Keynsham Greenways Project

Avon Towpath Section: Conham to Hanham and the Somerdale Bridge

Notes on resolving the Conham Road Gap  Revised 26 February 2015

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**Introduction**

It has long been the intention of Bristol, South Gloucestershire and Bath and North East Somerset Councils to create a good quality greenway along the general line of the River Avon towpath.

The various elements of such a project are shown on the summary map on this page.

Over the course of 2014 considerable progress has been made on a number of fronts. Bath and Northeast Avon have reached an agreement with the Developer of the Somerdale site that they will provide funds for a new walking and cycling bridge the river to Hanham. This might be similar to the excellent bridge opened earlier in the year at Batheaston, over the same River Avon.

Substantial repairs have been made to the riverside path downstream of the Chequers and the Lock and Weir pubs. This work has included the setting back of nearly 1km of hedge and fencing in order to regain the 5 yard width allowed for in the Bristol Harbour Acts, and for the subsequent reconstruction of all the worst sections of towpath to a sound stone base. This has resulted in a good route passable by almost everyone, for the first time for a number of years.

In Bristol itself work has started on the new bridge over the river to the planned Arena site. This will eventually provide a route through to the Three Lamps junction and Totterdown. And the construction of a 3m wide shared use path the length of The Feeder is due to start shortly.

These notes concern themselves with resolving the difficult gap in the riverside path at Conham Road. This 330m long section of riverside without a path has long been a significant barrier, especially as levels of traffic here have continued to increase. A number of solutions were considered, and one – reducing traffic to one way flows so as to release road width for a riverside path – was out forward but abandoned following public opposition.

The solution now proposed is to construct a new path parallel to the road, but running through the adjacent roads. This option has much to recommend it, although it does involve crossing the road at either end, something which will be effected by raised zebra crossings. These will have the effect of slowing traffic down at these two points, but not of affecting the road capacity or flows.

The details of this proposal are shown on the following pages. This route has been made possible by the support of the landowners of the woodland section, John Newlands McCreadie and Francesco Porcaro, and by Wessex Water whose adjacent main sewer has required their careful survey. We are grateful for their contributions.
The one significant break in the Avon Path is the 330m of the Conham Road. Solutions to this have proved intractable and the most recent - to make the road one way so as to release space for a wide path on the riverside part of the road – could not make progress in the face of the high levels of traffic the road now accommodates.

The option detailed here is to make a new path through the woods just to the north of Conham Road, more or less along the line of the vestigial works track servicing the Kingswood Sewer man holes. It is considered that this is the most appropriate option and is described in general on this page and in some detail on the following maps and sections.

1. Existing good quality riverside path provided by the Crew’s Hole developments.

2. To reach the woods the path must cross Conham Road. This crossing needs to be clearly defined, and needs to resolve the limited sightlines on this tight bend. The path should be extended as far to the west as possible, and the crossing to comprise a raised table zebra crossing with give way to oncoming traffic from the Bristol direction in order that walkers and cyclists can safely emerge onto the road at this point and traffic be slowed down.

3. The path can now move into the woods. For the first part of the way it will need to stay close to the retaining wall (and indeed the removal of trees growing adjacent to the wall maybe a good thing) until the path climbs to a suitable level to move across the line of the adjacent sewer.

4. The path can now follow the pipeline track and ramp up gradually and evenly to reach a glade in the woods set back from the road. This is an attractive area for a seat.

5. Ramp gently down to re-join the road near the site of the original access point to a former quarry.

6. A second raised zebra crossing should be arranged so that traffic going towards Bristol gives way to oncoming traffic so as to provide space for a build out to enhance visibility.

7. Join the existing riverside path and follow this all around towards the ferry.

8. Alternatively make a new link at an even gradient around the back of the picnic glade, past the back of the carpark, and along the open space towards the former sewage works site. Follow the existing track where possible.

9. Join the Lane down to the ferry.

10. Then re-join the Avon Towpath near the ferry landing for the riverside route through to the Lock and Weir and Chequers pubs at Hanham Weir.
Maps showing the arrangement of the proposed path, the line of the Trunk Sewer and the location of the detailed cross sections shown on the following pages.

Although the sections show the Ordnance levels, these are not of absolute importance compared with the relationship of the path to the adjacent sewer, and the overall gradient of the path.

The first diagram shows the long section indicating how the path climbs at a gradual and even gradient of 1:20 to a height of nearly 4m above the road. For its whole length it follows the remains of tracks associated with the sewer, and with the quarry workings in the area which occurred the best part of 100 years ago.

The cross sections show the path in relation to the main sewer and to the adjacent ground. For the first 40m or so at either end the path must run just behind the boundary retaining wall in order for it to avoid the sewer. But once past these points the path has adequate cover or is on a separate alignment so the path location is not affected by the presence of the pipe over these central sections.

The project will be arranged so that there is a balance of material with any surplus excavation being placed in hollows or the sides of former excavations as shown in the sketches.

The path itself will be generally 3m wide, constructed of machine laid bitmac on a sound stone base. It is possible that at either end the width may drop to 2.5m depending upon exactly where the sewer is lying. Over some short sections a balustrade will be required. This will be built from steel sections. It is not intended to light this section of path as the riverside path itself will not be illuminated.

The two raised road crossings will be to the standard details adopted by Bristol City Council for priority crossings on popular walking and cycling routes. At these two locations vehicular traffic will give way to oncoming traffic in order to allow the road to be narrowed so as to secure safe sightlines for the public using the path.

The final plan shows the location of trees to be removed. These are mostly at the two ends where the path comes close to the retaining wall and there is no flexibility on route. Most of the trees are small but ones exceeding 200mm in diameter are listed.

The ecological survey completes the report.
**Avon Towpath: Conham Road Section - Route Profile**

At this high point the path should pass behind (on the hillside) of the manhole chamber. Depending upon the precise levels, the path could usefully be set 0.5m lower than the manhole cover so that it functions as a seat.

Crown of sewer to be confirmed

Path to comprise 200mm of graded stone set on firm base and well compacted to provide a camber.

The surface to consist of 60m thick machine laid bitmac, finished with one coat of washed gravel to give a rural effect.

Where possible the sides of the path to be supported by an additional 0.5m width of stone base. If this is not possible use heavy timber kerbs.

**Avon Towpath: Conham Road Section - Path construction**

- Cut
- Fill
- Existing ground profile
- Proposed path profile

**NOTE:**

No drainage provisions are required as the site must drain away very easily as there are no signs of any wash out or scouring along the whole course of the route.
At either end of the path, at the point opposite the entrance to the road, a trial pit should be carefully dug to establish the exact line and level of the main sewer in this area.

Once this is determined then the width of the path in the vicinity of the pipe, the cover to be left, and any further treatment, is to be carried out as agreed with Wessex Water.

Trees left where 1m or more from path edge
Felled timber to be stacked at convenient spots to act as wildlife habitats, and where larger, arranged as rudimentary seats.

Spoil from ramp 0–40m

Japanese knot weed soil

The telephone cable has been removed from its posts (set in the side of the footway and all remaining) and casually laid along the ground through the woods over about one third of the route. Telecom should be advised to deal with this as its presence will comprise and future management of the woodland near the road.
Gabions will be the appropriate way to raise the level of the path over this short low section in the existing track. Their maximum height is 1.5, and this rapidly tapers down to 0.5m as the ground rises in each direction.

The steel balustrades need to be incorporated into the gabion baskets and securely tied back to afford maximum width for the path. The ground towards the manhole appears to be built up of loosely packed rock and this could be tidied up to even out the bank here.

View at F, with staff at approximate level of path
In these areas as the path is climbing up adjacent to the main sewer, there may be the need for a low revetment of some kind in order to maintain the appropriate cover to the side of the sewer. This could take the form of timber railway sleepers set on edge and supported by steel stanchions in order to provide a secure side to the path and to prevent accidental over running by maintenance equipment.

The whole hillside has been worked and disturbed over the years by quarrying and associated tracks. The material is often a rocky rubble and shows no sign of any instability.

The various slopes can be trimmed back to give an adequate path width as there are numerous level ledges and easing of the slope so that no work envisaged will increase the overall slope and affect its stability.

Erect a 1.8m high green weldmesh fence to the band in this area across the entrance to the former quarry.
The Bristol and Keynsham Greenways Project via the River Avon Towpath: Notes on resolving the Conham Road Gap

Plans showing path crossing Conham Road at eastern end (Note: western end similar)

Plan showing path dropping down to, and crossing, Conham Road at the eastern end.

Here traffic travelling towards Bristol would give way to oncoming traffic in order to allow a build out on the riverside of the road to achieve good visibility and sightlines. Scale 1:250 @A3

Repair existing low retaining wall and provide it with a concrete coping over the length that is flush with the level of the path. Over a short length construct a dwarf wall down to pavement level at the start of the path. Install a steel parapet 1.4m high along this wall as far is necessary.

Plan of existing road before works

Path climbs at 1:20 until it is sufficiently high above the crown of the sewer to enable it to slew across onto the line of the existing track.

Plan showing path dropping down to, and crossing, Conham Road at the eastern end. Here traffic travelling towards Bristol would give way to oncoming traffic in order to allow a build out on the riverside of the road to achieve good visibility and sightlines. Scale 1:250 @A3

Note: Discussions have been had with Highways Department and details of tables and traffic calming will be agreed with them.

Line of boundary fence to be 1.8m high weldmesh, finished in green, all on steel posts. This fence to be extended all along the road to the private entrance gateway.

Footway

Plan showing the detail of the road crossing at the eastern end of Conham road. Scale 1:100 at A3

Signing as prescribed by highway authority

Raised pavement crossing

Plan of existing road before works

Footway

Line of new boundary fence

Central line of sewer pipe

Plan showing path crossing Conham Road at eastern end (Note: western end similar)

Footway

Plan showing the detail of the road crossing at the eastern end of Conham road. Scale 1:100 at A3

Note: Discussions have been had with Highways Department and details of tables and traffic calming will be agreed with them.
Plan showing the location of trees of 200m diameter plus to be felled

Location plan: The River Avon Towpath project, showing the Conham Road Gap

Key
- Trees to be felled
- Manholes

Trees to be felled:
- 200 Ash
- 200 Willow
- 200 Sycamore
- Japanese Knotweed

Scale:
1:500 when printed at A0
1:1000 scale when printed at A3 size
PROPOSED CYCLEPATH, CONHAM ROAD
ECOLOGICAL SURVEY

NOVEMBER 2014

INTRODUCTION
The purpose of this report is to assess the nature conservation value of the route of a cyclepath running parallel to Conham Road, to identify any potential impacts associated with construction of the proposed path, and to make mitigation and enhancement proposals as appropriate.

METHODS
An Extended Phase 1 survey was carried out on 12th November 2014. It covered vegetation types, both lower and vascular plants, birds, invertebrates and badgers. The potential value of the site for other protected species was assessed. In particular the potential of trees for roosting bats was evaluated.

SURVEY RESULTS
Site Description
The proposed path runs through woodland along a route that was levelled for the construction of a sewer, close to the bottom of a wooded slope above Conham Road, which runs to the west of the site.

The site falls within a Site of Nature Conservation Interest (SNCI). The River Avon, on the western side of Conham Road, is also an SNCI.

Vegetation
The vegetation along the path is fairly uniform. It lies within a lower strip of woodland that has been disturbed and has a canopy dominated by immature ash (Fraxinus excelsior) and sycamore (Acer pseudoplatanus) with smaller amounts of sallow (Salix x reichardii) and pedunculate oak (Quercus robur).

The understorey has saplings of these species with small amounts of hazel (Corylus avellana), wild privet (Ligustrum vulgare), hawthorn (Crataegus monogyna) and elder (Sambucus nigra).

The ground flora includes large amounts of bramble (Rubus fruticosus agg) and ivy (Hedera helix) with species present in smaller quantity including hart’s-tongue fern (Phyllitis scolopendrium), soft shield fern (Polystichum setiferum), male fern (Dryopteris filix-mas), wood dock (Rumex sanguineus), wood avens (Geum urbanum) and goosegrass (Galium aparine). Mosses here include Kindbergia praelonga, Thamnobryum alopecurum, Amblystegia serpens, Brachythecium rutabulum, Fissidens taxifolius and Rhynchosporium confertum.
There is a patch of Japanese knotweed (*Fallopia japonica*) on the route of the path.

Above the low bank formed when the sewer was constructed the character of the woodland is significantly different. The tree canopy here includes semi-mature and mature oaks (*Quercus robur, Quercus petraea* and their hybrid) and beech (*Fagus sylvatica*). Additional species in the ground flora here include giant fescue (*Festuca gigantea*), wood millet (*Milium effusum*), wood false-brome (*Brachypodium sylvaticum*), wood meadow-grass (*Poa nemoralis*) and hairy woodrush (*Luzula pilosa*). Additional bryophytes here, particularly around quarry faces, include *Mnium hornum, Isothecium myosuroides* and *Cephalozia bicuspidata*.

**Birds**

The following were recorded either on the route of the path or in adjacent woodland: blackbird, blue tit, goldcrest, great tit, jay, long-tailed tit, magpie, robin, wood pigeon and wren.

**Invertebrates**

The following were recorded: red admiral butterfly; *Stigmella aurella* moth (larval leafmines); *Acicula fusca* snail; and *Nanogona polydesmoides* millipede.

**Protected Species**

Badger feeding signs were seen on the route of the path. Setts are present higher up the valley side in the woodland, but none was found within 30 metres of the proposed path.

None of the trees on or adjacent to the route of the proposed path has any hole, crevice or dense growth of ivy with the potential to support roosting bats. There are potential roost sites elsewhere in the woodland, particularly in mature beech trees.

Further details are given in the Assessment section below.

**ASSESSMENT**

The biodiversity value of the site has been assessed in order to determine whether it is of nature conservation value in a national, regional or city-wide context, of either high or low value in a local context, or of minimal nature conservation value. The assessment has used standard ecological criteria, such as diversity, rarity, fragility and amenity value. Reference has been made to suitable guidance, including the UK and Bristol Biodiversity Action Plans (BAPs). The value of the site for groups not surveyed, including invertebrates, has been assessed using information gathered on habitat type and structure.

The survey was carried out late in the year and the likelihood that some species groups, in particular ground flora and breeding birds, were under-recorded has been taken into account in making the assessment.

**Habitats**

The woodland through which the route runs has been heavily disturbed in the past during construction, and maintenance, of the sewer and the adjacent road. This means that it is very different in nature from the remainder of the woodland and, as far as could be determined in November, lacks any species indicative of ancient woodland. The species recorded along the route of the proposed path are all widespread, both in Bristol and in surrounding areas.

The woodland along the route of the path is of low nature conservation value in a local context.

The woodland higher up the slope, to the east of the proposed path, does support species indicative of ancient woodland, including giant fescue and hairy woodrush. The woodland type here is characteristic of the Avon Valley, but is rare elsewhere in the surrounding area. Several of the plant species recorded, such as sessile oak and hard shield fern, are locally uncommon. The woodland has a varied terrain and good quantities of dead wood, suggesting that it is of value for invertebrates.

The woodland as a whole is of nature conservation value in a citywide context.

**Strategic Value**

The woodland as a whole plays a valuable strategic role in linking the woodlands around Hanham with sites in Bristol such as Troopers Hill and Crew’s Hole. It is of strategic value in a citywide context.

**Protected Species**

There is moderate use of the site by feeding badgers; no setts are present.

There are no potential roost sites for bats along the route of the proposed path. There are, however, potential roost sites in trees within 20 metres of the path. The woodland is likely to be used by a range of foraging bats.

The habitats on the site are all too shaded to be used by slow worms or other reptiles. There are no ponds in the surrounding area, and no records of great crested newt.

The site does not have potential value for any other protected species.

**IMPACTS**

The proposals involve construction of a cyclepath along the line of the sewer, which has been levelled in the past and been subject to periodic disturbance subsequently. A small number of small trees, including one immature pedunculate oak and at least three immature sallows, would be felled and the ground flora described above would be lost. The more valuable areas of woodland higher up the slope to the east would not be affected.
There would be a slight adverse impact associated with habitat loss arising from the proposals.

The trees or shrubs on the site might be used by nesting birds and measures would therefore be required to ensure that occupied birds’ nests are not destroyed.

Measures to prevent causing the spread of Japanese knotweed would be required.

No bat roost would be affected. The loss of bat foraging habitat would be minor, and the creation of a linear clearing may benefit some species of bat by providing a sheltered corridor along which bats can feed. Lighting of the path may interfere with bat foraging and commuting patterns in the area, depending on what species are present.

**MITIGATION**

The degree of clearance along the path should be minimised. In particular, no excavation into the bank to the east of the path should be carried out, as good populations of ferns and bryophytes have become established here. Where possible felling of oak and sallow trees should be avoided; the former are a characteristic feature of the woodland and the latter provide a valuable habitat for invertebrates. Felled timber should be retained on site as dead wood habitat.

In order to avoid adverse impacts on badgers any excavations should either be closed overnight or should be provided with an exit ramp.

A bat activity survey should be carried out before any lighting to the path is installed. This could not take place until May 2015 at the earliest. Enhancement could be achieved by installing bat boxes on trees along the route.

A working method to avoid spreading Japanese knotweed should be drawn up. In the longer term the patch of this species should be eradicated using herbicides.

Since it is illegal to destroy occupied bird nests any removal of trees or shrub, including bramble and ivy, should take place outside the period 15th February to 31st August. If this is not possible then the vegetation should be checked for nests before removal and delays to works might be caused.