

Frome River Strategy

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Frome Town Council

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1. Introduction

This report has been commissioned by Frome Town Council to provide a strategic vision for improvement of the river corridor throughout the Council's area. The River Frome runs through the centre of the Council area and the town of Frome itself. The river is central to the town and was the reason for the establishment and growth of the town in the past, but like many other towns Frome has tended to neglect the river following the decline of the industry that depended on it.

In recent years the corridor has been improved piecemeal in an ad hoc way as opportunities and funding arose. Some sections of the corridor have been turned into high-amenity assets whilst others remain neglected or in need of considerable improvement, not least in the town centre itself. This report is a step towards developing the corridor as a whole and identifying projects which can be undertaken to maximize its potential.

Improvement of the River Frome is recognized as a planning aim in both the developing Frome Neighbourhood Plan and Mendip District Council's local plan.

Improvement of the River featured in the recent Citizen's Panels report that includes proposals for inclusion in the Frome Neighbourhood Plan. The report states the following agreed aims:

"Additions to the public realm which incorporate and enhance the River Frome as a feature within the town centre and provide a more satisfactory location for the market". (Highest Priority)

"Improve access, recreation, education and wildlife opportunities along the length of the River Frome establishing it as a linear park". (High Priority)

This report is project-based so that individual areas can be developed as opportunities arise. Nevertheless, the projects fit into an overall vision and aim to maximize the potential for the river to provide a wide range of amenity activities whilst improving the health and biodiversity of the river itself, and thus help achieve the Neighbourhood Plan aims.

2. The Potential

Frome owes its location to the river, which flows through the centre of the town. Originally a river crossing point, the town developed as an agricultural market, a woollen industry based on the river and later heavy industry attracted by the source of water power. Today the industry has gone from the river valley, leaving a varied river corridor which has only partially been restored.

As Frome develops into a service and creative centre the absence of current development along the corridor provides an opportunity for the creation of an amenity to complement these new industries. With careful development the river corridor can support Frome once again by attracting economic activity into the town. The potential to do so is great.

The report identifies projects along the river that can be developed to increase amenity, recreational opportunity and biodiversity, and to bring the river back to life.

3. The Strategy

The strategy has two main aims: firstly to create a continuous access along the length of the river and secondly to develop a range of habitats and amenities along the corridor that recognizes the varying character of the river as it flows from the countryside, through the town and back out into the country. Together these aims will encourage the use of the river for a wide range of activities and help promote Frome as a desirable place to live and work.

The vision is to create variety in the river corridor that reflects its varying nature through the town council area. The character of the river changes as it passes through the town, as shown in Figure 1. This is not a straightforward progression from rural to urban and back again, but varies as Rodden Meadows brings a very rural character into the suburban region.

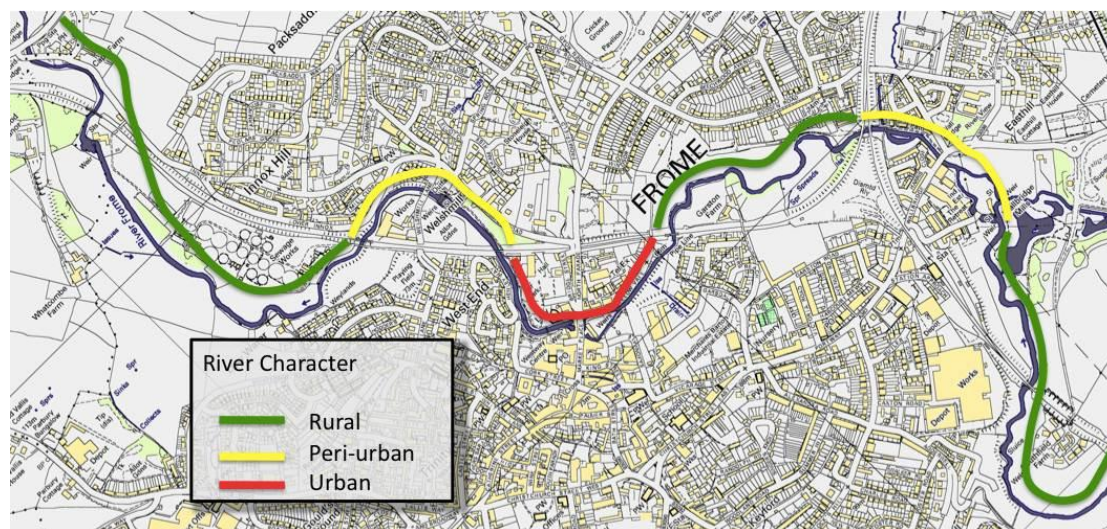


Figure 1 River Character through Frome

The strategy reflects the natural characteristics of the river, enhancing them where appropriate so that the projects match the river's character and provide a range of amenity along its length.

With the overall aim in place the individual projects can be developed as the funding and opportunities arise. Each one will help to achieve the overall aim and will not conflict with each other even if developed at different times.

The projects are described in the following sections, and illustrated in the accompanying maps. They are not detailed proposals at this stage but an indication of cost is provided as a guide. Each will require detailed survey and design and be developed after appropriate consultation.

4. Footpath and Access Improvement Projects

The common goals for all of these projects should be:

- to create a continuous footway suitable for wheelchairs and buggies in the urban and peri-urban sections along the length of the river corridor
- to provide access to the watercourse to promote engagement with the river
- to create circular walks to encourage visitors to explore the river and the town of Frome as a whole.

Cycle routes are being promoted along the river corridor by Sustrans to link Frome with Mells to the north and Longleat to the south. Where feasible parts of this route could coincide with the footway, but the needs of the cycle and path networks are different and separate routes may, where appropriate, be preferable.

Part of the proposals should include new signage directing the public to the various amenity areas. Guides to the town with walks and features clearly identified will also help engagement and encourage exploration.

Advertising, events and further promotion of the areas will further increase use.

4.1 Welshmill Lane to Henley Way

There is an existing informal path alongside the river past the allotments on the left-hand bank, opposite Welshmill Weir. This path is on land owned by Frome Town Council and could be formalized to provide access to the rough ground between the allotments and the railway bridge, which could then be improved to provide further amenity (see proposal 5.2).

The path need not be provided with a hard surface and a semi bound gravel-type surfacing might be more appropriate. The extent of ownership under the railway bridge and at the Henley Way end requires confirmation and a ramp and gate would be required to provide easier access to Henley Way itself.

This path would provide an interesting circular walk from the town centre car park, featuring the new sculptures and benches, the BMX feature, Welshmill Weir (which could be improved - see proposal 5.5), the proposed Allotment Pocket Park (proposal 5.2), the existing “industrial sculptures” on Henley Way and the Jenson Button pedestrian bridge.

4.2 Town Centre low level footpath

A low level walkway could be constructed along the river from the Library downstream to the Canoe Club landing stage. In the absence of remodeling of the river in this area, such a walkway would provide access to the river and help encourage public engagement with the watercourse. With suitable ramping it could provide disabled access to the canoe landing stage, and would also replace the unofficial slippery paths down to the waters edge in the area.

The level of the walkway would need to be carefully considered. Ideally it should be within 0.5m of the water surface to encourage engagement, but too low and it will regularly be flooded, creating a maintenance problem with deposited silt after each flood (and will therefore need careful consideration with regard to surfacing material). Minimum headroom would also be required underneath the two pedestrian bridges leading from the car park area across the river.

The walkway would need to include a rail and lower level barrier to prevent young children falling in. A non-slip surface would also be preferable.

4.2 Rivers Reach - M&S and Town Centre

An access route from the new Garston development into the town centre would be of great benefit to those living there, and also provide the potential for a circular river walk in conjunction with a new footbridge (see proposal 4.3) across to Rodden Meadow.

This route would eventually run alongside the planned Saxonvale development and thus provide foot access to development there. A further benefit would be the creation of a buffer between the river and the Saxonvale area avoiding the problem that has occurred at Adderwell where the footway, an existing public right of way, has been squeezed up against the river.

4.3 Rodden footbridge

A new footbridge across the river from Rodden Meadow to Saxonvale has been suggested as part of the latter development. It has several advantages and a new river crossing here should be considered irrespective of any future Saxonvale development.

The footbridge in this area would:

- Link the new Garston development and the proposed Saxonvale development with the large Rodden Meadow amenity area
- Create a traffic-free route into the town centre
- Create, in conjunction with the Rivers reach footpath above, a circular river walk within easy reach of visitors
- Provide a new access route into the proposed Rodden River Park reducing the use of the Willow Vale route and linking with the North Parade car park

The footbridge could be a feature of the proposed Rodden River Park (see proposal 5.3), adding to the Town's existing collection of interesting river crossings, perhaps with a rustic design in keeping with the more rural setting at Rodden.

4.4 Rodden circular walk

Creation of the Rodden-Saxonvale footbridge and the River's Reach footpath would, by incorporating Willow Vale and Rodden Meadow, allow a new circular river walk to be created. This would introduce visitors to the enormous variety of environment available in Frome within a few minutes walk of the town centre and encourage further exploration.

The circular route could be extended from the new footbridge, alongside the watercourse round Rodden Meadow and returning via the existing cycleway.

4.5 Wallbridge-Adderwell

The Wallbridge area is a pinch point in the river corridor. Travelling away from town after Rodden Meadow the urban development closes in and the path is restricted between buildings and the steep bank of the river. The railway bridges increase the sense of enclosure creating a wall across the narrow valley although this differing urban feel is not unattractive, as it provides a clear and distinct gateway between the peri-urban and rural.

The busy Warminster Road at Wallbridge forms a distinct obstacle to the park where there is currently no route to access the river further upstream. This barrier cuts off the Rodden "river park" from the real countryside beyond the ASDA supermarket. If the linear park is to encourage the public to access the countryside and improve the wildlife corridor then the effects of this barrier must be mitigated.

The next footpath upstream is at Adderwell, some 750 metres away on the left (west) bank of the river. This path is not in a good condition at present (see below) but after Adderwell it continues upstream almost to Feltham Bridge.

There are two potential routes for connecting Wallbridge to Adderwell, one on each side of the river.

The Eastern (right bank) route could run from Wallbridge via a new access across a small field into the ASDA Rodden Nature Reserve currently managed by Frome Area Wildlife Trust. The existing path along the river through the wetland area could then be used alongside suitable screening to avoid disturbance to nesting birds. New footpaths would then be needed beyond the wetland area and a new footbridge across the river to link with the existing footpath at Adderwell or beyond to provide a better quality path through Adderwell.

The western (left) bank route could use the existing new cycle path crossing of the river just past the railway bridges to emerge at Wallbridge opposite The Retreat. The route would then go through The Retreat and down to the river upstream of Wallbridge Mill. There is then an informal path, though not a right of way, already existing along the river to the public path at Adderwell. This section is particularly attractive, being wild and lushly vegetated, with the river at a similar level to the path. This is quite different to much of the river through Frome, which generally is high-banked, and is a relatively unusual stretch. It is, however prone to flooding for this reason.

Both routes would require the creation of new permissive paths or rights of way but one at least is needed to link the downstream section of river to Rodden and the rest of the linear park. In addition, the main area of new development in Frome is likely to be in this downstream area and a link to it along the river will be very desirable.

These potential paths are listed as two separate projects. The creation of one or the other is considered a high priority, but both would be beneficial and would achieve the aim of creating circular walks to encourage more usage and exploration.

Sustrans are also promoting a link from Wallbridge to the southern edge of the FTC area and onwards to Longleat. Their current plan is to take their route from the ASDA site to the railway and thence along to the accommodation bridge under the A361 before Feltham bridge. However, if a suitable route along the river to Feltham bridge became available this would be a good route to take the cycle route although it would necessitate a crossing of the A361. The use of the river path as a cycle route would also change the nature of the footpath.

4.6 Adderwell

The Adderwell development has resulted in an over-steepened bank next to the river that confines the existing footpath into a narrow space beside the watercourse. The watercourse is low-lying and the high artificial bank drains surface water onto the pathway.

The current path past Adderwell is not suitable for regular usage in its present condition. At the very least it will need surfacing of some kind to make it passable in wet conditions. A boardwalk might be a good solution, elevated to allow usage in higher flow conditions.

4.7 Adderwell-Feltham

Upstream of Adderwell an existing public right of way continues along the river valley but does not quite reach Feltham Bridge. Instead, the footpath veers off to higher ground to the north.

A simple extension of the existing right of way across the remaining field to Feltham bridge would complete the river footpath to the Town Council boundary. Exploration beyond could then be made via the quiet lanes and footpaths, although these do not currently follow the river.

Should new development take place to the east of the river the potential to create a circular walk by crossing Feltham Bridge and returning on the opposite bank would be an attractive option. A path on this side of the river would also provide traffic-free access for new residents into the town

If the option to create a flood meadow (see section 5.4) in this area is advanced, further footpaths and circular walk opportunities would become available.

5. Amenity Improvement Projects

5.1 Market Car park

The Market carpark is the centre of town and the area most visitors will stop and gain their first impressions of Frome. At present it is an expanse of tarmac with the river channeled round it in what is effectively a reinforced trough (Figure 2). The potential for improving this area has been well recognized and schemes have been devised in the past to do so.



Figure 2 The river from the Market car park, showing the Chateau Gontier overflow in operation

Improvement of this area should aim to:

- Provide an attractive setting, with sympathetic planting and softening of the current hard channel and landscaping
- Allow easier access for the public to reach and enjoy the river, providing seating, potential picnic spaces etc
- Improve biodiversity and channel form
- Not compromise the flood conveyance properties of the current channel, and enhance them if possible
- Provide for erosion, particularly around the outside of the channel bend adjacent to Chateau Gontier walk
- Manage the current storm water overflow which enters below Chateau Gontier walk
- Provide a relatively low maintenance area to ensure a good appearance can be maintained in the future.

Development of an attractive waterside area in the town centre is heavily constrained. The two existing footbridges restrict the space available for channel widening and the water level is determined by Welshmill Weir, and hence dependent on any future changes to this structure. The channel sides are quite steep (Figure 3), making access for both maintenance and members of the public difficult. Opening out of the channel is likely to use car parking spaces and hence remove revenue generation, whilst large scale removal of (potentially contaminated) spoil with no obvious nearby disposal site will be expensive.

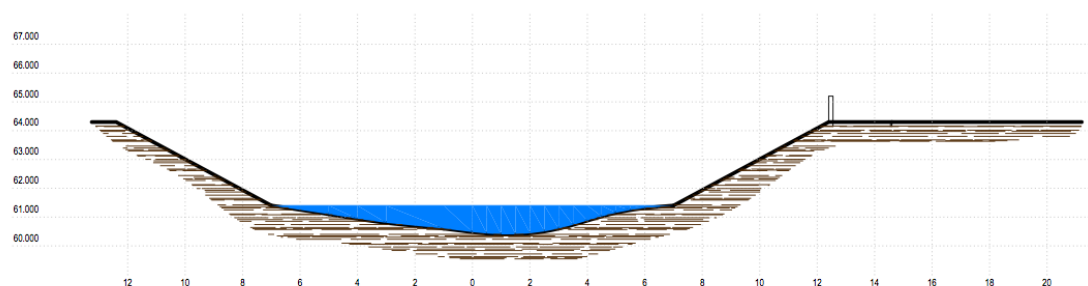


Figure 3 Cross section through existing channel between the two pedestrian bridges

For these reasons several options are considered to cover a range of potential funding situations. These all assume the river level will remain as at present and Welshmill Weir is not removed. The options also assume that the Chateau Gontier bank remains essentially unchanged. Should the Westway shopping area be redeveloped then some modification of this bank could also occur, and a new shopping area could take better advantage of its waterfront location.

Option 1: Minor Improvements

The town centre area could be improved by new planting and a changed maintenance regime. This could include the following elements:

- Tree and/or shrub planting between the existing pathway on the right bank (opposite Chateau Gontier Walk) and the car park
- Seating between the car park and the river
- Planting of aquatic and emergent flora in the river channel – in gabion baskets anchored to the channel structure to ensure stability in high flows.

These measures would achieve softening of the river channel in the key central section of the river channel at moderate costs. Planting along the river footpath could be integrated with wider measures to improve the car park as a whole, which could include a greening and softening of the current hard surface and replacement of the tarmac with higher quality materials (Figure 4).

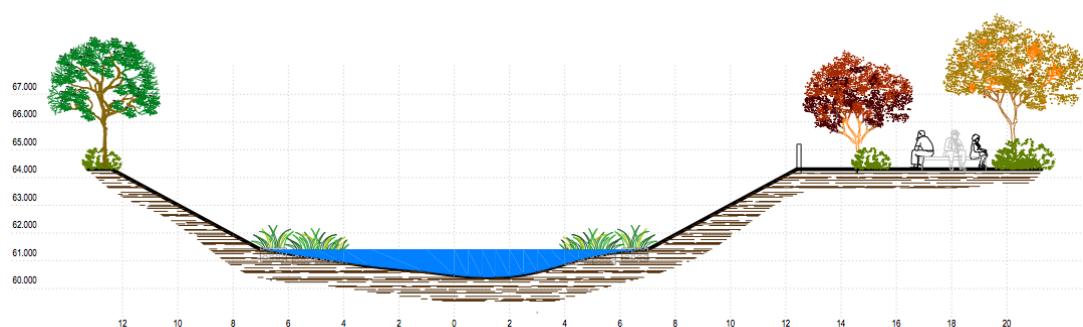


Figure 4 Option 1 - greening and softening the existing channel

Maintenance of the river channel itself should include mowing in spring and regularly through the summer to weaken and discourage growth of nettles and brambles. Planting of the higher parts of the river channel could also be considered subject to a survey of the channel structure and giving consideration to maintenance access requirements.

Planting in the channel and installation of gabion planters should be designed in consultation with the Environment Agency and assessed for their impact on flood level. These are expected to be minor if the proposals are relatively modest and focused on the car park side, which is the inside bend of the channel and away from the main current. Planting on the outside of the bend could be beneficial in reducing erosion of the bank, and provide some protection for the under-cut bank of the channel at this point.

Option 2 Channel Widening

The above planting and softening proposals would be increasingly effective if the channel were to be widened to give more room for improvement works. This would result in the right bank being considerable less steep than at present, and would reproduce a more natural river bend, where the outside bend is steeper than the inside due to natural patterns of erosion and deposition.

Making the right bank more shallow would provide room for access and planting at lower level and would work well with the town centre low level footpath (proposal 4.1) which could run within a platform in the channel slope. This would also improve maintenance access for the proposed planting at the top of the channel side (Figure 5).

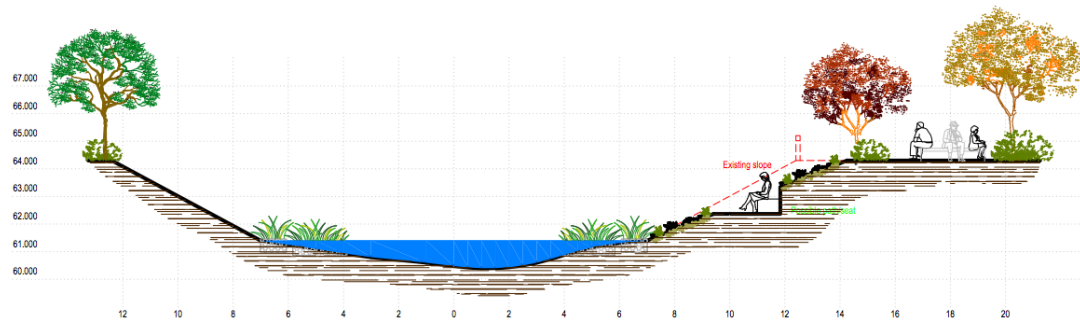


Figure 5 Option 2 - widening of the channel slope and low level footpath

The remodeled channel slope could reduce the current slope of 30-35 degrees to an overall slope of 20 degrees with a bench set partway up, above most flood flows, for seating and the proposed low level footpath. An option to provide a lower level platform in the channel, providing shallow pools in normal summer flow conditions, could also be considered. This has been proposed by the Environment Agency as a means to encourage biodiversity, and would also help with planting of emergent aquatic vegetation and general softening of the hard channel.

A similar scheme has been built in Calne, where a post-industrial section of river has been opened up and public access provided. This site is illustrated in Figure 6 below, shown shortly after construction, and has proved a popular recreational spot in the centre of the town.



Figure 6 Remodeled channel in Calne

The remodeling would be limited to between the two pedestrian bridges, with transition to the existing channel slope at the bridge abutments. It would increase channel volume and therefore not reduce flood flow capacity.

The excavations needed to achieve this option would be relatively modest and provide most of the benefits of the more extensive option 4 below, but at lower

cost. Using survey data collected for this study, an excavation volume of 585 m³ would be required to achieve a 20 degree average slope between the two pedestrian bridges.

The risk of encountering contaminated land is also reduced with this option compared to extensive remodeling as only relatively shallow infill would be removed. There is no information at present on contamination levels, if any, in the infill. From old maps it appears this area has only ever been a market area and not subject to industrialization so the likelihood of contamination is low. Suitable samples should be taken to assess this possibility before excavations take place.

Option 3 An Urban Waterfront

This option would aim to celebrate the urban nature of this section of the river, rather than soften it. Central Frome is densely urbanized as befits a working town with medieval roots, so an urban river section would be in keeping with the essential qualities of the town. A good quality urban section in the car park area would work well with the surroundings, particularly the modern pedestrian crossings, reflect the history of Frome and make a striking contrast with the rural nature of the rest of the river corridor.

Improved amenity and appearance could still be achieved though, by careful design and use of high quality materials. Such approaches are quite common in mainland Europe (Figure 7) where urbanism does not have so many undesirable connotations, and high quality urban design is more common.



Figure 7 Hard landscaping in the centre of Hagen, Germany

The main element of this option is to replace the existing hard channel with a new one in superior materials. These should be natural and low maintenance, using stone (particularly limestone blocks to reflect local resources), good quality timber and stainless steel. Use of concrete should be minimised and Tarmac banned.

The new channel could be stepped to provide easy access to the river, and effectively provide continuous seating along the river channel (Figure 8).

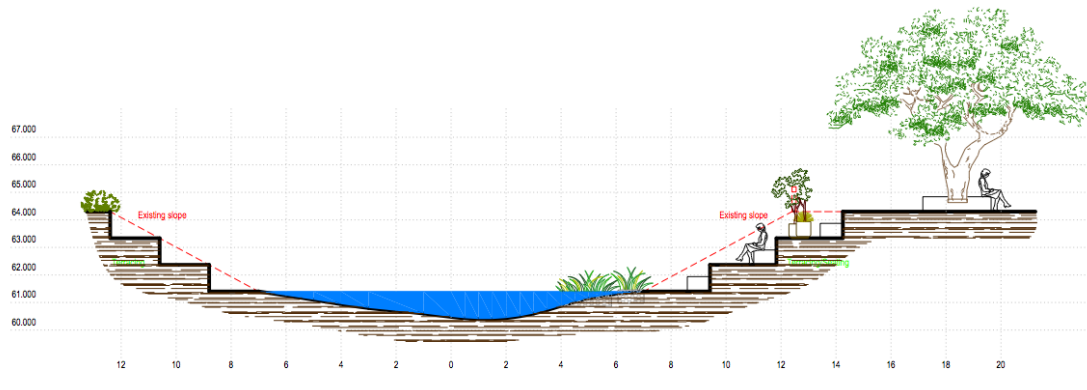


Figure 8 Option 3 - a high quality urban waterfront

Some planting could be incorporated in constructed planters and particularly striking species selected. The incorporation of public art in the design (or even play, Figure 9) would reflect the creative side of Frome, and a competition to design and install it would create public interest and promote Frome in the wider artistic community.



Figure 9 Play encourages inter-action with the river

The volume of excavation needed for this option would be similar to option 2, with an overall slope of 20 degrees. To be completely successful the left, Chateau Gontier bank would also need to be rebuilt using similar materials.

If well-executed an urban waterfront could be a signature site for Frome – a statement of its urban, creative orientation and optimism for the future. The key is to have high design and construction values and use good materials. This means the works are not cheap, but the costs of excavation would be minimised and subsequent maintenance costs could be reduced. However they would not be zero.

Option 4 Extensive Remodeling

A major re-modeling of the car park area has been suggested in the past to improve the town centre as a whole. This involves removal of a large quantity of material in the car park, estimated at 3000 m³, between the two pedestrian bridges to provide a lower level river area filling the sector of bend between the two pedestrian bridges. The larger area created provides an amphitheatre-shaped mini-park, ample room for planting and easy ramped access for disabled visitors.

The original design for this approach is shown in Figure 10 as developed by Katy Duke for Mendip District Council. Further embellishments could be added to integrate with any proposals to re-develop the wider car park and the town centre as a whole. It could also incorporate the shallow channel section suggested by the Environment Agency and aquatic planting to enhance biodiversity.

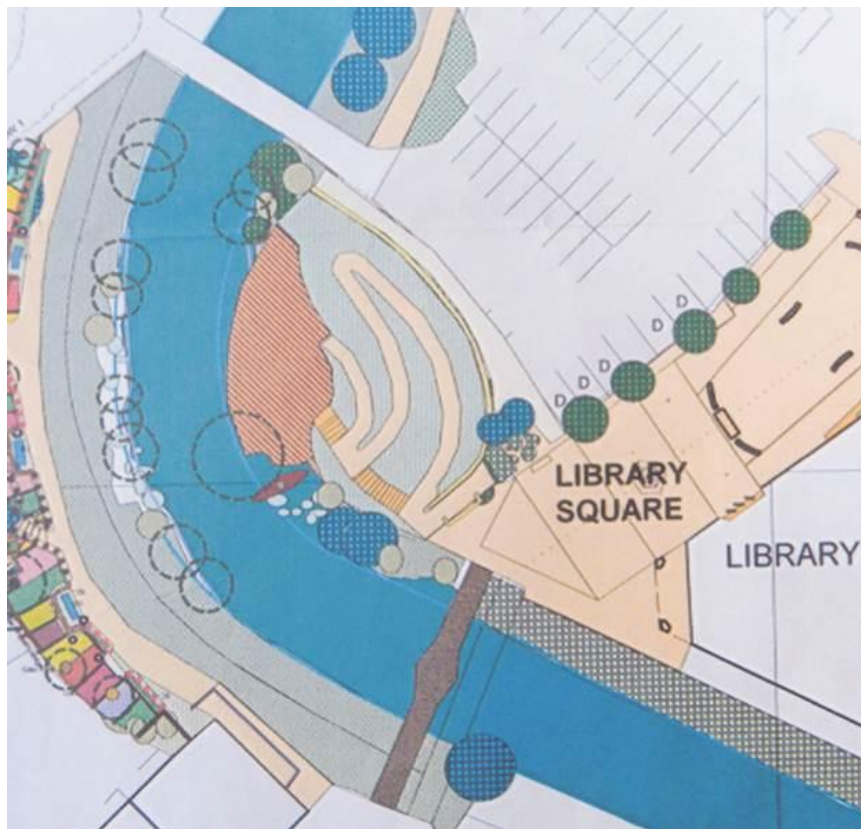


Figure 10 An extensive remodeling option for the town centre

This option provides ample opportunity to enjoy the river with installed seating and easy access to the water. It incorporates a much shallower slope on the left hand bank (Figure 11) and therefore requires the excavation and disposal of a larger quantity of material, some of which could be contaminated, plus the loss of 11 car parking spaces.

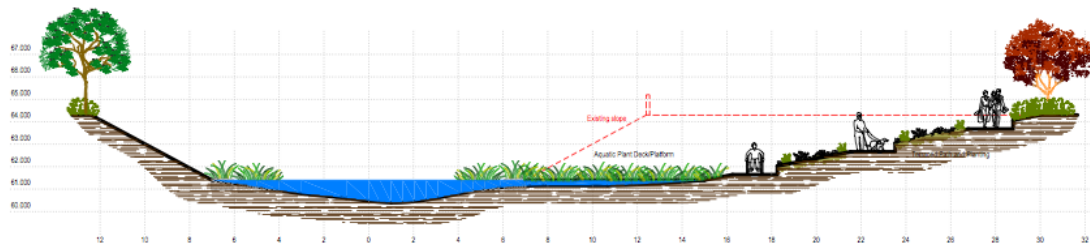


Figure 11 Option 4 - Large scale redevelopment of the left-hand bank

The overall cost of this option is therefore higher than the others but it could provide an exciting space in the centre of the town and have a much larger impact than the other options.

5.2 Allotment Pocket Park

The area between the Welshmill allotments and the railway bridge is owned by Frome Town Council but is currently unused. This could be used to extend the current allotments or left as a wild area, but given its central location might preferably be developed into a pocket park.

The park could simply provide alternative seating and a more peaceful location than the opposite bank where the BMX park and cycle way make for a rather busy area. Alternatively, the area could also feature adult exercise equipment (Figure 12) which is not available elsewhere in Frome and would be a good use of this quieter area. An example of such a feature from nearby Wanstrow is pictured.



Figure 12 Adult exercise equipment could be installed in the Allotment Park

5.3 Rodden River Park

This area, combined with the new field currently being negotiated for purchase by FTC, represents a large public area adjacent to the river and close to the town centre.

Current management is to occasionally mow Rodden Meadow under an agreed conservation plan where occasionally the mowings are removed so that a gradual reduction in soil fertility is achieved for the benefit of wild flowers. The current condition is an area of rough ground used for dog walking.

The riverbanks along this stretch are unmanaged and overgrown with large trees and undergrowth. Whilst this is of some habitat value, biodiversity is low and the vegetation cuts the river off from the meadow area both visually and from a public access point of view.

Whilst a flower meadow is a nice aim, Rodden Meadow's proximity to the town centre offers considerable potential for a greater range of amenity provision. It is a long way from becoming a wild flower meadow and is unlikely to realize this aim under the current maintenance regime for many years.

Millennium Green has no current maintenance plan and is neglected.

The combination of these two areas represent a potentially diverse semi-wild park area that could be sensitively developed to provide a range of recreational and amenity features. The area could be developed to provide a country park type facility within easy reach of the town centre and provide relief from the heavily urbanized market place just a few hundred metres away.

The opportunity to improve this area could arise from the Saxonvale development, which is adjacent to the downstream part of the area on the opposite bank. A new footbridge access across from Saxonvale to the Rodden Meadow would provide a magnificent amenity for the new development and provide a good access point to it.

The field that Frome Town Council are currently negotiating to buy is more remote and could more easily become the flower meadow area that Rodden is not. This area could be actively managed to create a flower meadow and would have more chance of success as it is less visited. This would also offer protection to nesting kingfishers in this area.

Rodden Meadow Recommendations:

- Integrate management of the two public access areas to create a river park
- Remove fencing between the two areas

- Provide diversity of management e.g. woodland areas, rough grass and mown grass in some parts to encourage a diversity of public activities such as dog walking, exercise, picnic, play and performance
- Improve access from North Parade Car Park
- Develop new access from Saxonvale as development opportunity permits
- Develop picnic/play/river access areas at key points along the river
- Remove trees and undergrowth at some sites to open up river, integrated with picnic/barbeque facilities and provision of safe access to river
- Consider provision of performance arena for Frome Festival events
- Improve public paths through Rodden meadow to provide interest and variety, including a circular walk. Provide a good quality footpath as an alternative to the cycle path.
- Possibly also provide jogging circuit and outdoor fitness equipment
- Manage Millennium Green area, remove selected trees to provide views, improve planting, consider community orchard area alongside existing.

Development of the Rodden River Park would greatly increase amenity and recreational facilities in the town and provide a green wedge from the countryside into the urban area. It could come to represent the major focus of the River Frome linear park where residents come to relax, play and enjoy the large biodiversity of the area. This would complement the potential Market Car Park area, providing a more expansive rural setting to contrast with the restricted, urbanized environment in the car park.

5.4 Feltham Meadows

This is the most upstream section in the Town Council area. It is currently quite a rural setting though some development occurs on the right bank and Adderwell still dominates the skyline to the north. The river valley is well defined and flat, currently under pasture, with sloping valley sides set back from the floodplain.

Large scale town expansion is likely to occur in this area and this is an ideal time to safeguard the river corridor for amenity and biodiversity and provide an attractive feature for new residents. The valley cross section means there is a well-defined floodplain in this section of the river which will not be developable but does offer the potential for sensitive amenity provision. It will also be important to ensure the development either side of the river corridor is sympathetic to the setting.

This area would be ideal to provide a country park-like amenity, with space to provide leisure activities as well as nature areas and increased biodiversity. It should be safeguarded now to avoid development pressures later. An example of the possible appearance of the area is shown in Figure 13.



Figure 13 Example riverside country park

The area also offers scope for the creation of a water meadow with potential benefits of wetland habitats, water quality improvement and flood water storage. The considerable development proposed in the area offers the opportunity for large scale earth works and local disposal of excavated material during construction, helping to minimise costs.

A water meadow would greatly increase the biodiversity of the area, providing extra amenity and recreational benefit for walking, exercise and fishing.

The upstream location of this site means extra benefit can be provided to the rest of the river corridor through Frome. It would provide filtering and settlement opportunity to improve water quality, in particular removing some of the sediment which clouds the river at present.

A further benefit of a water meadow at Feltham would be to provide mitigation for increases in flood flows as a result of climate change. Being located upstream of Frome this is an ideal location for the provision of flood storage, lessening the expected increase in flood risk through the urban area downstream.

5.5 Welshmill Weir

The weir at Welshmill has a large impact on the river in the town centre area. Its concrete construction is quite visually intrusive, in normal water conditions the concrete apron is exposed below the weir, and it raises water level upstream past the town centre to Willow Vale. The current weir and the straightened river channel it is in (Figure 14) are quite recent and result from the clearance of mill sites in this area. It therefore has little heritage value.



Figure 14 Welshmill Weir looking Upstream with fish pass on right, sluice on left

As with the town centre proposals, modifications to Welshmill Weir will be highly visible and potentially expensive. Improvements in the two areas are also related, in that changing the weir, particularly its crest level, will affect water levels in the town centre thus changing the appearance and character of the river in this key location.

The high water level and slow flow velocities created by the weir are of value to Frome Canoe Club who use the watercourse upstream for their activities. This is a valuable recreational benefit, and an important consideration. The weir is also a potential hydro-electric resource, although the head available and hence power generation potential, is quite modest. Development of the weir for hydro-electric power is likely to require raising the crest level further so a greater head can be obtained.

Option 1 Retention of existing weir

Keeping the current weir is the lowest cost option and retains the benefits of canoeing upstream whilst maintaining the potential for hydro power generation. However, improvements can still be made to reduce the impact of the weir on biodiversity. The current weir does have a fish pass but it is reported to be relatively ineffective. The design does not help the migration of eels, a key species under pressure, and the installation of a separate eel pass has been recommended by the Environment Agency.

The visual intrusion of the weir could be lessened by improving the most obvious features:

- Remodelling of the sluice on the footpath side to give a less industrial appearance
- Replacing the fish pass with a more effective one, perhaps on the face of the weir rather than to one side. This would allow the existing pass to be infilled and the bank returned to a more natural appearance.
- Replacing the weir apron with more natural materials to remove the existing expanse of concrete.

Option 2 Remodelling and/or lowering of weir

The visual impact of the weir could be addressed by remodeling it to give a more attractive appearance, improve fish passage and perhaps make it useable for the canoe club. Changing of the crest so flow is not spread out over the whole width on low flow conditions could also be an opportunity to lower the upstream level.

A new weir could be constructed from stone to give a more natural appearance. The stone could be placed with a cross-slope to concentrate the flow, and stepped to reduce erosion and provide more visual interest.

With careful design, and provision of a downstream pool, such a weir could provide a short run of white water, greatly increasing the amenity for both canoeists and spectators whilst also aiding the passage of fish.

Option 3 Removal of the weir.

Complete removal of the weir would remove the current visual intrusion of the concrete structure and lower water level upstream to beyond Town Bridge. It would restore the natural river through the town centre and provide a faster-flowing, shallower flow. Restoration of the natural channel would require some modification works in the upstream section to ensure erosion does not become a problem, and provide a suitable pool and riffle structure to the flow profile.

This would greatly increase bio-diversity, as a variety of habitats would then be created, and would provide a more attractive natural watercourse for the proposed works in the town centre car park. The downside is that the canoe facility would be largely lost, as would any future possibility of hydro-electric generation. Removal of the weir and restoration of the channel would also be quite expensive.

Option 4 Raising the weir

Raising the level of the weir crest would provide more potential for hydro-electric generation. This would then provide a sustainable power source and could also be a public demonstration site. The potential for hydro-electric generation at Welshmill has not been fully investigated but initial investigations suggest an extra metre might need to be added to the crest to make the site more viable. Low river flows in summer months would also limit generation capacity.

Raising the weir crest would increase river level upstream and the potential flood risk this would cause in the centre of the town would need to be carefully considered. The feasibility of raising the crest would also require a structural survey of the weir and the downstream erosion protection to ensure stability of the structure is maintained.

Implementation of these options would require detailed consultation with the Environment Agency.

5.6 Development Control

The Adderwell development stands as a case study in how not to develop the river corridor. The development dominates the skyline and is cantilevered out into the valley, completely at odds with its rural setting. The valley side has been over-steepened and fixed with geogrid, restricting vegetation to a single grass species.

The over-steepened bank pushes the footpath up against the river and, with the runoff from the surface of the grassed bank, creates a muddy trough between the bank and the river. The surface water outfall into the river is large, concrete and ugly. It is also contaminated with sewage.

Since the expansion of Frome is likely to focus on this section of the river corridor it is important that basic principles are established to ensure future development is more sensitive and further atrocities like Adderwell are prevented. A guide to further development in this section of the river corridor is therefore required.

Infilling and redevelopment in the centre of Frome will also have a marked impact on the character of the river corridor. The general principals should be that such development respects the character of the river and should face rather than turn its back on the river frontage.

If done well development can help enhance the river corridor rather than detract. Production of a suitable development guide will help achieve that aim.

5.7 Maintenance Strategy

Development of the river corridor will improve amenity and should also address some of the biodiversity concerns on the watercourse. Improving the health and biodiversity of the watercourse will also require continued maintenance and management.

Rubbish Clearance

Regular removal of rubbish is required to maintain the watercourse in a good condition and be visually attractive. Whilst Friends of the River Frome currently remove litter from the river and its banks on a voluntary basis they are unable to tackle some of the heavier items that have been disposed of in the river. These

items range from concrete posts to large metal sheets, and are frequently found near bridges.

Removal and safe disposal of these large items should be arranged to improve the appearance of the river. Friends of the River Frome could then be assisted in continuing their regular removal of litter and smaller items.

Invasive weeds

Like many other rivers, the bio-diversity of the Frome is threatened by invasive weeds. The main invasive species so far have been Himalayan Balsam and Japanese Knotweed though others are also spreading in some catchments and a close watch is required to prevent further encroachment.

Again, Friends of the River Frome work to control the extent of invasive weeds but are not adequately resourced to completely eradicate them. A co-operative approach could assist in this process

Water quality

Frome Town Council cannot directly influence the water quality of the River Frome but the main issue of discolouration from sediment is being addressed through the Catchment Sensitive Farming initiative. This seeks to reduce the release of sediment and nutrients into the river from the catchment upstream of Frome and will help to improve the appearance of the river.

Maintenance requirements

Frome Town Council already maintain parts of the river corridor that are within their ownership but some of the amenity proposals will require changes to or an expansion of the existing maintenance regime. It is recommended that a maintenance strategy should be prepared to cover each of the river corridor proposals so that the long term aims are clear and the facilities are maintained in a good condition.

5.8 Promotion

Development of the river corridor is intended to increase the leisure and recreational use of the river and to promote visits to the town. Full achievement of these aims will require promotion of the facilities both locally and more widely and a promotional strategy could help to achieve this.

Promotion of the footpaths and circular walks could be done through improved signage and production of leaflets describing the walks and the items of interest to be seen. These walks could also be promoted on the Town Council website and downloadable in a leaflet form for people to take with them. Walks could also be

promoted for various interests – walking, running, nature observation and so on. Exercise and leisure trails could be developed to include new exercise areas such as the allotment pocket park and Rodden River Park, and signed clearly.

The circular walks provide opportunity for more leisurely exploration of varying length. These could be of particular interest to visitors and a map showing the routes could be placed in the main town centre car parks for their use. The circular walks will range from a short town centre route to a more adventurous trail out to Feltham and back so all tastes should be catered for.

The creation of a Frome River Trail utilising these circular walks should be considered. Information on the history and past industrial use of the river could be provided at various points in the trail, or public art could emphasize the more modern creative edge to the town. The existing Frome heritage trail could also be extended to include significant parts of the river, allowing more flexibility in the featured routes.

Use of a distinctive logo for the River Trail would help raise awareness and promote the walk through its use on signage. The town bridge could be a suitable source for such a logo as it is an extremely rare example of an old bridge which still retains its buildings.

At Rodden River Park a wide range of uses would be possible once the river bank areas have been opened up and the Millennium Green integrated into the flatter Rodden Meadow area. The area is not easily visible from the town centre and needs to be clearly signed. The car park at the Millennium Green should be promoted as the main parking area for the Park, and signed prominently from the town centre and the main road. Use of the River Park name for all activities which occur there will help to strengthen promotion.

Provision of good access to the river at Rodden River Park would allow more water-based activities to be featured there: for example an Easter duck race would be quite an exciting event, with the pools and riffles providing an element of chance and limited places where progress could be seen.

The existing, excellent nature guides for the Millennium Green could be adopted and extended to include the riverside area. Wider promotion of these would help promote the River Park.

Development of a programme of activities for Rodden River Park would encourage more public into the area to appreciate the value of the site. Once developed, the usage of the Park should become self-sustaining and will help to draw people into Frome and increase usage of other facilities the town has to offer.

Once implementation of the development proposals is underway and the river facilities have been improved, a promotional strategy should be considered to maximize the use and benefit derived from the investment.

6. Proposal Costs

The access and amenity proposals are in outline only and each will require detailed design before implementation. At this stage only an indication of the cost of each proposal can be given and we have allocated each into a series of cost bands as a guide to help with prioritization. These are provided below based on general unit costs for items such as excavation of material, construction of paths and likely survey costs.

The cost bands are:

Band	Category	Price Range
A	Maintenance items	Up to £10k
B	Minor works	£10k - £50k
C	Intermediate projects	£50k - £250k
D	Large projects	£250k - £500k
E	Major projects	Over £500k

The projects have been estimated to fall within the following bands:

Footpath and Access Projects		
No.	Project	Band
4.1	Welshmill Lane to Henley Way	B
4.2	Town Centre low level path	B
4.3	Rivers Reach – M&S and town centre	B
4.4	Rodden circular walk	C
4.5	Wallbridge – Adderwell	B
4.6	Adderwell	B

Amenity Projects		
No.	Project	Band
5.1	Market car park option 1	B
	Market car park option 2	B
	Market car park option 3	C
	Market car park option 4	E
5.2	Allotment Pocket Park	C
5.3	Rodden River Park	B
5.4	Feltham Meadows	B
5.5	Welshmill Weir option 1	B
	Welshmill Weir option 2	E
	Welshmill Weir option 3	D
	Welshmill Weir option 4	C-E
5.6	Development Control Guide	B
5.7	Promotional strategy and materials	B

7. Implementation

A variety of options for developing the river corridor are presented in this report. Many are independent and could be implemented as stand-alone projects, but some interact with each other and options are presented for the town centre and for Welshmill Weir that will require a choice to be made before projects can be taken forward.

Public opinion will be important in deciding which options should be chosen and some form of public engagement will be required before the projects are implemented.

The town centre site is the most visible but potentially the most expensive of the project proposals. An early start in deciding how to take this project forward is therefore advisable. The Welshmill project will determine water levels in the town centre however, so these two projects need to be considered together.

The key concern at Welshmill is whether to raise, lower or maintain the crest level. For the town centre project the best Welshmill option would be to lower or remove the weir as this would provide the most attractive, river-like development option in the town centre. However, doing so will remove the canoeing facility and eliminate any possibility of hydro-electric generation at Welshmill. Lowering the weir would also uncover the old river bed up through the centre of the town and this might lead to further refurbishment costs that are unknown at present.

Alternatively, raising the weir crest could increase the potential for hydro-electric generation. This would create a deep pool in the centre of town, which would have to be accommodated in the project design, and also generate higher flood risk, particularly in the Willow Vale area. There are also costs of raising and possibly strengthening the weir and downstream erosion protection measures which would need to be funded.

To avoid long delays in developing this key central area the Town Council should therefore decide on the future of Welshmill Weir, or at least the future level of the weir crest, at an early stage.

In our opinion, raising the weir crest is unlikely to proceed because of the increased flood risks that would occur and lowering it will cause unacceptable damage to the canoeing facility. We therefore suggest the most likely outcome will be to maintain the current level whilst improving the appearance of Welshmill Weir through either option 1 or 2.

Once the river level has been decided then options for improving the town centre can be determined. The choice will depend on public opinion, funding and

landowner co-operation as the more extensive remodeling in option 4 will not be feasible if Mendip District Council are unwilling to agree to use of their land.

Whilst the process of deciding the best option for both Welshmill and the town centre should be started at the earliest opportunity it is unlikely that plans could be approved and funding secured before 2014 and work started before 2015.

Action on improving the Rodden River Park area can be moved ahead more quickly as most of this land is already owned and maintained by the Town Council. Co-operation with the Millennium Green Trustees and changes to the maintenance regimes could be planned almost immediately and put into effect over the next year. Tree thinning and brush clearance should be undertaken outside of the bird nesting season, so in practice this is unlikely to occur before autumn 2013 unless a very quick start can be made in the 2012/12 winter period by diverting resources from elsewhere. Plans can be developed in the interim however, so significant improvement could occur by early 2014. Meanwhile paths could be improved during summer 2013 so the public could start to benefit early on.

The allotment pocket park could be developed over a similar time-frame as this is also in Town Council ownership. Extension of the path through to Henley Way might take some time as landowner issues will need to be resolved.

The creation of the river walk to Adderwell could be progressed through landowner negotiation with an early start. The two options presented are not mutually exclusive as ideally both paths would be created. Negotiations for both paths should be commenced, with the expectation that at least one could be resolved by 2014 for installation during that year. Improvement of the existing path at Adderwell could occur at any time subject to the availability of funds.

This would fill the missing link between Wallbridge and Feltham and create a river walk throughout the Town Council area. Promotion of the path could then occur. Rodden River Park would also be in a more favourable state by that time, so the promotion strategy should aim to start by late 2014/early 2015.

The remaining options will depend on the progress made with various private developments in the area. However, preparation of the proposals prior to these developments coming forward should occur so that a clear case can be presented at the appropriate time.

The phasing of project implementation is shown in Appendix 2

Appendix 1 – Proposal maps

Appendix 2 Indicative Implementation Phasing

Appendix 3 Proposal Summary Tables