RIVER MEASE SPECIAL AREA OF CONSERVATION
WATER QUALITY MANAGEMENT PLAN

DEVELOPER CONTRIBUTION SCHEME

Final Version 1.0

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River Mease Water Quality Management Plan: Developer Contributions Scheme

The Developer Contributions Scheme is a requirement of the River Mease Special Area of Conservation Water Quality (Phosphate) Management Plan (WQMP).

This document is divided into eight sections which are introduced below:

- **Section A** sets the scope of the Developer Contributions Scheme and the development to which it relates
- **Section B** provides relevant background
- **Section C** explains the basis upon which the scheme is required and establishes the links to existing planning policy
- **Section D** provides the evidence base in relation to the negative effects of phosphorous
- **Section E** introduces how the contributions will be assigned and linked to the nature and scale of proposed development
- **Section F** sets out the list of measures that will be funded by the scheme with associated costings and specifies the contribution per dwelling
- **Section G** refers to the role of monitoring and ongoing review
- **Section H** considers the potential for bespoke solutions

A Relevance of developments to this scheme

The developer contribution scheme (DCS) is relevant to development which results in a net increase in phosphorous load being discharged to the River Mease Special Area of Conservation (SAC). It currently applies to all development which contributes additional wastewater via the mains sewerage network to a sewage treatment works which discharges into the catchment of the River Mease SAC. The following wastewater treatment works are affected:

- Snarestone
- Norton juxta Twycross
- Donisthorpe
- Overseal
- Netherseal
- Measham
- Clifton Campville
- Packington
- Edingale
- Smisby
- Chilcote

All new development which contributes additional wastewater to the foul water catchment areas of the above treatment works will be subject to a developer contribution. Development for which connection to the mains network is not a viable option will continue to be addressed on a case by case basis; the DCS may provide a solution to such development depending on the specific circumstances of each case.

B Background to the Developer Contribution Scheme

B.1 The River Mease SAC

The River Mease was designated by the Secretary of State as a Special Area of Conservation (SAC) under the EC Habitats Directive[1] on the 1st April 2005. The SAC is protected through the provisions of the Conservation of Habitats and Species Regulations 2010 (SI No. 490), commonly referred to as the Habitats Regulations.

The SAC incorporates the Gilwiskaw Brook downstream of Packington village and the River Mease from its confluence with the Gilwiskaw Brook to its confluence with the River Trent. It is designated for its internationally important habitats and species, which are collectively referred to as its 'interest features'. Natural England has drawn up conservation objectives for these features which are set out below[2]:

Conservation Objectives for the River Mease SAC

With regard to the natural habitats and/or species for which the site has been designated ('the Qualifying Features' listed below);

Avoid the deterioration of the qualifying natural habitats and the habitats of qualifying species, and the significant disturbance of those qualifying species, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving Favourable Conservation Status of each of the qualifying features.

Subject to natural change, to maintain or restore:

- The extent and distribution of qualifying natural habitats and habitats of qualifying species;
- The structure and function (including typical species) of qualifying natural habitats and habitats of qualifying species;
- The supporting processes on which qualifying natural habitats and habitats of qualifying species rely;
- The populations of qualifying species;
- The distribution of qualifying species within the site.

Qualifying Features:
H3260. Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation; Rivers with floating vegetation often dominated by water-crowfoot
S1092. *Austropotamobius pallipes*; White-clawed (or Atlantic stream) crayfish
S1149. *Cobitis taenia*; Spined loach
S1163. *Cottus gobio*; Bullhead
S1355. *Lutra lutra*; Otter

Local planning authorities and the Environment Agency are 'competent authorities' under these regulations and must have regard to the requirements of the Habitats Directive in the exercise of any of their functions (regulation 9(5)).

In addition to this general provision to 'have regard' to the Habitats Directive, the Regulations also set out further protection in relation to the assessment of plans and projects. Part 6 of

[1] Council Directive 92/43/EEC on the conservation of natural habitats and wild fauna and flora

[2] European Site Conservation Objectives for River Mease Special Area of Conservation Site Code: UK0030258

the regulations incorporates both 'assessment provisions' which are relevant to *new* consents, permissions or other authorisations and 'review provisions' which relate to *existing* decisions and consents.

B.2 The Review of Consents

In accordance with these provisions, the Environment Agency has completed a review of the consents for which they are responsible, which were considered to be relevant to the River Mease SAC. Poor water quality, mainly due to high levels of phosphorous, was identified as representing a threat to the ability of the river to support its internationally important features in a sustainable way (referred to as the 'integrity' of the SAC in the Regulations). The review identified the need for stricter phosphorous limits at several treatment works, which have either been implemented, or are scheduled to be implemented over the next few years. In addition to these modifications, it was also recognised that <u>further action</u>, over and above the imposition of tighter phosphorous limits, needed to be taken by the Environment Agency (and other competent authorities) to ensure that their consents do not pose a threat to the SAC over the long term.

B.3 The Water Quality Management Plan

The further action identified through the Environment Agency review will be coordinated by, and implemented through, a long term Water Quality Management Plan (WQMP) for the River Mease SAC. The plan was finalised in June 2011[3] with a primary purpose to '*reduce the levels of phosphate within the River Mease SAC, to enable the Conservation Objectives for the SAC to be met, and an adverse effect upon the SAC avoided'*; the primary objective of the WQMP is that '*the combined actions will result in a reduction in phosphate in the River Mease to no more than 0.06mg/l*' (this is the amount in milligrams per litre of the soluble reactive portion of the chemical phosphorous that should not be exceeded, and is referred to in the rest of this document as the 'Conservation Objective target').

With this plan now in place it is the view of the Environment Agency, as the relevant 'competent authority' in respect of discharges to the river, that action to be taken through the WQMP will ensure that their existing consents do not adversely affect the integrity of the SAC. This reliance on 'further action' effectively provides for a situation, such as that on the River Mease SAC, where existing consents *contribute* to an ongoing problem rather than causing it. Action to address the phosphate exceedence should have regard to the overall circumstances in the designated site, taking account of all potentially available measures; action taken forward should be the '*least onerous'* to those affected (regulation 64(4)).

The WQMP is entirely concerned with reducing levels of phosphate to enable the conservation objectives target to be met. It is therefore directly connected with and necessary to the management of the River Mease SAC. As such, both the plan itself and this developer contribution scheme are excluded from the assessment provisions of the Habitats Regulations.[4]

[3] River Mease SAC Water Quality (Phosphate) Management Plan version 1.0, 27th June 2011.

[4] Ref Regulation 61(b)

B.4 Why can action not be taken sooner?

The regulations do not specify a timescale within which such action must 'secure' the integrity of the SAC. Effects on site integrity can be highly complex in nature and are not always amenable to short term control; the nature of such action may need to involve long term management initiatives. Longer term approaches, such as the one being taken to address the high phosphate levels within the River Mease, are also reflected in the provisions of the Habitats Directive[5] (which is one of the underlying European directives transposed through the provisions of the Habitats Regulations). Article 6(1) requires, where necessary, appropriate management initiatives as part of the overall framework of protection for SACs, it states that:

> *"Member States shall establish the necessary conservation measures involving, if need be, appropriate management plans specifically designed for the sites..... which correspond to the ecological requirements of the natural habitat types in Annex I and the species in Annex II present on the sites".*

The review provisions themselves (in relation to the existing permitted activities affecting the river) are closely linked to the Article 6(2) obligation for Member States to '*take appropriate steps to avoid, in the special areas of conservation, the deterioration of natural habitats'*. The taking of steps to 'avoid deterioration' is not limited to action on currently permitted activities (such as the sewage treatment works), but such action is considered to be an 'appropriate' step in this case. Appropriate steps to avoid deterioration for the River Mease SAC therefore comprise:

a) General action unrelated to any given 'consent or other authorisation', such as that taken forward through the long term management initiative in the River Mease WQMP and the River Mease SSSI/SAC Restoration Plan; and
b) Specific action on existing consented activities (eg: wastewater treatment works), which is being taken forward through the regulation 63 review provisions.

The WQMP is a key mechanism to enable all of the various public bodies to ensure appropriate steps are taken to avoid deterioration, alongside modifications to existing consents themselves.

B.5 What is a developer contribution?

A developer contribution is made by a landowner or developer to ensure that where planning permission is granted for new development any impact on the environment is in accordance with appropriate regulatory obligations and the infrastructure (eg transport and schools) necessary to support the development is provided.

By securing these contributions, Planning Authorities can help to improve the quality and sustainability of individual development schemes and their acceptability to local communities.

B.6 What is a Planning Obligation?

Developer contributions are normally secured through a ***"planning obligation"***. This is a legal commitment by the developer to secure a contribution (in cash or in kind) to address

[5] Council Directive 92/43/EEC on the Conservation of natural habitats and of wild flora and fauna

community, infrastructure or environmental improvement needs associated with development. It may be a bilateral agreement between the Local Planning Authority and the developer, or simply a unilateral undertaking by the developer to provide the same. These are a proper and recognised part of the planning system and are normally entered into under Section 106 of the Town and Country Planning Act 1990 (as amended).

Planning obligations can be used to secure benefits on the development site itself or on other suitable sites close to the proposed development (as long as they are directly related to the development). Developers may be requested to make a payment of money to the relevant Local Planning Authority, to be spent on agreed benefits or for the maintenance of them.

Historically, planning obligations have tended to be used to secure infrastructure improvements only from the larger development sites. However in respect of the impacts on the River Mease, the Developer Contribution Scheme provides a strategic approach to off-setting the negative effects of development and includes a mechanism for gaining contributions from all new development which connects to mains drainage, and non-mains development where considered to be appropriate.

Regulation 122 the Community Infrastructure Levy (CIL) Regulations 2010 requires that any planning obligation to be taken into account in the determination of a planning application that is capable of being charged CIL must meet the following three tests:

(i) be necessary to make the proposed development acceptable in planning terms;
(ii) be directly related to the proposed development; and
(iii) be fairly and reasonably related in scale and kind to the development.

An analysis of how planning obligations to be secured by this DCS comply with Regulation 122 of the CIL Regulations is provided below:

Be necessary to make the proposed development acceptable in planning terms:

Developer contributions are necessary because the water quality of the River Mease is in an unfavourable condition and to allow further development without mitigation would be contrary to the Habitat Regulations and therefore unlawful.

Be directly related to the proposed development:

All development within the catchment will have a direct impact on the water quality within the River Mease. Therefore contributions to improve the water quality have a direct relationship with proposed development in the catchment.

Be fairly and reasonably related in scale and kind to the development:

The DCS involves a calculation to show the direct impact that developments will have on the River Mease. Therefore contributions will only be sought to address the impacts relating from a particular development. The DCS also takes account of and requires lower contributions from more sustainable buildings.

C The requirement for a Developer Contribution Scheme

The WQMP includes a list of actions and investigations relating to all types of sources which will help reduce the levels of phosphorous throughout the catchment and the River Mease SAC. One of the actions listed in Table 5.1 of the WQMP is to '*establish a developer contribution framework, in accordance with planning obligations best practice'*. The 'outcome' for such action is given as '*developer contributions fund a programme of actions to restore and provide new benefits to the river'*.

The primary objective of the developer contribution scheme (DCS) is therefore to mitigate the negative effects of development. In doing so, the DCS will ensure that new development does not compromise the primary purpose of the WQMP; to reduce the levels of phosphate within the River Mease SAC to no more than 0.06mg/L.

C.1 Why a developer contribution is required when there is 'headroom' available at the sewage treatment works?

There may be volumetric 'headroom' or 'capacity' available, for new development within the specific limits of the existing wastewater treatment work consents that discharge to the River Mease. However, it is important to recognise that the availability of such headroom is reliant on the WQMP being in place (because such consents were only affirmed *with* headroom under regulation 64(3), on the basis of the action '*to be taken*' through the plan). The availability of such headroom is therefore subject to any provisions or restrictions set out within the WQMP itself.

In spite of such consented headroom being available, the WQMP recognises the negative potential for any increases in phosphorous associated with new development to off-set any reductions that may be achieved through positive actions taken forward as part of the overall WQMP. The developer contribution scheme therefore provides a mechanism through which new development which increases P load to the river will mitigate the negative effects of development, as part of the overall package of reductions being delivered through the wider WQMP and the permit modifications identified through the review. **New development that contributes to the scheme will not conflict with the overall objectives and purposes of the WQMP**.

C.2 Roles and Responsibilities

Whilst the responsibility for the WQMP is shared between the Environment Agency and Natural England, its implementation relies on a wider partnership, including the relevant local planning authorities. The responsible local authorities in areas where the DCS is likely to apply are North West Leicestershire District Council, South Derbyshire District Council and Lichfield District Council. It has been agreed that North West Leicestershire District Council will take a lead role on behalf of all the responsible local authorities and will facilitate co-ordination of the DCS between them where necessary.

C.3 Development affected by the DCS

As outlined in section A, the DCS currently applies to all development which contributes additional wastewater via the mains sewerage network to a sewage treatment works which discharges into the catchment of the River Mease SAC. Development for which connection to the mains network is not a viable option will continue to be addressed on a case by case basis; the DCS may provide a solution to such development depending on the specific circumstances of each case.

Contributions are sought on an equitable basis whereby different sized dwellings make different contributions relative to the scale of their potential impact. Further detail is provided in section F below dealing with assignment of the developer contribution.

C.4 Links to Planning Policy

It is necessary to link the requirement for a developer contribution to planning policy. The National Planning Policy Framework, which came into effect on 27th March 2012, places the highest level of policy protection on European sites, such as the River Mease SAC, designated for their international nature conservation importance. Paragraph 119 makes it clear that the Framework's presumption in favour of sustainable development does not apply where development requiring appropriate assessment under the Birds or Habitats Directives is being considered, planned or determined.

Amongst the relevant planning frameworks, three extant Local Plans, from 1998, predate the designation of the SAC in 2005 and the National Planning Policy Framework of 2012. Nevertheless, they have relevant policies because the SAC is also a 'Site of Special Scientific Interest'; two of the plans contain a (saved) policy protecting European sites / Sites of Special Scientific Interest as follows: South Derbyshire (policy EV11 Sites and Features of Natural History Interest); and Lichfield (E18 and E18A Development Affecting Nature Conservation Sites: International and National Sites).

The planning authorities are all progressing new plans in their Local Development Frameworks. The emerging core strategies of each of the planning authority areas will also contain relevant policies relating to the protection of the River Mease and to which the Developer Contribution Scheme will be linked in the future. The following policies will be particularly relevant:

- In the Lichfield Core Strategy 'Shaping our District', Core Policy 13 'Our Natural Resources', and Natural Resource Policies NR2 'Biodiversity, Protected Species and their Habitats' and NR7 'Water Quality' the latter policy explicitly referring to water quality in the River Mease;
- In the North West Leicestershire Local Plan Core Strategy Policy CS33 'River Mease Special Area of Conservation' which is a bespoke policy referring to the Water Quality Management Plan and this Developer Contribution Scheme.

All the planning authorities will progress the production of relevant supplementary planning documents, including those covering detailed development management policies and developer contributions.

There is therefore an adequate policy framework at national, local and emerging Local Plan level intended to protect the River Mease and providing a sound policy basis for this developer contribution scheme.

D The Evidence Base

D.1 Historic monitoring data for phosphorous loading to the River Mease catchment

Monitoring data[6] shows that there have been significant improvements in phosphate concentrations within the River Mease from 2005 to present. These reductions are largely as a result of improvements to sewage treatment work discharges implemented by Severn Trent Water as a result of changes identified by the Environment Agency through their review of consents. Whilst the improvements have resulted in significant reductions to phosphate levels, and associated benefits to ecological functioning, the conservation objective target needed to support the internationally important features of the Rives Mease SAC over the long term has not yet been met.

D.2 The effects of phosphorous on ecological functioning

A recent Natural England Research Report[7] identified the key biodiversity concerns that are associated with nutrient enrichment as being:

a) Changes in the composition and increased abundance/biomass of the algal community.
b) Changes in the composition and increased abundance/biomass of the rooted aquatic plant community, with a reduction in extent of species adapted to conditions of lower nutrient availability.
c) A choking of river channels with submerged higher plants and algae, with high nocturnal respiration rates and diurnal sags in dissolved oxygen in the water column.
d) Loss of aquatic plant abundance associated with algal smothering of riverbed substrates, attracting enhanced siltation and causing poor substrate conditions for benthic invertebrates and fish species with a requirement for coarse open sediments with high interstitial dissolved oxygen concentrations.
e) Changes in invertebrate and fish community abundance and composition associated with changes in the plant community.

[6] See data presented in section 3.4 and Appendix 7 of the WQMP

[7] Natural England Research Report NERR034: An evidence base for setting nutrient targets to protect river habitat. Mainstone, Nov 2010.

E Measures to reduce phosphorous

The phosphate concentrations in the River Mease are contributed by one of two types of sources: point sources (primarily sewage treatment works), and diffuse sources (both urban and rural). There are various measures that can be taken to reduce phosphorous loading to the River. In order to secure a given environmental standard such as the conservation objective target, action will need to be aimed at both diffuse and point sources. Information contained within Appendix 8 of the WQMP considers the significance of action on both sources; reductions in diffuse sources become more significant as tighter point source limits are secured.

E.1 The Water Quality Management Plan

The actions tables contained within section 5 of the WQMP detail the broad range of measures being progressed as part of the WQMP. The DCS is one such measure, to mitigate the negative effects of new development, thereby ensuring that such development does not compromise the primary purpose of the WQMP. 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.

The funding streams for the DCS and the wider WQMP are intentionally separated in order to demonstrate that the tests of paragraph 204 of the National Planning Policy Framework 2012 are met, namely that the related planning obligations through which they would be collected would be: necessary to make the development acceptable in planning terms; directly related to the development; and fairly and reasonably related in scale and kind to the development. Moreover:

a. 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.
b. Phosphorous reduction measures delivered through the WQMP will achieve overall *reductions* in phosphorous levels in the river, rather than simply off-setting increases associated with new development and thereby maintaining the status quo.

The measures being progressed through the WQMP include wider investigative actions, aimed at improving the evidence base against which to better understand both the main sources of phosphorous within the catchment, and the potential reduction measures that offer the most likely benefits in terms of tangible phosphorous reductions. Action funded through developer contributions however must be linked to the negative effects associated with development; the primary objective of the DCS being to *mitigate* them.

In order for actions funded through the DCS to *mitigate* the negative effects of development, they must lead to phosphorous reductions. Actions which are purely investigative in nature cannot provide such mitigation; whilst they may add to the evidence base against which mitigation measures are considered, they do not lead to actual reductions in the river and hence will not themselves *mitigate* the effects of development. Subject to the provision in section H, in relation to investigative elements of a bespoke solution which are considered by the planning authorities and Natural England to be of such significance as to provide benefits of primary importance to the overall objectives of the wider WQMP, investigative actions will not generally be appropriate for funding through the DCS.

E.2 The River Mease Restoration Plan

The River Mease SSSI/SAC Restoration Plan[8] was finalised in March 2012 to help achieve the objectives of the Habitats Directive and Water Framework Directive. The aim of the restoration plan is '*to identify river restoration and enhancement actions that can address physical modifications to the River Mease SSSI/SAC which contribute to unfavourable condition'*. The plan intends to provide a framework for the improvement of the River Mease SSSI/SAC for the next 20 -30 years and includes an outline restoration plan for the river on a reach by reach basis.

Whilst measures within the Restoration Plan can be linked to site management and the avoidance of deterioration, the scope of the plan goes beyond Article 6(1) and 6(2) obligations. The actions identified are broader than those which would otherwise happen under those general UK duties.

The plan incorporates a range of restoration measures, some of which can be directly linked to associated benefits in terms of reducing levels of phosphorous. The different categories against which actions are listed have been considered by relevant specialists and those which provide benefits in terms of phosphorous reductions have been identified.

E.3 What about measures at the wastewater treatment works?

Direct improvements to the wastewater treatment works (WWTW) themselves would provide an efficient means of mitigating the negative effects of development, and would be easily managed and monitored through the ongoing operation of the works. Severn Trent Water has advised however that whilst this would appear to be a *logical* use of developer contributions it would not be a *lawful* use of such contributions.

Severn Trent Water has a general duty under section 94 of the Water Industry Act to effectually drain the area. It is the opinion of Severn Trent Water, following the Barratt Homes Ltd v Dwr Cymru Cyfyngedig (Welsh Water) [2009] UKSC 13 case ("Barratts case"), that the law has been clarified such that this general duty extends to sewerage systems as well as sewage treatment works. To this end if either a) additional capacity or b) improvement (commonly referred to as 'quality obligation') is required at a WWTW these must be funded by Severn Trent Water. Whilst this may appear to be somewhat frustrating to the situation on the River Mease, such restrictions are necessary to ensure that a water company meets its obligations in a manner that represents the least possible cost to customers. Accepting additional quality obligations outside of the normal procedures will, in effect, place an additional burden on customers that will not have been subject to the proper OWFAT scrutiny, even if they are third party funded.

[8] River Mease SSSI/SAC Restoration Plan, Environment Agency and Natural England, March 2012.

F Assigning the Developer Contribution

F.1 How different types and scales of development generate phosphorous

Phosphorous associated with development is primarily derived from household detergents and human waste. Wastewater from new development within the foul water catchment of the River Mease is ultimately discharged into the river following treatment at the local sewage treatment works.

The main sewage treatment works that discharge to the River Mease are subject to consent limits for phosphorous. The treatment works which contribute 89% of the phosphorous load to the river from point sources are subject to a 1mg/L total phosphorous limit (category A works); the smaller works which contribute the remaining 11% of the P load have a consent limit of 2mg/L total phosphorous (category B works).

- **Category A works** with a 1mg/L limit include Packington, Measham, Donisthorpe, Overseal and Snarestone
- **Catergory B works** with a 2mg/L limit include Netherseal, Clifton Campville, Edingale and Norton Juxta.

These limits represent the maximum concentration permissible under the relevant environmental permit. Due to existing operating practices the water companies tend to operate at levels below these limits to ensure compliance; it is simply not possible to manage the works in such a way to achieve a steady concentration of total phosphorous at the consent limit.

On a precautionary basis therefore, it follows that for every 1 litre of flow derived from new development connected to category A works, a maximum of 1mg of phosphorous will be discharged to the river. Likewise, for every 1 litre of flow derived from new development connected to a category B works, a maximum of 2mg of phosphorous will be discharged to the river.

The phosphorous loading to the river from new development is directly linked to the volume of flow generated by new development. For residential development, this in turn is linked to the occupancy of the new dwellings. For non-residential development, this will instead be linked to the nature and scale of the proposed development which will need to be assessed on a case by case basis.

It is therefore possible to estimate the phosphorous contribution to the River Mease from new development on the basis of the estimated flow from the development concerned and the consent limit at the sewage treatment works to which the development will connect.

F.2 Selection of a rolling allocation

The DCS will be implemented on the basis of a rolling allocation whereby sequential development 'windows' will be identified. Due to uncertainties associated with the rate at which development will come forward, **each allocation 'window' will be based on an overall total phosphorous load from new development assigned to that window.**

All contributions will fund the measures identified for the relevant development window until the phosphorous load allocation for that window has been assigned to development.

For example: the first 'development window' has a phosphorous load allocation of 700g/day, the developer contributions associated with this first window will together fund measures to remove at least 700g/day of phosphorous from within the catchment, both in the short and long term.

Once these measures have been delivered, any further development will be part of a subsequent development window. Further information is provided within section G below.

F.3 How phosphorous reductions will be assigned

Prior to the collection of any contributions, the DCS will have identified a suite of measures which are considered to mitigate the negative effects of development which is assigned to the development 'window' concerned (see Appendix 1). For each proposed measure an estimate has therefore been made of the phosphorous that is expected to be removed upon implementation. Due to the nature of the available measures, and the complexities of working within a highly dynamic natural riverine ecosystem, estimates have had to be based on best available information and expert judgement.

Phosphorous reduction values for each measure have been estimated by relevant experts within the Environment Agency and Natural England, but a degree of uncertainty is unavoidable. If the DCS is to *ensure* effective mitigation of the negative effects of development, these uncertainties need to be acknowledged and addressed. The DCS proposes to address these uncertainties in three ways.

a) Firstly, uncertainties will be minimised by relevant experts taking a precautionary approach to the estimated reductions that will be associated with each measure, such that achieving a greater reduction than anticipated is more likely than achieving less.

b) Secondly, the actual estimates of phosphorous load from new development are precautionary. They assume that the additional flow will be discharged at the consent limit, whereas in reality it is not possible to manage the works to achieve a steady concentration at the consent limit.

c) Thirdly, where feasible, ongoing monitoring of measures to best assess the *actual* reductions achieved upon implementation is an integral part of the DCS, together with monitoring of the final effluent to calculate the *actual* P load associated with the additional flow. The rolling review model allows for the monitoring results from one 'window' to feed into the actions progressed through the next 'window'. This will ensure that the measures taken forward *overall* will mitigate the negative effects of development.

It is acknowledged that the precautionary manner in which the DCS deals with uncertainties may well result in monitoring showing that the measures within a given 'window' actually removed more phosphorous than was anticipated. The complexities of working within such a complex and dynamic environment means that the potential for such a scenario is unavoidable if the DCS is to be progressed in a manner which ensures mitigation for the negative effects of development . Any benefits to the SAC over and above mitigating the

negative effects of new development, if realised, can be considered to be of wider biodiversity gain, in accordance with the WQMP and the National Planning Policy Framework.

F.4 How contributions will be linked to phosphorous reductions

The DCS will be taken forward in a strategic manner such that the costs associated with the measures required for each development window will be calculated up front. The overall financial costs associated with the delivery, management and monitoring of the measures for each development 'window' can then be calculated per mg of phosphorous to be removed per day.

Contributions for each window will be assigned in a fair and equitable manner on the basis of the phosphorous load associated with each development proposal. As set out in section F1 above, the phosphorous load can be calculated from the volume of water going to the mains from each development proposal in light of the relevant phosphorous consent limit at the receiving sewage treatments works.

In terms of residential development the following volumes are assumed, which have been calculated on the basis of the average occupancy values[9] for proposed dwellings. Part G of the Building Regulations requires all new homes to achieve *domestic* water consumption of a maximum of 120 litres/head/day (125 litres/head/day if garden water usage is included). Water consumption in houses built to the stricter sustainable homes standards will be lower as specified in the table below[10].

Size of dwelling	Average occupancy	Volume to mains (L/day)		
		Level 1/2 (120 l/h/d)	Level 3/4 (105 l/h/d)	Level 5/6 (80 l/h/d)
1 bed	1.17	140	123	94
2 bed	1.72	206	181	138
3 bed	2.32	278	244	186
4 bed +	3.24	389	340	259

Table 1: Assumed volume to mains based on size of dwelling and average occupancy

Non-residential development will need to be assessed on a case by case basis with the contribution being calculated on the basis of the estimated volume of wastewater to mains associated with the nature and scale of the development being proposed.

The proposed approach will mean that homes which are built to the new sustainable homes standards will pay a lower contribution. The use of water saving and efficiency measures will be actively encouraged through the implementation of the DCS, which provides an incentive to the new sustainable homes standard in all dwellings in the catchment.

In order for the DCS to mitigate the negative effects of development, it is important that the reduction measures are implemented in a timely manner which reflects the rate at which development comes forward. Payment of developer contributions will therefore be due upon

[9] As provided by NWLDC
[10] Communities and Local Government Code for Sustainable Homes Technical Guide, November 2010

implementation. In the case of larger scale development, phased payment can be negotiated with the planning authority on a case by case basis as appropriate.

F.5 Projects and Cost Allocations

The actions list will need to ensure that the overall objective of the DCS (to mitigate the negative effects of development) is secure. To realise this objective the DCS will need to address the requirement for the list of specific phosphorous reduction actions to be adequately managed and monitored. It is therefore envisaged that the overall actions list will be broken down into:

- Phosphorous reduction actions (including any ongoing maintenance)
- Monitoring actions (to monitor the effectiveness of the phosphorous reduction actions allowing the DCS to adapt accordingly)
- Management actions (to co-ordinate and manage the implementation of the list of phosphorous reduction and monitoring actions)

The first development window has been set for 700g of P (equivalent to approximately 2400 three bedroom dwellings). A full list of actions associated with the initial development window which are considered to mitigate the negative effects of development, in both the short and long term, is provided in Appendix 1, including a breakdown of estimated costs.

From Appendix 1 it can be seen that the cost of phosphorous mitigation measures to remove 700g of P, in both the short and long term, during the first development window is £640,000. This is equivalent to:

£914 / g P / day

or

£0.91 / mg P / day

F.6 Contributions from residential development

The existing planning allocations are such that all development associated with the initial development 'window' is anticipated to connect to a category A works (with a consent limit of 1mg P / L) and the contributions are allocated on that basis. On the basis of the assumed volume to mains from residential development summarised in table 1 above, the relative daily phosphorous loading to the river from such development (connecting to a works with a consent limit 1mg P/L) of is provided in table 2 below.

Size of dwelling	Average occupancy	P loading to river (mg/day)		
		Level 1/2 (120 l/h/d)	Level 3/4 (105 l/h/d)	Level 5/6 (80 l/h/d)
1 bed	1.17	140	123	94
2 bed	1.72	206	181	138
3 bed	2.32	278	244	186
4 bed +	3.24	389	340	259

Table 2: Assumed P loading based on sustainable homes standard and volume to mains

The phosphorous allocation for the first development window of 700 g P /day equates to 700 m^3 of flow/day through category A works. The number of homes built to the new sustainable homes standards will therefore influence not only the contribution required per dwelling but also how quickly the allocation assigned to the first development window will be used up.

On the basis of the cost allocations for the list of actions identified in relation to the first development window, the cost for removal of 1 mg/day of phosphorous is given as £0.91. The contributions for residential development can be calculated by multiplying the daily phosphorous loading (mg) from each dwelling type (in table 2) by 0.91, and are provided in table 3 below:

Size of dwelling	Average occupancy	DCS contribution (£)		
		Level 1/2 (120 l/h/d)	Level 3/4 (105 l/h/d)	Level 5/6 (80 l/h/d)
1 bed	1.17	127	112	86
2 bed	1.72	187	165	126
3 bed	2.32	253	222	169
4 bed +	3.24	354	309	236

Table 3: DCS contributions from residential development coming forward in the first development window

F.7 Contributions from non-residential development

The contributions from non-residential development will be calculated on a case by case basis in light of the estimated increased phosphorous loading to the river, which in turn is calculated from the estimated volume of wastewater to mains associated with the nature and scale of the development being proposed whereby:

Contribution (£) = P load to river* (mg/day) x 0.91

*the P load to the river (mg/day) is equal to the volume (L/day) from proposed development multiplied by the P consent limit at the receiving works (ie: 1mg/L for category A works and 2mg/L for category B works as set out in section F1)

New trade effluent discharges to sewer are subject to trade effluent permits which are issued by the sewerage undertaker. Trade effluent permits contain a volumetric condition in cubic metres per day. This volumetric condition can be used to calculate the developer contribution where a trade effluent permit is required.

Non residential development which does not require a trade effluent permit from Severn Trent Water should estimate wastewater flow with reference to existing Environment Agency recommended guidance 'Flows and Loads-3'[11].

[11] 'Flows and Loads – 3: Sizing criteria, treatment capacity for sewage treatment systems'. British Water Code of Practice 2009

G Recording, Monitoring and Review

Monitoring is a key aspect of the DCS; where feasible monitoring the effectiveness of the proposed phosphorous reduction actions across the SAC is important to provide the appropriate level of confidence for the local authorities to rely on them to mitigate the negative effects of development.

Monitoring to be undertaken will be twofold:

a) Firstly, where feasible, the phosphorous reduction actions will be monitored, to identify the *actual* phosphorous reduction achieved within a given development window.

b) Secondly, the final effluent phosphorous concentrations will be monitored to identify the *actual* phosphorous load associated with the additional flow from new development progressed within the given development window.

As long as the monitoring results show that the anticipated reductions have been achieved), the DCS will meet its primary objective.

The monitoring results will also be used to inform the consideration of future development windows.

G.1 Future Development Windows

When the phosphorous allocation assigned to the initial development window is approaching the point where all the allocation will have been apportioned, a new development window will be considered. The development of the DCS does not imply that viable actions to mitigate the negative effects of development will continue to be available over the long term. At the end of each development window a decision will be taken as to whether sufficient viable mitigation measures are available to allow for further development to be delivered, through the assignment of a new development window.

In this way, development is only progressed when actions to mitigate further phosphorous loading to the river have already been identified. The findings of the wider investigative actions delivered through the WQMP may inform the identification of novel reduction measures that can be delivered through subsequent development 'windows'. If a stage is reached whereby no further viable actions to remove phosphorous are identified then further new development will not be progressed unless any additional wastewater is dealt with in a way that would not compromise the primary objective of the WQMP.

The rolling review model will allow for the DCS to adapt accordingly in response to monitoring data. If monitoring were to show that the actions had failed to deliver sufficient phosphorous reductions, adjustments to the subsequent 'window' could potentially be used to offset any difference.

The measures referred to in section F3 should reduce the likelihood of the DCS removing less phosphorous than anticipated. It is not therefore considered likely that monitoring results will show any shortfall. However the DCS needs to consider this possibility, however unlikely, and address it. In order to ensure that the DCS meets its primary objective, to mitigate the negative effects of development, where a development window fails to achieve

sufficient phosphorous reduction, the contributions in subsequent development windows would need to off-set the difference. Consequently it is possible, that in a future window the contributions sought may need to fund phosphorous removal over and above that associated with the actual development delivered in that window. The desire to avoid such a scenario underpins the need for the precautionary approach outlined in section F3.

The list of measures associated with future development windows, and the corresponding phosphorous load allocated, are dependent upon the availability of appropriate measures at that time. It is considered likely that the associated costs of the measures for future windows will vary from one development window to the next, with associated variations in actual financial contributions sought.

The recommendations of the North West Leicestershire Water Cycle Study will be used to inform the consideration of future development windows. Once the maximum consented 'headroom', or dry weather flow capacity limits are reached, Severn Trent Water would need to apply for a new permit. At such a time the ongoing requirement for a developer contribution scheme will be considered in light of the permitting options available to provide for future growth.

H Bespoke Solutions

The purpose of the DCS is to provide a strategic approach to mitigation that facilitates the delivery of new development within the catchment. The DCS does not preclude the local authority deciding to assess a particular individual planning application independently. Equally, when making an application, a developer could ask the authority to assess the application separately from the DCS. The planning authorities and Natural England remain committed to considering any bespoke mitigation proposals put forward on a case by case basis.

As outlined in section E1, investigative studies are not generally considered to provide the 'mitigation' required through the DCS, and there will be a presumption against their acceptance as bespoke solutions. However where investigative elements of a bespoke solution are considered by the planning authorities and Natural England to be of such significance as to provide benefits of primary importance to the overall objectives of the wider WQMP, they will be considered on their merits in light of the other measures proposed with them.

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