposal
- A grand total cost for restoration
- A provisional phasing of the works
- A total cost for each phase
- A programme for implementing the works over ten years
- A costed risk register

The consultant will also provide an archive of material that has informed the costings and a client-serviceable spreadsheet in which the costs are disaggregated and totalled. Client - serviceable means in a standard spreadsheet package and capable of modification by the client.

The report should be presented in a manner suitable for submission with grant applications and for circulation to funding agencies.

Project timetable

Bids to undertake the work must be received by the XXX, the successful consultant will be appointed by the XXX 2018.

A draft report will be submitted by the XXX 2018, giving a 12 week study programme.

The consultant should allow for a set up meeting, an interim meeting, and a meeting to discuss the final draft. An accompanied site visit is offered as part of the commission.

Budget

[circa £15k assuming 12 weeks work]

Tender process

Tenders should be submitted to (name) by (email/post) on or before xxxxxxxx.

Tenders should identify the lead consulting organisation, main client contact and key staff.

The tender should outline a study approach and methodology along with relevant experience, CV's of key staff and a detailed fee proposal including day rates for any variation to the commission

The client is not obliged to accept the lowest or any tender