REPORT

River Clun SAC Nutrient Neutrality Delivery Options

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1 Introduction

Royal HaskoningDHV are assisting Shropshire Council to demonstrate that any new development proposed under the Draft Shropshire Local Plan (2016 – 2038) within the catchment of the River Clun Special Area of Conservation (SAC) can be nutrient neutral and meet the requirements of the Conservation of Habitats and Species Regulations 2017 (as amended) (the Habitats Regulations).

This report provides details on mechanisms by which phosphate mitigation solutions presented in the River Clun SAC Phosphate Mitigation Solutions for Residential Development Report (4th April 2022) can be delivered . and explores who could deliver mitigation and how developer contributions towards mitigation could be managed. The evaluations of the most suitable options are informed by a review of approaches undertaken in other catchments addressing nutrient neutrality. This report is intended to be a reference tool to guide the most suitable delivery options once the favoured solutions are identified. The report is structured as follows:

- **Section 2**: Details on potential mitigation providers
- **Section 3:** Details on options for retrieving developer contributions towards mitigation
- **Section 4:** Options for pricing developer contributions
- **Section 5:** Nutrient mitigation case studies

2 Options for mitigation providers

This section presents a review of potential mitigation providers to assist Shropshire Council in determining the most suitable for the River Clun catchment. The potential providers are assessed in terms of risks, costs, timescales and effectiveness in perpetuity.

The suitability of mitigation providers may vary depending on the preferred solution(s) to offset new development. This report assumes that both nature-based solutions (which may require some land take) and wastewater & drainage solutions are suitable mitigation options.

2.1 Developer-led mitigation

Under this option, developers would be solely responsible for delivering the mitigation needed to offset proposed development. On-site measures, e.g. Sustainable Drainage System (SuDS), are likely to be primarily delivered by developers who would identify, finance and deliver the mitigation solutions. Off-site measures could be either be delivered by developers (as for on-site mitigation) or through purchasing established mitigation credits from other landowners.

The mitigation measures must comply with The Habitat Regulations and developers and/or landowners should be guided by the River Clun SAC Phosphate Mitigation Solutions for Residential Development Report which presents and assesses suitable mitigation options. Many of the solutions suggested (e.g. SuDS, wetland creation, riparian buffer strip establishment) could be delivered by private developers and landowners.

Developer led mitigation is likely to be more suitable for larger developments (e.g. 50+ dwellings) that have the financial resources, space and capabilities for delivery. Identifying suitable off-site mitigation land is also likely to require relationships with landowners in the River Clun catchment. Additionally, identifying and implementing specific solutions will require capital expenditure for design and consultancy fees and land purchase / rent. Smaller developments (i.e. <50 dwellings) and particularly windfall developments are unlikely to have the space to deliver on-site mitigation nor the ability to deliver off-site mitigation. To

overcome this, smaller developers could work in partnership to deliver mitigation by pooling resources and funding.

The Habitats Regulations require mitigation solutions to meet the following criteria:

- The solutions should be based on the best available evidence;
- The solutions should be effective beyond reasonable scientific doubt;
- The solutions should apply the precautionary principle; and
- The solutions should be secured in perpetuity (i.e. 80 years).

The developer will be responsible for ensuring that the mitigation solutions are compliant with the above criteria. The solutions should be in place and operational prior to occupation. Short-term bridging solutions can be used as temporary measures until long-term solutions are identified and established. However, in order for Shropshire Council to be able to approve planning applications with a short-term solution that will transition into a long-term solution, details (such as the location and likely amount of phosphate removal) and certainty of delivery on the long-term solution will be required,

To comply with The Habitat Regulations (particularly the in-perpetuity test), monitoring and maintenance will be required for the majority of the solutions. Maintenance obligations will vary depending on the mitigation solution. However, developers will be able to pass maintenance responsibilities to third parties via legal and financial agreements to ensure that the solution is maintained in perpetuity. In this case, a financial transaction for the mitigation measure would occur directly between the third-party and the developer. Where developers are buying into a privately run off-site mitigation scheme, these schemes would again be owned and managed by a third-party or the developer.

In order to minimise the risks associated with developer-led mitigation, developers could partner with organisations that have experience in delivering and maintaining schemes. These organisations include private consultancies, non-governmental organisations (e.g. Wildlife Trust, Rivers Trust) or private entities such as water companies.

There is also the option to include ‘step-in rights’, where the Council or another third-party (e.g. Environment Agency) may acquire the scheme if it is not maintained appropriately. An appropriately designed ‘step-in’ arrangement would be needed which should ensure there are enough funds to maintain the solution in perpetuity.

The Local Authority, or a body acting on their behalf, is likely to have a role to play in this option by validating and securing proposed schemes and carrying out associated monitoring on an ongoing basis. Costs for this should be retrieved during the planning process.

2.2 Local Authority Strategic Scheme

A Local Authority Strategic Scheme would allow developers to purchase mitigation credits in a wider mitigation scheme. The mitigation scheme would be primarily developed by the Local Authority and would utilise off-site mitigation solutions. Combining financial contributions would allow the Local Authority to deliver ‘strategic’ scale mitigation measures.

As mitigation solutions tend to have fixed costs in terms of design and consent mechanisms, it is often cheaper to deliver one larger ‘strategic’ solution rather than multiple smaller solutions. The Local Authority could also look to partner with third-party organisation to implement and manage the schemes on their behalf. Under this option, it is likely the Local Authority would identify landowners within the River Clun

catchment (for solutions that require land-take) rather than acting as an agent to purchase credits from landowners where an established off-site scheme is in operation.

A Local Authority led scheme will provide a strategic mechanism for small developments to achieve mitigation which would otherwise be unviable based on their resources and capabilities. Many of the proposed developments within the Clun catchment are for less than 50 dwellings. A strategic scheme should also be able to provide enough credits for larger developments.

This option would acquire financial contributions through a credit-based scheme and the purchase of credits would be used to secure these offsite mitigation schemes. This method has been utilised in other catchments with nutrient neutrality issues (e.g. River Mease SAC Developer Contribution Scheme).

One advantage of a Local Authority-led scheme over a developer-led scheme is that it would give the Local Authority direct oversight of the functioning and maintenance of the mitigation scheme, and therefore further certainty regarding the delivery. A Local Authority scheme can also be underwritten to ensure that someone takes responsibility for addressing any future shortfalls in credits delivered. However, a precautionary approach should be taken by underestimating phosphate removal rates for solutions, to ensure that at the very least, the required mitigation is delivered. Any excess mitigation can then be used towards future schemes or count towards the restoration objective for the SAC.

Should the demand for credits outweigh supply, there is the potential that credits could be locked up in projects that are not in a position to progress upon receiving the credits. This could occur where a development needs credits assigned to progress through the planning process, but is not likely to be built out for some time. This could result in some developments which are more advanced in the planning process and in a position to construct, failing to acquire credits and causing delay.

A Local Authority led scheme can have greater control over this than any of the other options presented. Limiting forward buying will help to reduce price volatility from short-term demand and supply and allow credits to be allocated to projects where there is an immediate requirement. Therefore, it would be useful to incorporate a mechanism into the strategic schemes to ensure that the credits obtained are used to immediately unlock development rather than being banked for the future. This could potentially include a time limit for their use, after which the credits have to be returned so that they are available for use by other developers. The Draft Shropshire Local Plan indicates that the most demand for credits is likely to be in the period 2022-2026 and 2035-2038.

A Local Authority scheme would also be able to impose conditions that mitigation credits can only be acquired once all on-site mitigation options (e.g. SuDS) have been explored and exhausted. This will prevent developers relying purely on off-site mitigation options.

It is anticipated that any payments to landowners for delivering mitigation schemes would be paid in lump sums over a pre-defined timescale. Upfront payments will be required to cover capital expenditure, with the remaining monies paid at a later date (e.g. at 5 year intervals).

In the case that a development will be completed in stages, then credits could be secured over multiple years, as opposed to all in one year. However, it is likely to be necessary to ensure that any scheme includes a mechanism to provide developers with assurances in managing risks and securing the credits they require for the whole multi-phase development at a reasonable price. Further measures which could be implemented, include establishing viability checks of developments to ensure credits are not unnecessarily locked up. A Local Authority led strategic scheme will also have greater control on any price volatility should there be a high demand for credits.

2.3 Third-party scheme

A third-party credit scheme would work in a similar way to a Local Authority scheme but would be delivered and managed by a single, private entity. A third-party scheme would not offer the same level of certainty over the deliverability of mitigation measures as a Local Authority scheme and there would be limited control over releasing credits to the developments most in need. It is also likely that there would be greater price volatility. At present, there is no third-party entity operating in the River Clun catchment that could deliver such a scheme.

2.4 Local Authority nutrient trading platform

A Local Authority controlled nutrient trading platform would involve establishing an exchange market in which credits are tradeable between private mitigation schemes and developers. The platform would create mechanisms for landowners and developers to engage with each other. The Local Authority would act as the market operator and once the platform has been established, they would have minimal input other than validating schemes and securing mitigation. During the initial trading rounds, more support from the Local Authority would be required to ensure market rules are met and legal agreements are appropriate.

As the Local Authority would be the market operator, this would allow some control over who can receive credits and over price volatility through market rules. Similarly, the trading platform would give the Local Authority oversight of the functionality and maintenance of the mitigation scheme, and therefore have further certainty regarding the delivery.

There are no examples of a local-authority established trading platform in other catchments with nutrient neutrality issues. Many of the trading platform available are either at the development or pilot stage and rely heavily on third-party input (see below). As a result, there is likely to be a large financial burden on the Local Authority to establish a scheme which would then also be likely to take many years to become fully operational.

In order to be successful, a trading platform will need input from the following:

- Market operator – to oversee the entire trading platform;
- Landowner engagers – ideally with experience and contacts within the River Clun catchment;
- Management system designer – to establish the management system and test the platform;
- Economic and policy team - to design the market settlement process; and
- Communications team - to support market information and communications.

2.5 Third-party nutrient trading platform

A third-party trading platform would operate in a similar way to a Local Authority trading platform but would be controlled and managed by a private entity (or consortium) that would act as the market operator. Example schemes include the Wessex Water Entrade Somerset Levels and Moors trading platform and the Solent Nutrient trading pilot study. The Solent pilot study is also exploring how additional environmental benefits may be delivered, such as carbon pollution reduction, or biodiversity gains.

Whilst a third-party trading platform would work closely with Local Authorities, Natural England and the Environment Agency, it would not offer the same level of security on the deliverability of mitigation measures as a Local Authority scheme would.

There are currently no private entities or consortiums operating a nutrient trading platform in the River Clun catchment. However, should the Solent nutrient trading pilot be successful, there is the potential that this could be established in other catchments, such as the River Clun.

2.6 Conclusions

Developer-led mitigation requires limited input from the Local Authority or third parties but as a result, only provides limited control over assigning credits and ensuring schemes are secured and managed in perpetuity.

A Local Authority strategic scheme would offer greater security and control than a developer-led scheme and would likely deliver more cost-effective mitigation that is available to developments of all sizes. However, this would require greater input and capital expenditure from the Local Authority.

Nutrient trading platforms could be established within the River Clun catchment and would likely be led by a third-party or consortium rather than the Local Authority. However, current trading platforms elsewhere in England are in still in their pilot / development stage and are unlikely to be in a position to be rolled out at a national scale for a few years.

There are no third-party organisations currently established in the River Clun catchment able to deliver strategic mitigation schemes. Additionally, many third-party organisations, developers or landowners in the River Clun catchment would not be in a position to deliver mitigation solutions that do not require land take. These solutions are primarily focussed around wastewater and drainage improvements which would need significant input from the Local Authority and Severn Trent Water to be realised.

3 Developer contribution funding options

Contributions from developers for nutrient mitigation are likely to be required to deliver and ensure the effective long-term operation of the mitigation necessary to achieve nutrient neutrality for new developments. An appropriate mechanism must therefore be identified in order for Shropshire Council to secure these contributions from developers. In most instances it is considered that such contributions will be financial, with secured funding used to deliver appropriate mitigation by the Council.

Even in circumstances where a third-party is the delivery agent, there are still likely to be some developer contributions required by the Local Authority to either secure the mitigation or ensure its long-term maintenance and operation. The potential mechanisms for securing developer contributions are described below.

3.1 Planning conditions

Planning conditions can be imposed when granting planning permission in accordance with the Town and Country Planning Act 1990 (as amended). Planning conditions can only be used to enforce actions within the proposed development boundary or on any land outside of the boundary that is under the control of the applicant. As such, planning conditions are only a suitable mechanism where the applicant is looking to adopt on-site developer-led mitigation schemes or off-site schemes on appropriately located land within the applicant's ownership. Other off-site schemes, Local Authority led-schemes and third-party schemes cannot be delivered using planning conditions due to the geographical constraints.

Grampian conditions can be used to link on-site development (i.e. the proposed development) to off-site infrastructure requirements (i.e. nutrient mitigation). Grampian conditions prohibit development authorised by planning permissions until a specified action has been taken. All of the actions in question would need

to be performed within the time-limit imposed by the permission. Grampian conditions are likely to be difficult to implement and use as a mechanism to receive developer contributions. As a result, other options (see below) are likely to be more favourable.

3.2 Planning obligations

A planning obligation can be entered into under Section 106 of the Town and County Planning Act 1990 (as amended). A planning obligation is a legally binding agreement whereby a developer makes a financial contribution to the Local Authority, in order to purchase mitigation credits. Planning obligations often require the financial contributions to be made prior to the project starting or in accordance with 'trigger points' as the development progresses.

Unlike the Community Infrastructure Levy (see below), which is a tariff on particular types of development, planning obligations are charged based on the specific needs of a particular development – indeed such obligations must only be sought where they meet all of the following tests:

a. necessary to make the development acceptable in planning terms;
b. directly related to the development; and
c. fairly and reasonably related in scale and kind to the development.

Usually, planning obligations are formally registered as land charges, which means that if the development site is sold the planning obligation remains a legal agreement between the new landowner and the Local Authority. Planning obligations may be a bilateral agreement between the Local Authority and the developer (known as a Section 106 agreement), or simply a unilateral undertaking by the developer to provide the same.

Unilateral undertakings are relatively quick and straightforward to complete which can benefit both the applicant and the Local Authority. The unilateral undertaking approach was adopted by Havant Borough Council for taking developer contributions towards off-site mitigation established by the Council (see section 5 - Case Studies). The administration of Section 106 agreements is often a time-consuming and complex process; however, Shropshire Council has a team dedicated to monitoring the implementation (including securing funding) of S106 agreements.
If unilateral undertakings are not appropriate then the developer and Local Authority will need to enter into conventional Section 106 agreements, which will need to be drafted by the Local Authority's legal services. Shropshire Council's legal team are well versed in preparing S106 agreements. In Shropshire, residential development for five or more dwellings in designated rural areas and 10 or more dwellings or sites of 0.5 ha or more elsewhere is already the subject of a S106 agreement to secure contributions to affordable housing provision (either on-site provision or a financial contribution to off-site provision).

. It should be noted that developer contributions towards off-site mitigation can be secured via a Section 106 agreement where such an agreement is already required for other developer contributions.

3.3 Community Infrastructure Levy (CIL)

The Community Infrastructure Levy (CIL) is a charge on new development to help fund the infrastructure necessary to support development across a Local Authority area, rather than simply to make individual planning applications acceptable in planning terms. CIL is designed to allow the Local Authority more choice and flexibility in how they fund the infrastructure needed to support local growth. In Shropshire, a CIL charging schedule was introduced in 2012 and applies to all residential development that results in the formation of one or more new dwellings or 100 m^2 or more of new floorspace (including extensions and replacement floorspace).

The CIL levy applicable in Shropshire is established within the CIL charging schedule, however it is subject to annual indexation. The CIL levy is usually paid in instalments, linked to the date of commencement of development (the current CIL instalment policy is available via the Shropshire Council website at: https://shropshire.gov.uk/planning-policy/community-infrastructure-levy-cil/payment-of-cil/)

The current CIL rates (indexed to 2022) in Shropshire are:

- £59.29 per square metre of new residential development in market towns and key centres (e.g. Bishop's Castle); and
- £118.57 per square metre of new residential development elsewhere in the catchment (e.g. Bucknell, Clun, Lydbury North).

There is the possibility to use CIL as a mechanism for developer contributions. CIL has a number of benefits over other methods as it is non-negotiable and applies to all eligible developments. To provide certainty regarding the provision of infrastructure, the draft Shropshire Local Plan includes draft Policy DP25 which specifically addresses infrastructure provision, including the use of Community Infrastructure Levy (CIL) and S106 Planning Obligations. It states:

> *"1.* ***New development should only take place where there is sufficient existing infrastructure capacity available.*** *Where a new development would lead to a shortfall in infrastructure provision, the development will be required to fund necessary improvements through a suitable developer contribution, unless the identified shortfall is being addressed by other means.*
>
> *2. For new development where the Community Infrastructure Levy (CIL) applies,* ***priority will be given to using CIL funds to support any critical or statutory infrastructure requirements resulting from the development.***
>
> *3. CIL funds derived from specific development which are not required to make the development acceptable in planning terms, will be prioritised according to the infrastructure needs of communities identified in the Shropshire Place Plans and the Local Infrastructure Plan.*
>
> ***4. On proposals where it is considered CIL funds will not be sufficient to meet the specific infrastructure needs of development, consideration will be given to applying additional Section 106 contributions for specific infrastructure items where this meets national requirements for planning obligations.***
>
> ***5. For development where the CIL does not apply, necessary infrastructure improvements will be secured through planning obligations where this meets national requirements."***

As such draft Policy DP25 provides a clear mechanism for identifying and prioritising the appropriate use of developer contributions, including CIL. It is considered that the mitigation measures necessary to achieve nutrient neutrality would represent critical infrastructure in Shropshire. As such, this provides confidence in the ability to access CIL funding for the provision of necessary mitigation in the Clun catchment.

CIL funding could either be derived from development within the Clun catchment, or recognising the flexibility inherent within the CIL mechanism and within draft Policy DP25, could be derived from developments beyond the Clun catchment, even where that CIL contribution is not required to make development acceptable in planning terms.

It should be noted that affordable housing is exempt and self-build housing and extensions are eligible to apply for exemptions from CIL payments. As such, for these forms of development developer contributions for mitigation would need to be made through another mechanism.

3.4 Conclusions

Planning conditions are a simple method for accepting funds and securing mitigation for on-site mitigation (e.g. SuDS or water usage limitations). However, planning obligations will be needed to secure off-site mitigation (unless the off-site provision is on appropriate land within the same ownership as the applicant).

These could take the form of unilateral undertakings. Alternatively, they could be via S106 agreements, given that a significant proportion of residential development in Shropshire is already subject to such agreements (the scope of which could be expanded to include nutrient neutrality mitigation) and particularly as Shropshire Council has both legal and administrative support for S106 agreements.

CIL is an alternative option to planning obligations and is already established within Shropshire. It has the added benefit that contributions from development in a wider area, not just in the Clun catchment, could be used to fund the mitigation measures needed to deliver nutrient neutrality. This would reduce the financial burden on the relatively small amount of growth proposed for the catchment. It may also enable larger scale 'strategic' schemes which would not only mitigate the development within the catchment, but potentially contribute to the restore objective for the SAC

4 Developer contribution pricing options

There are two primary options for pricing upfront developer contributions during individual trading rounds, which include:

1. Average fixed price – This would be a fixed price per dwelling that would not vary between house size and location within the catchment (e.g. where future developments will drain to wastewater treatment works with different permit limits). This will ensure that the process for pricing credits is transparent and easy to follow.
2. Varying price – This would either offer various price bands or individually calculated contributions depending on house size and/or location. This would be a more complex approach and could have a greater administrative burden and increased confusion for developers. The method for how contributions are calculated would need to be clear and transparent.

The financial contributions from developers must adequately cover the financial investment to deliver the mitigation schemes and any monitoring and maintenance requirements in perpetuity. This should also incorporate the costs of any bridging solutions that may be required while long-term solutions are being established. Administrative costs for validating and verifying mitigation schemes should also be sought by the Local Authority. In order to take financial contributions prior to establishing mitigation, thorough costs estimations should be undertaken to ensure that contributions are appropriately valued. It is also important to ensure that inflation should be accounted for.

Should mitigation be delivered through multiple offsetting schemes, then trading rounds could be used to ensure the price for credits is appropriate and regularly reviewed. Each trading round could be given a set duration (e.g. every year) or could be closed and opened as mitigation schemes are established.

There are some risks associated with upfront developer contributions such as under-pricing or over-pricing credits. An alternative to developer contributions would be to set an annual cost attached to dwellings that homeowners must cover. This would allow for payments to increase or decrease as the costs for delivery of the mitigation are regularly reviewed. However, this option is likely to be more difficult to implement and is likely to be less attractive to homeowners due to the uncertainty in future costs.

5 Nutrient mitigation case studies

5.1 River Mease SAC

The River Mease SAC Developer Contributions Scheme (DCS) was first implemented in 2012 in response to a requirement under the River Mease SAC Water Quality (Phosphate) Management Plan (WQMP). A second DCS was implemented in 2016. There is currently no capacity left within the DCS for new developments. As a result, the River Mease Programme Board are seeking to identify a number of bespoke projects The key long-term project will be to transfer the treated foul effluent from Packington and Measham sewage treatment works from the River Mease catchment to a surrounding catchment that will not impact the River Mease SAC. This is scheduled to take place by 2027. Other catchment-based projects are underway to mitigate any future development until the pump out schemes become active. Recent examples include the creation of a wetland to trap sediment and diffuse pollution at the confluence of the Gilwiskaw Brook and River Mease. As with the DCS, recent bespoke project are funded by developer contributions.

The DCS applied to all development that could contribute additional wastewater via the mains sewerage network to a sewage treatment works that discharges into the catchment of the River Mease SAC.

The primary objective of the DCS was to mitigate the negative effects of development. The DCS therefore ensured that new development did not compromise the primary purpose of the River Mease SAC WQMP, which is to reduce phosphate in the River Mease to no more than 0.06mg/l. The total phosphate contribution provided within the DSC2 window was 329 g/day.

Mitigation delivery

A DCS may be a bilateral agreement between the Local Authority and the developer, or simply a unilateral undertaking by the developer. Developers may be requested to make a payment of money to the relevant Local Authority, to be spent on agreed benefits or for their maintenance.

Developer contributions are normally secured through a “planning obligation”. This is a legal commitment by the developer to deliver a contribution (in cash or in kind) to address community, infrastructure or environmental improvement needs associated with development. Benefits secured through planning obligations can be delivered on the development site itself, or on other suitable sites close to the proposed development if they are directly related to the development.

By securing these contributions, planning authorities can help to improve the quality and sustainability of individual development schemes, and their acceptability to local communities. The DCS will identify further actions, over and above those already progressed through the WQMP, that will be implemented, managed and monitored through the use of developer contributions.

Legal agreements

The funding streams for the DCS and recent bespoke project and the wider WQMP have been intentionally separated in order to demonstrate that the tests set out in paragraph 57 of the National Planning Policy Framework (2021) are met by the DCS: namely that the related planning obligations through which they would be collected would be:

1. Necessary to make the development acceptable in planning terms;
2. Directly related to the development; and
3. Fairly and reasonably related in scale and kind to the development.

The legal agreements stipulate that developer contributions will not be used to deliver the wider UK obligations required under Articles 6 (1) and (2) of the Habitats Directive in relation to management measures and appropriate steps to avoid deterioration. Furthermore, phosphorus reduction measures delivered through the WQMP are required to achieve overall reductions in phosphorus levels in the river, rather than simply off-setting increases associated with new development and thereby maintaining the status quo.

Nutrient offsetting

Prior to the collection of any contributions, the River Mease partnership (made up of individuals, farmers, agencies and Local Authorities) identified a suite of measures that are considered to mitigate the negative effects of development. Measures used to achieve mitigation include:

- Silt traps
- River restoration schemes
- Restoration of disused coal pits
- Wetland creation
- SuDS installation
- Sewage treatment works 'pump out' scheme

Costs and timescales

Overall costs for the measures delivered within the first phase of DCS in order to remove at least 329g phosphate per day in the short and 89g phosphate per day in the long term were:

- Two silt trap projects at locations identified by the Technical Group. Including implementation, maintenance and monitoring, these were expected to cost £160,000 up to 2031.
- Specific in river restoration projects at two reaches, including implementation and monitoring, were expected to cost £132,000.
- Long term restoration of the River Mease alongside disused coal pits, including implementation and monitoring, was expected to cost £64,000.
- The total cost for all measures, including consultancy fees and a salaried project officer were expected to be £841,000 up to 2031.

5.2 Wessex Water EnTrade Somerset Levels and Moors Trading Platform

EnTrade are a Wessex Water business that creates and operates on-line markets for nature based solutions. They are operating a Catchment Market in parts of the catchments of the Rivers Tone and Parrett to improve water quality and biodiversity. Through EnTrade, payments are offered to farmers to create on-farm projects to improve the environment and offset nutrient and biodiversity losses on behalf of other industries (including water companies and residential developers). Through the EnTrade Catchment Market, these organisations are able to pay farmers to implement projects, which helps them meet their obligations to the environment.

Mitigation delivery

EnTrade are in the process of setting up a phosphate trading platform for developers and landowners in the catchment of the Somerset Levels and Moors Special Protection Area and Ramsar Site The Market will allow land managers to bid to supply projects in return for their required establishment costs and a regular income from the land. Both elements of payment are likely to be at higher levels than traditional land-management schemes because of their links to real market demand.

The other side of the Market allows organisations, such as housing developers that are seeking to offset environmental pressures, to buy accredited environmental offsets. EnTrade's market systems can convert this demand for offset credits, based on price offers made by a variety of buyers, into an investment pool. EnTrade can then use this investment pool to optimise buying of the projects offered by land managers. The market will be bound by rules to ensure that prices are settled fairly and transparently for both buyers and suppliers.

EnTrade, as the market operator, will set out the processes for the trading platform during the first Market bidding round which is scheduled to take place in 2022. They will provide full Market Rules, example contracts and approaches to monitor delivery and as well as providing assurance of how credits will be registered for use with the Local Authorities.

As of March 2021, EnTrade has registered expressions of interest from land managers to provide nearly 100 nature-based projects across the two catchments.

Legal agreements

To function properly, the market needs clear rules, adequate supply of land, and adequate demand. These elements are currently being developed. EnTrade will review the progress of the trading rounds and will produce guidance that will show both sides of the market what the likely supply and demand is for specified locations across the Tone and Parrett catchments.

Details on specific agreements and how mitigation will be secured are yet to be released.

As a further insurance, Wessex Water Limited, the parent company of the regional water supply and sewerage company, will be the contracting party with project suppliers. They are taking on the risk of underperformance as a Project Investor by underwriting the project.

Nutrient offsetting

The following nature based solutions for phosphate offsetting will be eligible for funding under the EnTrade scheme:

- Growing cover crops (including under-sown maize)
- Livestock watercourse exclusion fencing
- Hedgerow planting
- Woodland creation
- Wetland / pond creation
- Edge of field / in-field buffer strips
- Arable reversion to species rich grassland

Costs and timescales

The first Trading round was scheduled to take place in Autumn 2021. However, this was delayed and is now anticipated to begin in 2022.

5.3 Solent Nutrient Market Pilot

The Solent Nutrient Market Pilot is testing the use of an online nutrient trading platform and associated trading processes, rules and governance to:

- Support landowners to make long-term land-use changes in the river Test and Itchen catchments that reduce nitrogen pollution and deliver wider environmental benefits; and
- Enable new developments to meet the requirement to deliver nutrient neutrality for protected sites

The design and development of the trading process and platform is being funded by Defra to test the feasibility and costs of establishing a catchment market for nitrogen mitigation credits.

Mitigation delivery

This initiative is very similar to the Wessex EnTrade Trading Platform. The pilot will result in the development of a new online trading platform for nutrient credits. The credits are created by landowners willing to offer long term land use changes that reduce nitrogen pollution (such as woodlands and wetlands) and are purchased by developers who need to invest in nitrogen reduction. The pilot will also explore how additional environmental benefits may be delivered, such as carbon reduction, or biodiversity gains.

Legal agreements

Stakeholders are currently working on the detailed design of the Nutrient Market, including the trading and market settlement processes. Trading scheme documents and market information will be published and made available to potential market participants.

Nutrient offsetting

Phosphate offsetting depends on the type of mitigation used. Eligible measures are likely to be similar to the nature-based projects listed for the Wessex EnTrade Trading Platform and rewilding of former intensive agricultural farms in the Solent area.

Costs and timescales

No information available.

5.4 Wiltshire Council HRA approach

The implications of development-related phosphorus inputs have been assessed through Appropriate Assessments for the Wiltshire Core Strategy (Adopted January 2015) and Wiltshire Housing Site Allocations Plan (Adopted February 2020). The latter plan relies on a Memorandum of Understanding (MoU) between Wiltshire Council, New Forest District Council, New Forest National Park Authority, Natural England, Wessex Water and the Environment Agency. The signatories have agreed to deploy a range of measures to ensure development between March 2018 and March 2026 will be phosphorous neutral.

Mitigation delivery

To track phosphate neutrality in the short term and plan for the longer term, representatives of the MoU signatories meet regularly as the River Avon SAC Working Group. The group tracks progress of delivery measures funded by Local Authorities, Wessex Water and developers, monitoring these against forecasts of housing delivery and annual returns of housing completions. The Working Group also provides a forum for statutory agencies to advise on the implications of the growing scientific evidence which underpins the delivery of phosphorous neutral development, work being undertaken nationally to address nutrient impacts and in due course on the steps being taken to bring the SAC into favourable condition.

Wiltshire Council is securing contracts to deliver small scale phosphate offsetting measures – this is being done through the EnTrade online trading platform.

Legal agreements

All applications for housing which result in a net increase in foul discharge within the River Avon Catchment and that comply with saved housing site allocation policies of the Wiltshire Core Strategy and or Core Policy 2 (Delivery Strategy) of the Wiltshire Core Strategy (with the exception of Core Policy 37 -Military Establishments) are within the scope of this assessment.

Nutrient offsetting

Wiltshire Council have identified the following schemes for delivery under their HRA-led approach:

- Offsetting will initially take the form of small schemes which will mainly comprise new wetlands and woodlands located in the headwaters of the River Avon sub-catchments. Small schemes will be secured by 25 year contracts, but these will be capable of being extended or replaced to provide offsetting in perpetuity.
- Temporary measures, such as cover crops or capital works, will be used to bridge any gaps until small schemes are up and running and may be used at other times as a contingency.
- Large habitat creation schemes will be delivered in the headwaters of some or all of the River Avon headwaters within the next 3-10 years to provide in-perpetuity offsetting for permissions granted between March 2018 and March 2026. Contracts for small schemes will not be continued in any given sub-catchment where a large habitat creation scheme is in place. Based on housing permissions granted between 2018 and 2026, it is estimated that larger schemes will need to offset an annual requirement of 178.45kg of phosphorous. With an additional 20% buffer, this is 214 kg per year.

Timescales and costs

Auctions for small schemes and temporary measures beginning June 2020 through to January 2023, with measures available from 2021 to 2025. Large habitat creation schemes from 2026.

Wiltshire Council has agreed to ring-fence and commit an initial fund of £850,000 from the Community Infrastructure Levy strategic funds for the delivery of off-setting measures to achieve phosphorous neutral development and fund a project officer to oversee delivery, monitoring and reporting

5.5 Somerset West and Taunton Interim delivery plan

Somerset West and Taunton Council confirm that the Council will, until such time as the responsibility falls to others, adopt interim measures to secure in perpetuity development which is phosphate neutral in the River Tone catchment. The Council also confirms that the interim measures will include monitoring with annual reporting, to take an evidence-led approach to ensure that phosphate offsets arising from the measures secured keep pace with permissions granted.

Mitigation delivery

The proposed interim measures involve:

- The development of large-scale strategic project(s), which are most likely to be wetland schemes down stream of existing WWTW's – to ensure phosphate neutrality in perpetuity is being created over several years providing a long-term solution. This is likely to involve existing land assets owned

by Somerset West and Taunton Council (SWT) as well as exploring and progressing land purchase options.

- In line with the Council's sustainability objectives and declaration of a climate change emergency all new residential development will need to include water efficiency measures (110 litres per person per day). This will have the effect of slightly reducing the amount of water reaching sewage treatment works. The water use restriction will achieve a reduction in total phosphorous discharged and thereby reduce the offsetting required.
- Retrofit of the Council's housing stock. Thispresents an excellent opportunity to gain phosphate credits without the timescale and cost draw backs of wetland creation. With an estimated 5766 housing units in the Council's housing stock, it is estimated that by changing bathroom and kitchen taps, bath sizes, shower heads and WC cisterns, water usage per individual could be reduced from an average of 145 l/person/day to 110 l/person/day. This would result in the generation of an estimated 3,852 phosphate credits. The final figure this proposal will be subject to sign off by Natural England.

Legal agreements

The proposed approach will require an Appropriate Assessment to obtain Natural England's agreement. Once schemes are implemented there is also a requirement to monitor to ensure enough measures are in place prior to occupation of dwellings to achieve neutrality and that they are retained in perpetuity. There also needs to be a commitment to stop issuing permissions if mitigation delivery falls behind.

There is a need to seek legal advice to understand how phosphate credits can be allocated by the Council in a fair and transparent way and any associated risks with underwriting schemes designed to deliver phosphate mitigation

Nutrient offsetting

Phosphate offsetting for retrofitting SWT housing stock is estimated at 382.2 kg/yr to 668.2 kg/yr based on limits of 125 l/person/day to 110 l/person/day.

Wetland offsetting will be site specific and depend on wetland design and loading from inflows.

Timescales and costs

The Council has approved a Supplementary Capital Budget of £2million for Phosphates Mitigation Interim Measures, to be included in the General Fund Capital Programme for 2021/22 and 2022/23, to be initially funded by borrowing.

5.6 Hampshire and Isle of Wight Wildlife Trust Nutrient Reduction Programme

The Hampshire and Isle of Wight Wildlife Trust (HIWWT) are delivering mitigation schemes in the Solent to enable housing development in Hampshire. HIWWT purchased Little Duxmore Farm of the Isle of Wight as a rewilding project that will remove 848 kg/yr of nitrogen and enable 1,150 new dwellings. The farm was previously used for producing crops such as maize and cereals. The Trust are seeking a loan for £2million to acquire three further mitigation sites and unlock 6,700 new dwellings across the Solent area. The schemes are holding back some mitigation capacity in order to deliver pollution reductions over and above neutrality.

Mitigation delivery

This scheme is an example of a third party mitigation scheme. HIWWT has set out a series of tests which each development must fulfil, in addition to the nitrogen offset, in order to be deemed acceptable to the Trust and therefore supplied with nitrogen credits to enable development(s) against which they are linked. The tests are as follows:

1. The development should be in an adopted Local Plan or be approved by the planning officer for the relevant Local Authority. Under certain circumstances, windfall developments and those outside of an adopted Local Plan will be deemed acceptable where they ensure full compliance with the other criteria outlined below.
2. The development should not carry an objection from Natural England or the Local Authority ecologist or the Wildlife Trust, and not lead to loss of irreplaceable biodiversity.
3. The development should demonstrate compliance with ecological mitigation required by the statutory bodies especially with respect to designated sites (e.g., water pollution and provision of sites used by coastal birds – see Test 4 below).
4. If necessary, and in compliance with Test 3, the development must make contributions to mitigation schemes such as Bird Aware Solent and New Forest mitigation schemes or have an equivalent or better scheme in place.
5. Where there is over demand for credits, preference will be given to developments which demonstrate biodiversity net gain, delivery of the Local Ecological Network or adoption of the Building with Nature green infrastructure principles.

Purchasing credits costs between £2,500 and £3,000 per kg of nitrogen. These costs exclude the legal (£1,500-£3,500 per transaction) and administration fee (£1,000 per transaction), and are exclusive of VAT.

Nutrient offsetting

This depends on the type and scale of mitigation used. The Trust's nature-based solutions work by acquiring intensively managed farmland, which is currently releasing nutrients into the Solent, and returning it to its natural habitat, such as traditionally grazed meadows, wetlands or woodlands.

Little Duxmore farm was purchased by HIWWT when it came on the open market in 2019, for an asking price of £950,000. Developer contributions have been used to recoup costs and future management and monitoring in perpetuity.

The trust is seeking a £2million loan finance from the Solent Local Enterprise Partnership to be used in combination with a Defra loan or other finance, in order to develop a further three mitigation sites.

5.7 Havant Borough Council

Havant Borough Council own the freehold of the majority of Warblington Farm which was previously used as a dairy farm. The Council is taking the farm out of intensive agricultural use and converting it into a nature reserve in order to create mitigation for nutrient neutrality. In the longer term, the Council also aims to make Warblington Farm a key site in Havant's ecological network, with the ability to offer biodiversity net gain credits. The conversion of land at Warblington Farm will be a phased approach and will be monitored to ensure that there is sufficient mitigation available to meet future housing demands.

In planning policy terms mitigation from Warblington farm is the last stage of the mitigation hierarchy and can only be used once it is demonstrated that no suitable avoidance or reduction measures are available on-site, or that additional mitigation is required after on-site reduction measures are implemented.

Further to the scheme at Warblington Farm, the Council will also impose a water efficiency standard of 110 l/person/day that is secured and enforced through planning conditions for all new residential development.

Legal agreements

Developers can purchase mitigation credits from the Warblington Farm scheme through a unilateral undertaking agreement.

Nutrient offsetting

The Warblington Farm scheme will provide 1872 kg/yr of Nitrogen removal.

Timescales and costs

The Council has established the costs of the management of the site over an 80-year time period, the value of the asset and returning the control of the leasehold. These outgoings have been factored into a cash flow analysis to provide a per kilogram cost of nitrogen.

A fixed cost of £1,241 per kg of Nitrogen mitigation if payable by developers. The financial costs per kilogram will be increased annually in accordance with a Cost Price Index at the start of each financial year.